

AGRICULTURAL DEPARTMENT

SAN FRANCISCO HISTORY ROOM

X



BOOK NO.

ACCESSION

f690.5 P11¹⁵

362786

NOT TO BE TAKEN FROM THE LIBRARY

FORM No. 37 8M-8-32

~~PERIODICAL DEPARTMENT~~



Digitized by the Internet Archive
in 2010 with funding from
San Francisco Public Library

PACIFIC

SKILL - INTEGRITY



RESPONSIBILITY

CONSTRUCTOR

CONSOLIDATED WITH

Building and Engineering News

690.5
P11 15



O. C. STRUTHERS

*Newly Elected President, California State Branch,
The Associated General Contractors
of America*



**The Most Important TEST
Applied To Any Masonry
Unit Used In Conjunction
With Fresh Mortar**

is

ABSORPTION

Because--if the fresh mortar joint in wall construction is robbed of the water necessary for crystallizing cementing materials, all other qualities of the masonry are insignificant.

*Forty-five years of integrity
warrant your patronage.*

SIMONS BRICK Co.

Manufacturers of Low-Absorbent Burned Clay Products

Walter R. Simons, President and General Manager

1195 So. Boyle Ave. [8th St.], Los Angeles

Telephone CHicago 6121

18690.5
P 11 15

PACIFIC CONSTRUCTOR

With which is Consolidated Building and Engineering News

OFFICIAL PUBLICATION OF THE ASSOCIATED GENERAL CONTRACTORS OF AMERICA

J. P. Farrell, Editor

for the Eleven Pacific Coast States

Spencer B. Lane, Assoc. Editor

STARK-RATH PRINTING & PUBLISHING CO., Publishers

Assoc. M. Am. Soc. C. E.

Publication Office: Issued on the First and Fifteenth of each Month

545-547 Mission St., San Francisco, Calif.

Telephones: GARfield 8744—8745

Entered as second-class matter at San Francisco Post Office under act of Congress of March 3, 1879.

VOL. #15

SAN FRANCISCO, CALIF., JANUARY 15, 1932

362786

No. 1

The A. G. C. And Its Publications

By R. J. RATH, Business Manager, Pacific Constructor

INTEGRITY, DEPENDABILITY, RELIABILITY. Whenever we see an A.G.C. trademark or insignia we are reminded of the above three words, for in these words do we find the real reason for the existence of the Associated General Contractors of America and for the existence of its various publications covering the activities of the organization, both sectionally and nationally.



R. J. RATH

A.G.C. is a successful organization—it is successful, first, because its members are wisely and carefully selected; and, secondly, because those members throughout the length and breadth of our country work in absolute UNITY.

The great construction industry presents many perplexing problems. These problems must be met in proper order. A.G.C. members do not purport to meet them by wildly scrambling for a solution, every man for himself, but rather by the selection of chapter, sectional, state and national officers and directors who sacrifice much time and expend much energy toward an ultimate, timely, and sane solution of the many problems at hand.

Importance of A.G.C. Publications

Members of A.G.C. are to be found in widely scattered areas. Some are engaged in construction in remote sections of the country, others in territorial possessions of the United States, while still others are called from time to time to fulfill contracts in foreign lands.

These members, as well as those at home, must at all times be kept informed as to what their organization is doing. They are also interested in the accomplishments of their fellow members, new methods developed in matters of intricate construction, legislation affecting the industry, messages from those entrusted to association business, etc.

The only sensible medium for the proper dissemination of this news is the A.G.C. publication.

Pacific Constructor, official publication of the Associated General Contractors of America for the eleven Pacific Coast States, fills this need. With this issue, Pacific Constructor makes its initial appearance since effecting its consolidation with Building and Engineering News. A.G.C. officials, desiring to produce for their members a more complete and comprehensive publication,

have given much thought and consideration to the matter of the publication's direction, with the result that Pacific Constructor will henceforth be published twice each month; namely, on the first and fifteenth. The publishers selected have had much experience in the construction field, having successfully published Daily Pacific Builder, now an allied publication of Pacific Constructor, for the past twenty-six years. The daily paper is now in its forty-first year of publication.

The current issue of Pacific Constructor, published in great haste, lacks many of the features that will be incorporated in future issues. News from the Chapters will be a regular feature, contributions being received from both officers and members.

Pacific Constructor means much to the construction industry on the Pacific Coast. Contractors, equipment houses and material dealers are predicting for it a great future.

An honest policy, with the support of a great organization, has already placed this publication in a class by itself; therefore, no effort will be spared to make of this West Coast construction journal a truly representative publication of a truly representative organization.

As a director in the business conduct of Pacific Constructor, the writer acknowledges with a deep sense of appreciation the splendid co-operation of such men as: Mr. Walter J. Wilkinson, Past President, California State Branch; Mr. O. C. Struthers, President, California State Branch; Mr. Floyd O. Booe, Manager, Northern California Chapter; Mr. William E. Hague, Manager, Alameda County Chapter; Mr. Melville Dozier, Jr., Manager, California Branch, and of the Southern California Chapter; Mr. Wm. E. Lyons, former Vice-President of the State Branch, and for two years President of the Alameda County Chapter; Mr. W. C. Keating, former Secretary of the State Branch; Mr. C. G. Fitzgerald, President of the Southern California Chapter, and all others who have worked so diligently on this project.

With the co-operation of men such as represent and make up the rank and file of A.G.C., this publication cannot help but present to the reading public the picture as it actually exists—an ORGANIZATION and its resultant PUBLICATION built on a foundation of INTEGRITY, DEPENDABILITY and RELIABILITY.

Limit Stakes and Levels

By THE EDITOR

WE must admit that old man Business D. Pression put a kink in things during the past year—but we all took it. He hit us many a hard wallup, but we took them. What he has lined up on his 1932 almanac—we don't know—but we'll take it.

We have prepared a program and we are going to stick by it. If you would be successful in 1932 join us.

We are prepared for a year of close application to business—a year of careful thinking—and both of these will be followed by aggressive action.

Let those who hold jobs work at them and win their way to a position where they will become indispensable.

Let those who would start in business on the proverbial shoestring wait a while longer. It is not going to be their year.

The fellow who is seeking to get by without actually producing something worth while will find 1932 unfriendly.

The coming year will not be a year for the fellow whose ambition exceeds his grasp. It will be a year for the industrious, aggressive, thoughtful men who are content to move along at a normal rate, gaining speed as they go.

On that basis we are willing to predict that 1932 will be a fairly good year.

Glenn County Grand Jury, in its annual report to the county supervisors, recommends the appointment of a road engineer to take charge of all county highway construction. The jury also recommends the erection of a new county hospital.

A new suit to invalidate the \$220,000,000 bond issue of the Metropolitan Water District has been filed in the Superior Court at Los Angeles by Katherine K. Buck, taxpayer. A recent decision of the Superior Court rendered by Judge K. S. Mahon, declared the procedure in the bond election was legal and that the issue was valid.

The case may be carried to the Supreme Court to facilitate the construction of the aqueduct.

A ruling by Secretary of Labor Wm. N. Doak establishes the wage scale in connection with work being done by the Orndorff Construction Co. on the postoffice and the veterans' hospital in Salt Lake City, to conform with the prevailing scale in that city. By it the wage of plasterers is reduced from \$11 to \$10 a day and that of hoisting engineers is raised from \$8 to \$9 a day.

Secretary Doak's ruling is made under the provisions of the Bacon-Davis law.

An amendment to the Seattle city charter, authorizing the board of public works to specify that all supplies and materials used in public improvement work shall be manufactured or fabricated in the city of Seattle or the state of Washington, will be voted on at the general election to be held March 8. A resolution providing for such submission was adopted by the Seattle city council by unanimous vote.

The proposed Pacific Highway from Blaine, Wash., to Fairbanks, Alaska, opening up the interior of Alaska to both Canadian and United States Commerce, will cost
(Continued on Page 17)

National Meet Is Set For Milwaukee

The thirteenth annual convention of the Associated General Contractors of America will be held in the city of Milwaukee, with headquarters at the Schroeder Hotel, between January 18 and 21. President A. P. Greensfelder, of St. Louis, Mo., will preside.

The intensive work of the association, with its headquarters staff at Washington, D. C., will be reviewed. Combined problems of normal and abnormal times will receive their impetus at the several sessions and started on the way to improving the construction industry. The national association has been active in credit reform work, safety and skill among workmen, promoting free labor as against convict labor, establishing of a Bureau of Contract Information and furthering interests of the responsible contractor. It has joined hands with other national associations in the industry and is now prominent in the work of assisting and developing The Construction League of the United States, which will act readily as a clearing house for the industry at the national capital.

Milwaukee will attract members of the association from all parts of the country. Speakers of national prominence and leaders in the industry and its related workings will be on the convention program. President Arthur Bentley, of the Milwaukee Chapter, has twelve committees serving to promote and entertain the delegates as well as their wives, sons and daughters.

SOUTHERN CALIF. CHAPTER ELECTS

C. G. FitzGerald was elected president of the Southern California Chapter, Associated General Contractors of America, at the annual meeting of that body in Los Angeles. Other officers chosen by unanimous vote were:

Members of the board of directors, Engineering Division: Chas. U. Heuser, Glendale, outgoing president of the Chapter; George J. Bock, Los Angeles; Lynn S. Atkinson, Los Angeles; M. S. Ross, Los Angeles; W. E. Hall, Alhambra.

Members of the board of directors, Building Division: Harold R. Crowell, Los Angeles; Newell Chardee, Los Angeles; K. P. Lowell, Los Angeles; Walter J. Escherich, Los Angeles; Ray DeCamp, Los Angeles; Fred C. Snell, Beverly Hills.

Election of vice-president was deferred until the regular meeting in January, at which time the by-laws will be amended to permit the election of two vice-presidents instead of one, representing the engineering and building divisions, respectively. The new officers will be installed at the January meeting.

COUNCIL TO AID ENGINEERS

Financial relief for unemployed engineers in distress and jobs for such of them as can be placed are the principal objects of organization machinery that has been set in motion in Portland, Ore., by the Oregon Technical Council, composed of representatives of all the engineering groups. Its machinery has been set up to take care of all classes of engineers in lieu of having separate plans for each group.

The plan contemplates taking subscriptions from employed engineers monthly for six months, adding to these such funds as can be raised elsewhere, and thus creating a fund to loan to needy unemployed engineers at 4 per cent interest. It is expected that these loans will be repaid and proportionate returns made to subscribers.

Demolition of Channel Bridge Third Street, San Francisco

By SPENCER B. LANE

DEMOLITION of the bridge which has carried Third Street traffic over the Channel for more than a quarter of a century has developed some interesting problems. These problems have been complicated by the need for increased channel width to allow the passage of a steamer due on January fourteenth; just a little more than a month after the start of the demolition.

The old bridge—a double leaf Paige bascule—was built in 1905. The new bridge is to be a Strauss single leaf bascule. The clear channel width of the old span was 82'-6"; for the new span it will be increased to 103'-0". This increase in channel width made it necessary to remove the old abutments to provide a clear depth of 40' for the entire distance between the new abutments.

The old abutments were of concrete; of the box, or "U" type. Each was about 63' wide. Two wing walls extended back from the face a distance of about 38'. The space between these wing walls was filled with earth. The face and wing walls were carried on wood piles; 192 un-

were installed between the bases of the north and south abutments. These struts were each built up of 25—12"x-12" timbers. The abutments of the new bridge are designed to relieve them from the effect of earth pressure as much as possible. In addition to the design of the abutments a concrete pile trestle approach span in being installed on the south side. The earth level is sloped back under this trestle on a grade of 2½ to 1, and covered with 3' of rip rap. By these methods it is expected that there will not be any movement of the new south abutment.

The demolition of the old and the installation of the new substructure is being handled by the George F. Pollock Co.—Ben. C. Gerwick, Inc., subcontractors under the general contractor, Barrett & Hilp. The field work is being done under the personal supervision of Mr. Ben. C. Gerwick.

The old south abutment intruded into the channel much farther than the north, so it was determined to remove



Third Street Bridge Before Demolition Began. Picture From South Side.

der each abutment. The tops of these piles were imbedded in a concrete foundation 12'-6" thick under both front and wing walls. This foundation was 17'-0" wide under the front walls and 14'-0" wide under the wing walls. The bottom of the concrete was about 40' below street level—about 35' below high water. Above the foundations both the front and wing walls were battered. Except for small grids under the bridge seats there was no reinforcing in the old abutments. Detail information was not available, but it was estimated that each structure contained about 2000 cu. yards of concrete; 4000 cu. yards in both abutments.

There had been no trouble with the north abutment. For several years, however, the fill on the south side had been moving toward the channel. This movement had caused a motion of the old south abutment. In order to prevent this motion, the city had installed two heavy concrete anchors behind the bridge. These anchors had been installed on a wood pile foundation. The top of the old abutment had been fastened to these anchors by six 1½" diameter steel rods on each side. In order to secure the bottom of this abutment against movement; two struts

were installed between the bases of the north and south abutments. These struts were each built up of 25—12"x-12" timbers. The abutments of the new bridge are designed to relieve them from the effect of earth pressure as much as possible. In addition to the design of the abutments a concrete pile trestle approach span in being installed on the south side. The earth level is sloped back under this trestle on a grade of 2½ to 1, and covered with 3' of rip rap. By these methods it is expected that there will not be any movement of the new south abutment.

The demolition of the old and the installation of the new substructure is being handled by the George F. Pollock Co.—Ben. C. Gerwick, Inc., subcontractors under the general contractor, Barrett & Hilp. The field work is being done under the personal supervision of Mr. Ben. C. Gerwick.

The old south abutment intruded into the channel much farther than the north, so it was determined to remove the south one first. This was done by shooting. The debris was to be removed from the channel by dredging, so it was necessary to shatter the concrete into pieces which could be readily handled by the dredge bucket. This required the drilling of closely spaced holes, and that the holes be carried well to the bottom of the concrete. These holes were drilled with jack-hammers. The air was furnished by a battery of two Ingersoll-Rand gasoline compressors.

Drill steel up to 38' in length was used. In order to handle this steel conveniently and put down the holes as rapidly and accurately as possible, Mr. Gerwick build wood "A" frames. The jack-hammer was secured to a wood block which could be raised up the frame by means of a block. A crab was provided to raise and hold the hammer as desired. These "A" frames were found to be very convenient. Near the bottom of the old concrete the texture was found to be quite irregular. As a result there was a great deal of trouble due to sticking of the drills, making it necessary to frequently withdraw the steel and wash out the holes. Two illustrations show these frames; one shows the block to which the jack-hammer was secured.

The shooting of this abutment had to be very carefully handled. The eight story Southern Pacific Terminal Warehouse was located just a few feet from the north



North Pier, Showing Steel Cut and Waiting to Be Removed. Note Corner of Eight-Story Southern Pacific Terminal Warehouse.

abutment. The Santa Fe freight house was a short distance from the south abutment. Insufficient loading or improper spacing of the holes would have resulted in concrete fragments too large for convenient handling with the dredge bucket.

The shot which demolished the south pier was fired on Saturday night, January 9. This gave the contractor until the 14 to provide a depth of 27'. When last seen Mr. Gerwick was confident that the channel would be ready when the steamer arrives on the 14.

The demolition and erection of the new is being handled by the Pacific Coast Engineering Co., subcontractors under Barrett & Hilp.

The old span had to be removed without blocking the channel. This was done by wrecking the bridge in the open position. The street car rails, steel floor plates, and floor boards were first removed. Each leaf was then cut into two parts along the center line of the bridge. Each half leaf was then cut loose from its base and picked up as a unit. Each pick weighed about 50 tons. Haviside Co.'s derrick barge No. 4 was used to pick and remove each half leaf. The remaining steel was cut into pieces on the abutments. Considerable trouble was experienced with the old counterweights. They were of concrete poured with steel punchings for aggregate to secure weight, and were poured between pieces of the steel of the structure. All steel cutting in the field was done with oxyacetylene torches. The steel of the old structure was all scraped. The dismantling was handled by M. Levin & Sons.

The abutments of the new bridge are of concrete carried on wood piles. They are both built up of two columns tied together at the top by a concrete beam. The earth is sloped back from the channel toe at a slope of $2\frac{1}{2}$ to 1. This slope is then covered with 3' of rip rap.

The new bridge will have a clear width of 49' between trusses. Two street car tracks will be located close to the west truss. A single track for the use of the State Belt Line Railroad will be located close to the east truss. The entire floor of the bridge will be paved for traffic. Outside the west truss there will be an 11' roadway and a 6' sidewalk. Outside the east truss there will be a 6' sidewalk. The bridge will be a single leaf Strauss heel trunion bascule with the lift span in one unit. The counterweight tower, which carries the counterweights, will be on the north side. The operating machinery is to be in this tower. The operation of the lift is to be electrical. The operating machinery includes all the latest devices developed by the Strauss Engineering Corporation for structures of this type.

The work is being done jointly by the California Board of State Harbor Commissioners and the City and County of San Francisco. The Strauss Engineering Corporation of Chicago and San Francisco are consulting engineers, in charge of the design jointly for the City and County of San Francisco and the Harbor Board. The Strauss Corporation prepared the plans and specifications under the personal direction of Mr. Joseph B. Strauss, the head of the corporation. Mr. Strauss is Chief Engineer of the Golden Gate Bridge and Highway District. Mr. Frank G. White is Chief Engineer for the Board of State Harbor Commissioners. The work is in direct charge of Mr. Clyde Healy, Assistant City Engineer under Mr. M. M. O'Shaughnessy, City Engineer. The field work is in charge of Mr. E. F. Muheim, Mr. C. M. Taylor, and Mr. G. W. Purser, engineers for the city.

The general contractor is Barrett & Hilp of San Francisco. The subcontractors are: Foundations, the George F Pollock Co.—Ben. C. Gerwick, Inc. Structural steel, Pacific Coast Engineering Co. Electrical and Mechanical, Alta Electric and Mechanical Co.

The powder was placed and the shot fired by the Hercules Powder Co.



"A" Frames for Handling Steel. Note Movable Wood Block Carrying Jack-Hammer.

Review of the Annual Convention-- Northern California Chapter

By FLOYD O. BOOE, Secretary-Manager, Northern California Chapter, A. G. C. of A.

DEPARTING from the custom of the past, the 1931 annual convention of the Northern California Chapter, A. G. C., proved to be one of the most interesting, constructive and best attended of many years. Heretofore these annual conventions have been only incidental to an elaborate program of entertainment, with the convention sessions largely devoted to prepared speeches of engineers and public officials.



FLOYD O. BOOE

The 1931 Board of Directors decided to try a new plan, however, that of holding a one-

day business session with attendance limited to members only and with the only numbers on the program being business reports of the directors, to be followed by general discussions participated in by all those present.

That the plan was successful was amply demonstrated by the close attention and interest that was shown by the delegates and the manner in which constructive suggestions were offered on the every-day problems of the contracting business.

The entire history of the Chapter for the past thirteen years was reviewed and it is the general feeling of the membership that the Chapter is now on a sound basis and ready for great progress during the coming months.

Important highlights of the convention session may be briefly touched upon as follows:

Finance: Clyde Wood, vice-president and chairman of the finance committee, gave a complete report of the finances of the Chapter, and outlined the tentative budget for the coming year. He also dealt with the reorganization through which the Chapter had recently passed and explained the actions of the Board of Directors in that respect.

Membership: Director John F. Knapp in his report on membership pointed out that the board had cleaned much dead timber from the membership roll during the year, but that the number of good substantial members now on the roll compared favorably with previous years, with fine prospects for the addition of a number of responsible and reputable firms who had not heretofore been members. He announced that the policy of the board is to immediately drop from the roll those firms that are delinquent in dues to the end that the budget of the Chapter be kept within the actual income.

Audits: Director Knapp also gave a brief outline of the work of the past few months in connection with the establishment of a construction industries credit bureau

in San Francisco as an introduction to a special address on this subject by Frank Eichler, representing the credit bureau. Mr. Eichler's address in full will appear in a later edition of Pacific Constructor.

Construction Development: Director Lynn Atkinson ably presented the subject of development of new markets for the services of the general contractor and the promotion of those already established, notably against the gaining encroachment of day labor in the form of unemployment relief. Of particular interest was his detailed report on the situation with regard to the work to be undertaken by the Metropolitan Water District of Los Angeles and the contact group known as the Construction Industries Joint Committee of California which has been revived for the purpose of policing this situation as well as all others of a similar nature throughout the State. This will likewise be dealt with at length in later issues in the form of progress reports of the joint committee.

Sub-Contract Clause: Director R. D. Watkins gave a full report on the campaign being carried on by this Chapter to secure the adoption by all public awarding bodies of a contract clause preventing complete subbing on public work and of the success so far attained, especially with the State Highway Department and the U. S. Bureau of Public Roads. He reported that this same campaign would be vigorously carried forward by a special committee of the board throughout the year 1932.

A number of other special subjects were covered by other members of the board or were brought up for special discussion from the floor.

Resolutions of special significance adopted by the convention, all of which will later appear in full, were as follows:

1. Opposing any diversion of the gas tax fund to other than direct highway improvement and maintenance and approving the stand of Senator Breed in this respect.

2. Recommending to Governor Rolph and State officials

(Continued on Page 14)

SECRETARIES' ATTENTION!

This issue of Pacific Constructor goes to press lacking a special section devoted to the activities of the various A. G. C. chapters on the Pacific Coast.

"Chapter Activities," however, will be a standing feature in future issue of Pacific Constructor. Secretaries are requested to contribute articles of interest affecting their respective Chapters with a view to keeping other units of the A. G. C. informed as to the movements of the other.

Pacific Constructor will be as interesting as you aim to make it. The co-operation of secretaries, coupled with the desire of the editorial department, will enable us to issue an organization medium second to none in the West.

If your Chapter issues a weekly or monthly bulletin or news-letter, see that a copy is forwarded regularly to the "Editor, Pacific Constructor."

Assist us in issuing a construction publication worthy of the A. G. C. standard: "Skill, Responsibility and Integrity."

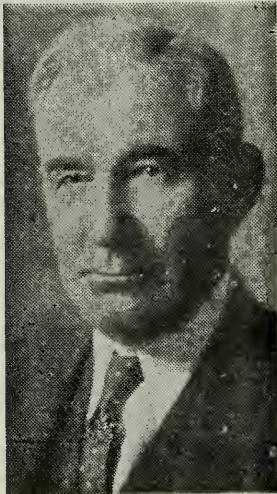
THE EDITOR.

Achievements of State Department of Public Works During Year 1931

By COL. WALTER E. GARRISON, *State Director of Department*

DIVISION OF HIGHWAYS

EXCEEDING by several million dollars the improvement record of any former year, the Public Works Department of the State of California will pass from 1931 into 1932 in full action against another schedule of work.



COL. WALTER E. GARRISON

Dollar marks and figures are the only symbols by which the story can be reduced to concrete form. But, back of the cold figures is the exhibit of work well done; and the diffusion of comfort and happiness to tens of thousands of families through the circulation of these dollars.

The work of the Highway Division is so continually under the eyes of millions that a summing up of its annual story must prove of special interest to Californians. This is written in mid-December. The totals about to be given (with

the exception of an item of \$1,593,200 covering bids to be opened prior to January 1) are those on completed or going projects. That item is now read into the total as it will have been contracted by the time this reaches the reader.

The Division of Highways has transacted a business during 1931 that totals \$42,554,000. The items entering into the total are: Work underway, \$24,648,200; bids to be opened prior to January, \$1,593,200; work carried over from 1930, \$9,402,600; maintenance cost for the year, \$6,910,000.

IMPROVED MILEAGE

Converted into terms of mileage, the record shows 803 miles of completed or progressing improvement. The items making this total follow: Graded 70 miles; untreated crushed rock surface, 59 miles; bituminous treated crushed rock surface, 454 miles; bituminous macadam pavement, 7 miles; Portland cement concrete pavement, 138 miles; asphalt concrete pavement, 75 miles.

The California State Highway system comprises 7,281 miles. Of this total, 3,091 miles are paved, 1,425 graded and merely surfaced with crushed stone and 819 miles graded—leaving 1,946 miles ungraded and unsurfaced, practically untouched.

Responding to public demand, the Legislature each session makes an orderly inclusion of secondary road mileage. The last Legislature alone included roads that call for \$71,000,000 in funds. This vast amount covers only one biennium's schedule. The fine showing for 1931 is, after all, only a credit against a vast and increasing debit.

It follows that if the program is to go forward, the present sources of revenue, majoring in the gas tax, must remain unimpaired. The gas tax does not become a burdensome surplus. It is not permitted to become an object of manipulation in the money market. It is cheerfully paid by the people, and then quickly returned to them in improvements.

Increasing demands for improved highways as well as the vast obligations already assumed by the State render utterly untenable any proposition that, directly or indirectly, would reduce full gas tax accruals to the Highway Division. The gas tax carries no bond interest. The roads go forward on a cash basis. There is an orderly plan working toward an ultimately completed system. There is a daily solvency of funds and a frank, open accounting with a satisfied public.

Highway expenditures are not a "cost of government;" they are for improvements aided by all and essential to the life of the State. The pay-as-you-go plan lays no burdens on the property of today or tomorrow. The disbursing of 85% of these millions to the ultimate laborer pays but does not increase taxes. An alert public opinion will continue to assure an undivided gas tax to the highways of California.

FEATURES OF PROGRAM

Some of the outstanding features of the construction program during 1931 are of state-wide interest. On the Ridge Route alternate, Los Angeles County, the Sacramento highway connecting Southern California with the San Joaquin valley, between Castaic School and Tejon Pass and following the canyon to the west of the present road—work has progressed steadily. This section of the existing Ridge Route is 36.5 miles in length. The new alignment will reduce it to 27 miles. Seven miles of grading has been accomplished. The new route will have large radius curves and easier grades. The grading is underway on the remaining 20 miles. Some idea of the immensity of this job may be indicated in the fact that it involves the moving of 4,000,000 cubic yards of earth in a mountainous region.

SAN JUAN GRADE

Another big job is the San Juan grade alternate, in Monterey and San Benito Counties. This is a link in the coast road connecting Los Angeles and San Francisco. It involves construction from 2 miles north of Salinas to the Pajaro River, passing through San Miguel and Langley canyons. The existing road via San Juan grade is 18 miles. The new route will be only 16.6 miles and will be a vast improvement both in alignment and grades. The construction includes grading, paving and the construction of two bridges. The work will be completed in 1932. The contract involves the moving of 800,000 cubic yards of earth and placing about 41,000 cubic yards of Portland cement concrete pavement.

REDWOOD HIGHWAY

On the Redwood highway between Sausalito and San Rafael, Marin County, the Alto to Waldo link is the scene of interesting construction. The new line will obviate the use of the Corte Madera grade. This latter section was open to traffic November 22, 1931. The construction involved the building of an overhead crossing

(Continued on Page 14)

Can The Courts Enforce The Prevailing Wage Law?

By GEORGE N. CROCKER, *Attorney for the Associated General Contractors of America, California Branch.*

IT is one thing for the State Legislature to pass a statute and quite another thing for that statute to work successfully in practical effect and to be enforced by the courts. Ever since the 1931 session of the California State Legislature passed the so-called prevailing wage law, which provides that "not less than the prevailing rate of per diem wages for work of a similar character in the locality in which the work is performed" shall be paid to all laborers, workmen and mechanics employed on all construction works under public contract within the state of California, there has been no little comment and inquiry on the part of contractors as to the effect and validity of the legislature.

The question of the constitutionality of the prevailing wage law is now pending before the Supreme Court of California. It is not my purpose in this article to discuss or express any personal opinion as to the wisdom of such a statute, nor to prophesy the decision of the California Supreme Court one way or the other, but simply to point out the legal issues involved and the fate which has recently befallen such statutes in other states.

In the case of State of Arizona vs. Jay J. Garfield Building Company, decided by the Supreme Court of Arizona but a few months ago, an attempt was made to enforce the criminal penalty contained in the Arizona "current rate of wage" law. The Supreme Court of Arizona declared the law to be unconstitutional. It did this on the precedent of the case of Connally vs. General Construction Co., which had previously been decided by the United States Supreme Court and which involved a similar statute passed by the state of Oklahoma.

It is arguable that the Arizona and the Oklahoma statutes were of a more arbitrary and objectionable nature than that of California. However that may be, the prevailing-rate-of-wage law which was passed in the state of Illinois is almost identical with that of California. It was tested in the Illinois Supreme Court, and on December 17, 1931, in the case of Mayhew vs. Louis L. Emmerston, Governor, et al, it was declared unconstitutional and void by the highest court of the state.

There is no question at all as to the general power of the State to regulate and prescribe labor conditions for public works. But the vice of the so-called prevailing-wage-law is that it is too indefinite, and it places in the hands of the public bodies which award contracts a vast and undirected power to determine "the prevailing rate of wages."

To quote the language of the Illinois Supreme Court, "The difficulty of ascertaining the meaning of the phrase 'the prevailing rate of wages' is apparent. Whether it means the rate which the most skillful, the average, the least capable or the most numerous group command, the act does not disclose." Furthermore, "The act not only prescribes no test or standard by which the prevailing rate of wages in a particular jurisdiction may be ascertained, but when an improvement extending from one subdivision of the State or municipality into or through another or dividing them is contemplated, no guide is offered by which the applicable rate or rates of wages may be determined."

The result is that the public body which awards the contract has an arbitrary power to prescribe rates of

wages. In these days of upset values and industrial uncertainties the word "prevailing" is at best a poor guide. If there actually existed rates of wages which "prevailed," there would be no need for this legislation at all. The economic laws of supply and demand would themselves suffice. It is the very fact that there are no set "prevailing" rates of wages, fixed by the ordinary interplay of supply and demand, that has brought such legislation into being. Yet public boards are called upon to decide what are the prevailing rates of wages for all types of work, and to insert a definite scale in public contracts awarded by them.

The giving of such wide and arbitrary power to state and local boards and officials is bound to cause some unanticipated and ludicrous results, and perhaps even to defeat the very purpose behind the legislation. It has been argued that it throws the door wide open to politics, and encourages political bartering and hijacking which in the end can benefit neither capital nor labor.

From the legal standpoint, as the Illinois Supreme Court pointed out in deciding its test case, it is a delegation of legislative power to administrative boards and officials, and therefore unconstitutional. A state legislature may decide what wages shall be paid on public work, but it may not delegate such power to administrative boards and officials. That is contrary to the fundamental framework of government in the United States, which is a system of a rather definite separation of powers. It is one thing for a state legislature to enact that a certain class of workmen shall be paid six dollars per day on public work, and quite another thing for it to enact that the "prevailing rate of wage" shall be paid, and give to boards or officials the arbitrary power to decide the actual wage to be paid. The word "prevailing" is of such uncertain meaning that such an enactment is practically an abdication of its power by the state legislature in favor of the boards and officials. The latter may do practically as they please about fixing wage scales.

The California prevailing wage law subjects a contractor who fails to pay the prescribed wages to a money penalty. Furthermore, the contractor is penalized for any violations upon the part of sub-contractors. The public body under which the work is done, "and its officers and agents," shall take cognizance of complaints, and when making payments for the work done under the contract, shall withhold and retain the amounts forfeited by the contractor as penalties.

Before his money is forfeited, is the contractor to be given a hearing? The act does not even provide for his being notified that an investigation is being made. There is no provision for a hearing, nor for an appeal. In these respects the act is noticeably poorly-drawn.

What is the legal effect of the failure to require a notice and hearing, and to allow some sort of appeal? The Illinois Supreme Court, in speaking of the forfeitures of contractors' money, which the Illinois law made possible, concluded as follows: "These consequences may ensue from an investigation of which no notice need be given the contractor and without affording him an opportunity to be heard. The act makes no provision for a hearing and no rules of procedure are

(Continued on Page 15)

Are You a Contractor's "Angel"?

Resolution Adopted by Northern California Chapter, A. G. C., Warns Bankers on Contract Construction Investments. Hazards of Contracting Business Cited.

TO the public, and sad to relate to many of the directors of our financial affairs as well, the contracting field seems to present a line of easy profits.

This is evidenced by the ease with which inexperienced and irresponsible individuals are enabled to secure capital or credit for the purpose of engaging in construction contracting.

This pressure of new capital and new operators entering the field has become particularly noticeable during the past two years, a period in which the major activity in construction has been in the field of public works. To the uninformed this volume of public work with private work very much at a standstill has appeared an unusually attractive field.

That this great influx of new and inexperienced capital into this highly hazardous business has met with increasing disaster is evidenced by the growing amounts involved in contractor insolvencies. At the same time there has been a proportionate increase in the filing of liens and other forms of judgments against the projects undertaken in this manner.

To those firms that have been established in the construction business for many years and who have weathered many storms, it seems particularly unfortunate that innocent and uninformed persons should be led into hazardous investments in this way. Even the wise banker under present conditions often looks with too much optimism upon construction operations as a field for use of the banks capital.

Believing that every effort should be made to warn bankers and others of the necessity of a careful policy with regard to contract construction investments at this time, the Northern California Chapter, Associated General Contractors of America at their annual convention held in San Francisco on December 18, 1931, adopted a strong resolution pointing out the hazards of the contracting business. Copies of this resolution, which follows, are being placed in the hands of bankers, surety companies, building and loan companies and others who come in contact with construction finance with the hope that it may serve as a warning to all these when confronted with a problem in construction finance. At the same time general publicity is being given through the press.

RESOLUTION

on Hazards of the Contracting Business

WHEREAS, the contracting business has always held a popular appeal as an easy business in which immense wealth can be quickly realized by anyone who enters, regardless of the previous business experience or general fitness of such person to undertake any contract for construction work, and

WHEREAS, the experienced, responsible contractor, with years of experience behind him, fully recognizes all of the haz-

ards and dangers surrounding the construction business, but even then is sometimes carried to financial disaster, and

WHEREAS, the constant entry of inexperienced and incapable persons into the contracting business through the financial support of bankers, bonding companies or other forms of backers, known to the business as the "angels," not only represent a menace to legitimate and responsible contractors who must compete with such operations, but also a huge economic loss annually running into millions of dollars, and

WHEREAS, the record of contractor insolvencies of the Bay Region alone for the years 1930 and 1931 disclose these startling facts, viz

| | |
|-----------------------------|----------------|
| 1930—100 Failures— | |
| Liabilities | \$3,736,765.00 |
| Assets | 1,159,888.00 |
| (Losses) | |
| | \$2,576,877.00 |
| 1931 (to date)—69 Failures— | |
| Liabilities | \$3,280,983.00 |
| Assets | 1,193,798.00 |
| (Losses) | |
| | \$2,087,185.00 |

(These bankruptcies do not include other losses of great magnitude such as liens filed on which no recovery is made and compromised adjustments), and

WHEREAS, it is our belief that if bankers and others would thoroughly investigate the general hazards of the contracting business before lending capital or credit to this class of person who desires to enter the business, lacking both adequate finance and experience, a huge annual waste could be avoided with consequent great benefit to society in general,

THEREFORE, BE IT RESOLVED, by the Northern California Chapter, Associated General Contractors of America, in annual convention assembled, this 18th day of December, 1931, that we call this matter to the attention of all bankers, surety executives, investment bankers, building and loan associations and others, to the end that those who may be called upon to extend either capital or credit to persons newly entering the contracting business shall thoroughly investigate the hazards of said business before extending such capital or credit, and

BE IT FURTHER RESOLVED, that the Board of Directors of this Chapter be instructed to take every possible step to secure the widest possible publicity for the sentiments expressed in this resolution.

Golden State Flooring Corporation

Hardwood Flooring Headquarters

C. E. COATES, Manager

RHODE ISLAND STREET, Bet. 16th and 17th Street
San Francisco, California
Telephone MARKET 3177

FOR SALE

No. 28-S Koehring 1-yard stationary concrete mixer mounted on structural steel frame. 30-hp. General Electric 3-phase motor enclosed, water tank and gated batch hopper.

ATKINSON CONSTRUCTION COMPANY
9135 Russet Avenue Oakland, California

Phone TRinity 0241 for —

Rock-Sand-Gravel-Plaster

Cement-Mixed Mortar-Stucco

Lath-Lime Putty-Reinforcing Steel

Consolidated Rock Products Co.

BUILDING FOR 1932

By WM. E. HAGUE, Secretary-Manager, Alameda County Chapter, A. G. C.

THE YEAR just closed has hardly been a bright one for the building business of the United States—not even for Alameda County which, along with San Francisco

County and the entire Bay area, stands out as one of the white spots of the entire country.

And yet it has had its bright spots, if for no other reason than the house cleaning which has taken place. Many of the weak elements have been eliminated, prices of materials have been liquidated and, on the whole, the position is stronger than one year ago.

There are several definite, constructive steps which might be taken and which would exert a tremendous regulating



WM. E. HAGUE

force on the business by stopping some of the evil practices of the past with a stiff jolt to the chin—a knockout blow that would eliminate them for all time. But this does not yet seem to be the time for such action. There is preliminary work yet to do. Rather is it a time for conserving and preserving all the strength and wealth we have left in the business. Better is it that we should give our organized time and effort to reviving and revitalizing an industry which is sore stricken. Preferably our organized efforts should go to promotion of new work in directions where analysis shows there is an opening.

Credit Evils

One outstanding evil of the past has been the almost utter lack of a sound credit system—an evil which seems to have grown worse with the increasing prosperity of the past and which now, in hard times, has almost wrecked the business, for there are now no profits from which to write off the losses caused by bad credits. It is claimed that the excessive use of the lien law has been a great factor in bringing about that situation. That may be so.

And yet there is a distinct use and need for the lien law, at least until something better has been set up.

The writer has a definite credit plan in mind which would almost certainly largely eliminate the need of the lien law in nine cases out of ten and which would stabilize the business in many other directions. Yet in the tenth case the use of the lien law would still be warranted. So let it stay. As for the plan? The time is not yet ripe for its introduction.

The Labor Situation

Unfortunately the year 1932 has fallen heir to a "labor complex" which is one of the problems that may tend to further disturb an already difficult situation and retard the necessary readjustment. In common with almost every other large population center in the country, the building business of the San Francisco Bay area has a wage problem on its hands. As E. M. Craig of Chicago has so ably said, "The building business is faced with a condition and not a theory." Alameda County Chapter still believes, as per its recommendations to the Impartial Wage Board, that wages cannot be maintained at the 1925 peak scale. This fact is now much more generally recognized than was the case one year ago, or even at the time when the board met last October, and few saw the handwriting on the wall so far back as fifteen months ago. In the meantime let us hope that some marked improvement in conditions may be brought about and that the adjustment which now appears inevitable may not be necessary.

Bay Area Business Good

Some discouraged members of the construction fraternity would have us think that the business for 1932 has fallen prey to all the ills that flesh is heir to. It is reliably reported that total building work in the United States in 1931 was only slightly more than one-half of the total for 1930 and a comparison with previous years would show an even greater disparity. Yet highway work throughout the State has progressed apace and so far as the San Francisco Bay area is concerned, the total of building work has been almost equal to that of 1930. In the south we find a greater falling off, but they had previously enjoyed a most extensive building program and can probably afford to take it easy for a time.

So what of 1932? What are its prospects? This question is perhaps more difficult to answer than at any time for many years past. Yet the outlook has many bright spots. Business is what we make it. This is no time to lie down and admit defeat. Rather is it a time

COLTON CEMENT

Uniform Quality : Service : Satisfaction



Manufactured by

CALIFORNIA PORTLAND CEMENT COMPANY

1228 PACIFIC MUTUAL BUILDING

Mills at Colton, California

TR. 1271

Los Angeles

for calm analysis of all the factors that may go to make or mar the possible operations. Obscure situations that may be brought into line to increase the volume of work must be studied. Legislation calculated to increase construction must be promoted. Work must be created wherever possible. Work should be along well directed, organized lines. Never before, perhaps, has the construction business needed sound, organized effort so greatly as at present. And in A. G. C. the general contractor in all lines of construction endeavor has a splendid and most efficient organization strictly operating for the benefit, protection and promotion of his business.

Since the A. G. C. Chapter, of which the writer has the honor to be secretary-manager, is composed primarily of building contractors, it is to building work to which we shall give particular attention and in seeking to promote same we shall seek the assistance of other Chapters as in the past and in turn be ready to give them a helping hand wherever possible.

All surveys by governmental and private agencies point to but two streams along which building construction may flow, namely, public building and home building. The latter line is already accounting for 60 per cent of all work, with 30 per cent public building and the balance in various forms of commercial construction.

Home Building

The general building contractors have not in the past paid very serious attention to home building as a means of livelihood. When opportunity presented itself they have been glad to contract for the building of a large size home, but otherwise they have mostly left this class of work to the so-called "speculating builder." With the present falling off in construction of the larger commercial type of building, it is safe to say that there are few contractors who will not today be glad to figure on homes of the larger class where an architect is employed and high grade work and materials called for.

To promote this class of construction it may be well to first encourage the building of smaller homes in quantity by the speculating builder. If Mrs. Jones buys a home for \$6950 (the equivalent of the \$10,500 of three years ago) her friend, Mrs. Smith, who has a little more money, will almost certainly want a \$10,000 or \$15,000 home and will employ an architect and a contractor.

President Hoover proposes government aid in financing new homes and 1932 seems almost certain to be a big home building year in the entire San Francisco Bay area. On all sides and in all towns around the bay we see plans getting under way for extensive erection of homes of almost all classes and the contractor who has a few thousands of dollars on hand, or available, and no contracts in sight or under way may do well to consider speculating on a few homes of such size and price as he may elect to put up.

Nor will he be taking undue chances. Figures compiled from reliable sources show that homes are being built today for 30 per cent to 35 per cent less than three years ago and the land on which such homes can suitably be erected can be secured in many cases for as low as one-half the former price. It looks like a good time to build a home.

Fine new homes are cheap today and therein lies the secret of the favorable outlook. There is plenty of money available to buy anything that is priced right. In fact, the only goods that are selling freely today are those whose cost has been liquidated. Alameda County Chapter has already contacted the Real Estate Board, some leading architects, the Builders Exchange, the Chamber of Commerce and the East Bay Industrial Association on

a home building campaign and all are enthusiastically supporting the movement. The loan companies and the banks, along with other interested groups, will presently be interviewed and brought into line with the movement. In the meantime Nat Friend, Oakland postmaster, is having a survey of home vacancies made within the Oakland city limits. This will show which districts and in what volume the greatest opportunities may lie for new homes after analyzing the locality as to its new home desirability, etc.

Grade Marked Lumber

It is to be hoped that 1932 will see the introduction of "grade marked" lumber in the entire San Francisco Bay area. It has been approved by Alameda County Chapter and it only remains for the lumber dealers to stock it. The better grade architects have been interviewed and all favor its use. The standardizing of lumber through this tried and proven system will do much to stop the bad competition now going on and will assure the owner getting exactly what he pays for.

In November, 1932, the State Legislature will meet again and before the session is finished the general contractors in all lines will probably think another attempt has been made to legislate them out of business. But A.G.C. has steadily been gaining political strength and has long fully realized the importance of favorably influencing both National and State legislation. Last year it either defeated or had modified all adverse bills and the State Branch maintained a permanent legislative representative in Sacramento throughout the session in the person of Floyd O. Booe, who was acting as secretary of the State Branch. The legislative committees and secretary-managers of the various Chapters were frequently up there to assist him and the result of this much needed political machinery was legitimate protection and promotion of the business.

Without this well organized political activity there is no doubt the general contractors in all lines would have suffered serious losses and damage to their business. Nor should we forget, in passing, the valuable legislative work carried on so efficiently by the National A. G. C. at Washington.

Associate Members

All Chapters today have associate members from among the material and supply houses and their assistance and co-operation is proving an important and valuable factor in A. G. C. work, for we must bear in mind that much of this work is whole heartedly for the benefit of the entire business. This fact today is warmly appreciated by the associate members and is one of the reasons why A. G. C. enjoys the confidence and respect of the entire construction fraternity.

Contract Labor

One cannot consider the prospects for 1932 without giving most serious thought to the increasing volume of contract labor work. This is a practice which should be stamped out of the business with an iron heel. 1931 has seen a steady increase in this most unfair competition owing to scarcity of work. The mechanic must live, his family must be fed, and if he cannot get a job working for a contractor he gets together with other mechanics and they contract their labor at a price which scarcely does feed them. No legitimate contractors can compete with such a system of exploitation and it is regrettable to note the extent to which it has been carried on this last year by a class of contractor who has no more scruples about peddling a bid than he has over contracting his labor for a price which he knows in advance will not provide a living.

1932 must see a determined campaign to stamp out this evil, for wages are an important factor in any contract, and if the practice is allowed to increase it will presently be the ruin of all legitimate competition, will eliminate all ethical practice and will reduce the entire business to a point where it can no longer be followed with profit to any or provide a proper living for the mechanic.

Bond Evil

Another evil to be sternly dealt with is the indiscriminate writing of bonds on construction work. In 1931 this situation has helped many an irresponsible contractor to secure work entirely beyond his financial responsibility to carry out and frequently beyond his ability and knowledge to perform successfully. All through the year such contractors have been going broke on all hands and the worst of it is that six weeks after going into insolvency we find them bidding again on public work and quite prepared to put up a bond.

Why is this? How can it be? We must revert to the weak and bad credit system as a prime factor. Then, the premiums are large and tempting to the hungry bonding company. Also the rate is high and the bonding companies can afford to take some losses. But many bonding companies have also become insolvent during the year and there is increasing caution in the writing of bonds. 1932 seems destined to see a real improvement in this situation if only for this latter reason.

I shall deal with this question of bonds in a later issue and shall make some definite suggestions for the elimination of those companies who continue to insist on writing weak business.

Public Service Corporations

There is a large opening for contract construction work if the public service corporations are brought to let all their work under the contract system to the lowest bidder. As things stand, a great deal of such work is done by day work system and the increased cost is thrown on the taxpayer. One of such corporations alone plans \$50,000,000 worth of work for 1932, and while some of it will be let on contract, yet a great deal will be done by day work unless they can be induced to see the advantages of the contract system. This matter is being worked on with considerable hope of success. If necessary, a law could probably be passed to force all such work to be let by contract or done by the company at the same figure as the lowest bid. However, there is good reason to hope for co-operation from all such companies without the need of any coercive action.

Federal Construction

President Hoover, in a recent statement to Congress, called attention to the fact of the many Government awarding boards and recommended that they be cut down to three. We now hear talk of a director of works to have charge of all works except Army and Navy contracts. This is a step in the right direction and will not only eliminate much of the present duplication going on in the various Government awarding offices, but will bring out standard specifications, simple and clear, instead of the present hodge podge under which contractors have to figure the work. The Hoover idea is right and spells efficiency.

Return to normalcy must necessarily be slow after so great a slump and considering all factors which have brought about the present situation. Some things which cannot possibly be done in 1932 must be carefully planned ahead for 1933. Such preparatory constructive work must be done to pave the way back to prosperity.

Grade Elimination

In combing the field for new work possibilities and

after careful investigation we find wonderful opportunities for the builder as well as the highway and other classes of general contractors in the elimination of grades. We find this to be almost virgin territory and perhaps the most prolific producer of labor of any class of construction, for the labor cost on this class of work runs from 40 per cent to 50 per cent.

The records of the State Railroad Commission show that there are 1133 principal grade crossings in the State which should be eliminated at the earliest moment. The total cost of their elimination is estimated at not less than \$200,000,000. Here is work for thousands of men and hundreds of contractors for many years to come, and it must be done of necessity to save life and limb in this fast-moving age. Most of this work is not on the State highways, but on county highways and within corporate city limits.

C. H. Purcell, State highway engineer, has told me that all grade crossings on the State highways between San Francisco and Los Angeles will be eliminated within four years and most of them within two years. This is already planned for and taken care of, but the cities and counties of the State have scarcely scratched the surface of such work. The gas tax funds previously allotted to them have not proven sufficient to take care of this expensive grade elimination.

Unemployment Relief

Alfred E. Smith, at the recent Jackson Day dinner of the Democratic Committee, in discussing relief of unemployment, pointed out the great need of the United States Government being housed in its own much needed buildings instead of paying huge sums in yearly rents, and in discussing proposed highway work, etc., he said: "I would even go so far as to say it would be all right to build even tunnels and bridges in cities located on the main arteries of the Federal highways." If this valuable suggestion should be carried out it would shortly start the payrolls going in this State to such an extent that prosperity would quickly follow.

To provide funds for this great amount of work several plans are now under consideration and there is reason to hope one or another of them will be adopted before the year is out.

Yes, there is much work ahead for 1932, and if it is well and carefully done we shall most surely see a definite improvement before the year has gone by and we shall be able to see certain prosperity ahead for 1933. It behooves every A. G. C. member to put his shoulder to the wheel, do his bit to help bring about this improvement and to remember that individually he can do nothing, but by standing solidly back of his Chapter he can most surely hope to enjoy improved conditions in 1932 and real prosperity in 1933. And this irrespective of how business goes along in other lines.

In the depression of 1921 it was the construction industry which pulled the country back to prosperity by its bootstraps and it can and will do it again. But we cannot stand around and weep. We must be up and doing, each and every one of us. Let's go!

STOCKTON BELT RAILWAY

Bids to construct the municipal belt line railway in connection with the Stockton Deep Water project will be considered by the Stockton city council on January 25, it is announced by Col. B. C. Allin, City Port Director. The project will involve an expenditure of \$100,000. Complete particulars in connection with this project will be found in the Engineering Construction Section in this issue.

ANNUAL CONVENTION OF NORTHERN CALIFORNIA CHAPTER

(Continued from Page 7)

cially the prompt discontinuance of convict road camps as one form of definite unemployment relief and which would at the same time affect a considerable saving in cost of the work to the State.

3. Opposing the principle of wage regulation by statute as having already proven unsound and unstable and calling upon public officials to make a prompt determination of the exact status of the existing law.

4. Pointing out to bankers and others the hazards of the contracting business and the danger which lies therein for the so-called "angel."

President Adolph Teichert, Jr., ably presided over all the sessions and in his usual tactful way expedited the discussions so that the maximum amount of business was covered in the time allotted.

New members of the Board of Directors elected to serve through the year 1932 were John Phillips and K. K. Bechtel. Clyde W. Wood was re-elected and together with the four holdover members, A. J. Crocker, George G. Pollock, R. D. Watson and Adolph Teichert, Jr., constitute the full board for 1932. Retiring from the board were John F. Knapp, who has served four years, and Lynn S. Atkinson, who has served two years, and both of whom are in Southern California almost continuously and found it impossible to longer properly serve as board members. Mr. Atkinson is also also a member of the Board of Directors of the Southern California Chapter at Los Angeles.

Reorganization of the board and election of officers was deferred until a special meeting on December 28th, at which time Vice-President Clyde W. Wood was elected as president for 1932 and George G. Pollock was elected as vice-president.

Following the close of the business sessions a general get-together smoker and banquet was held in the Terrace Plunge at the Fairmont Hotel and the affair was hugely enjoyed by all those present.

Everyone present at the convention and the evening's entertainment expressed it as their opinion that it was a most successful and enjoyable convention and which will reflect much benefit to the entire membership through the program of constructive work that has been laid out for the year 1932.

WAGE CUTS POPULAR

Voluntary wage cuts on the part of employes in the building trades is becoming about as popular in the columns of the daily press as are the developments in the Mahatma Gandhi squabble.

Last week, in Stockton, the carpenters' union voted a voluntary cut of \$1 a day, with the plumbers' union following with a similar cut.

Steps are being taken in Portland, Ore., to reduce the wages of all crafts. Similar steps are being taken at Visalia, Calif.

Voluntary wage cuts on the part of the building trades are reported from practically every section of the country.

ACHIEVEMENTS

(Continued from Page 8)

and bridge above the tracks of the Northwestern Pacific Railroad and across an arm of Richardson Bay; the construction of new road bed and the placing of bituminous macadam pavement. The unstable marsh lands adjacent to the bay necessitated the use of tons of dynamite to blast away the muck in order that a firm foundation could be found for the exceedingly heavy fills.

The Newcastle tunnel on the Sacramento-Truckee road is an improvement of outstanding interest. It provides for a re-alignment of the highway at Newcastle by tunnelling under and through the solid granite hill on which the town is situated. The tunnel is 531 ft. long. It has a 30 ft. width pavement and a 3 ft. sidewalk on either side. The tunnel is 21 ft. high and is lined with Portland concrete cement. It eliminates one of the most tedious and dangerous points on the highway.

SACRAMENTO-TRUCKEE ROAD

Another scheduled job on the Sacramento-Truckee road is that of the Gold Run to Airport link in Placer County. This is a new alignment between Gold Run and the Airport west of Emigrant Gap. The project will be the last link in the modernizing of the old pioneer trail into California via Donner summit. It will run to the southwest of the present highway and follow the course of Canyon Creek and will be 11.5 miles in length. The bids for grading on this project were opened December 23. With the paving of this section, the project will present a modern pavement from Sacramento to the State line near Reno.

The Governor's relief employment program, financed by an allocation of \$1,500,000 for extra maintenance work, is well under way. With variations in totals due to personal or local conditions, between 3200 and 3600 men have been given employment and the quotas are now in the process of being brought to their maximum of 4000.

DIVISION OF ARCHITECTURE

The year's story of the Division of Architecture is one of activity. A condensed statement shows:

By December 30, the Division of Architecture will have had under actual construction since January 1, 1931, a total construction value of \$8,225,617.00, representing 177 projects.

At this time, December 16, 115 of these projects have been completed at a construction value of \$4,420,098.00.

During the current month, the Division of Architecture will have placed on the bidding market, building projects of a construction value in the total of \$1,194,000. These will include the new hospital building for the Veterans' Home.

In January, bids will be called on projects having an additional construction value of \$681,000.

DIVISION OF WATER RESOURCES

As a result of a ten years investigation of the water resources of California, the State Engineer filed a summary report on the State Water Plan with the 49th Session of the California Legislature, accompanied by texts of supplementary reports containing the detail and bearing on



Super Concrete Emulsions

Limited

—for Better Concrete
 215 Richfield Bldg., Oakland, Calif.
 3710 S. ALAMEDA ST., Los Angeles
 District Offices
 208 Stock Ex. Bldg., Portland, Ore.
 216 Walker Bldg., Seattle, Wash.

REDWOOD MATERIAL CO.

ROAD AND BUILDING MATERIALS

Telephones: Redwood 200—206

Maple Street

Redwood City, Calif.

water resources conditions in various sections of California.

One of Governor Rolph's first declarations was that the water problem is paramount. In furtherance of the State water conservation plan, and following up the results of ten years investigation of resources, the Governor appointed a water conservation committee of seven members to proceed at once to Washington and confer with the federal authorities with the view of securing their cooperation with the State government. The committee proceeded to Washington in February. The result of their efforts was reflected in the tour made through California by the congressional committee on appropriations for the Department of the Interior. The congressmen were attended by several federal officials and members of the legislature committee, and during July, traversed the State from north to south.

Two months later a corp of U. S. engineers for rivers and harbors made a close inspection of the situation. Anticipating the need of enabling legislation for the State plan, the Governor appointed the California Water Resources Commission, with six ex-official members from among State officials. Likewise, the Governor appointed sixteen honorary advisory committees representing practically all interests and localities.

In addition to these bodies, a joint legislature committee of fourteen members has been in collaboration with the commission appointed by the Governor. The meetings have been harmonious, and it is believed that constructive progress has been made.

The Water Resources Division is not a State disbursing agency. The work of its staff is advisory and supervisory. However, they pass on a vast amount of work financed by corporate and private investors. During 1931, dams proposed carried an estimated cost of \$19,000,000. Since August 1929 the staff has passed on about \$34,000,000 of this class of improvements. During the same period, 787 dam applications have been offered for approval, and 214 applications for repairs or alterations. Of these, 181 have been approved. For the year, 61 applications have been approved, 50 being for new dams and 11 for enlargements.

In connection with the supervision of irrigation districts by the State Engineer, the year has brought authorization by the California Districts Securities Commission for the funding of \$15,931,250 of bonds. A critical situation in the districts was met and the outlook is much brighter than for years. In addition, bonds of the par value of \$629,000 were validated and expenditures in the sum of \$987,100 approved, and certification given to \$650,000 of current issues.

A score of other activities enter into the work of this Division. It includes everything from the measurement of snowfall to assistance to the U. S. in topographic mapping. The State divides about \$220,000 with the federal government in pursuance of investigations and tests. The Division of Water Resources provides a vital and continually increasing form of public service.

PREVAILING WAGE
(Continued from Page 9)

prescribed. An ex parte investigation, governed by no fixed rules, may deprive a contractor, who is without fault, of his property. Money earned on a contract may be declared to be forfeited without the intervention of legal process or judicial decree. Such a proceeding is wanting in due process, and the legislature may not delegate such arbitrary power to any executive or administrative officer."

It is not the purpose of this article to deprecate legislation which is designed to improve the lot of the working man, nor to imply that a statute to increase or to steady the rates of wages on public works could not be enforced. There is no doubt but that a statute could be drawn which would be fair and workable and which could withstand the test of constitutionality. It is possible that the present California statute will withstand that test, and the writer ventures no prophecy on that score, but at least it can be said that the act as it now stands is subject to certain serious objections which make the issue at least a doubtful one.

Contractors Machinery Exchange

RENTALS A SPECIALTY

Phone FRuitvale 0715

1135—57th Avenue

Oakland, Calif.

Pacific Clay Products

General Offices: 650 Chamber of Commerce Bldg.,

1151 SOUTH BROADWAY

Los Angeles, Calif.

San Carlos Feed & Fuel Company

SAND, ROCK AND GRAVEL
ROAD AND BUILDING MATERIALS

PHONE SAN CARLOS 250

Old Highway

San Carlos, Calif.

**CONCRETE
CUTTING**

Air Compressors and Air Tools Rented
Call for Estimates

FUNK & NEWELL

421 E. 15th St. Los Angeles WEstmore 8914

NOrmandie 4303

NOrmandie 7715

LEO HONEK

EXCAVATING CONTRACTOR
CONCRETE PAVEMENT BREAKING

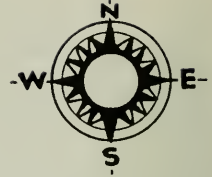
Compressed Air Equipment

2941 Denby Avenue

Los Angeles, Calif.



Here To There And Back Again



ON THE AIR!

Here we are—and no stage-frightened actor ever faced an audience with a worse case of “jitters” than we have right now as we step forth before this audience, composed of the Architects, Engineers, Contractors, Estimators and Material men of the eleven Western States.

* * *

Truth is, our pants are scared nearly off, but we will keep on writing and not let you rail-birds know that you have us on the run!

* * *

Whenever we say things that don't suit you, it will cost only two cents to tell us—and we have been wrong so often that once more will not matter.

* * *

UNDERSTAND—we know **NOTHING** of the *Construction business* and for that reason feel well qualified to write for and advise the *Engineer and Contractor*. In fact we have at times thought of putting in a side line of “*Advising the Farmer*.”

In fairness to the customers and in justice to the publishers, we think it only honorable to say that this page is entirely separate from the balance of the magazine, and does not always reflect the editorial policy of the publication.

* * *

The Editor does not always agree with what is printed here—in fact we doubt some of the stuff we sometimes write!

This page may be better after it has been running a while. There are many to whom we can turn for help. For instance:

* * *

There is **CLYDE W. WOOD**, the newly elected President of the Northern California Chapter, A. G. C. Clyde has had a lot of experience in keeping out of trouble, and in-between the times he is “**Presiding**,” he can give us a hand.

* * *

There was the time the Headmaster of the little red school accused Clyde of carving a “C. W.” in a desk. Clyde convinced the Headmaster that the carving was the handiwork of his brother Claude, and Claude got the tar whaled out of him. Later it was discovered that the carving was done by a red-headed boy named Charlie Wilson. Clyde completely cleared himself by convincing Claude that he should give Charlie a licking.

A man like that is well worth trying to!

FLOYD O. BOOE is Secretary-Manager of the same chapter. Floyd is a danged good Organization Manager, but he can be counted on to help us out with our mistakes. You see, in some ways, Floyd isn't so hot himself!

BOOE is just about as shrewd a Political Engineer as was ever hatched, and had he so wanted, he could probably have been Governor of the whole 110,690 square miles of Nevada. But he pulled one “incompleted fumble.”

* * *

It never occurred to him to stay in Nevada and organize the divorce business and put it on a production basis—just an incompleted fumble!

* * *

Of course, we COULD mention the time Floyd edited a newspaper—was agent for the Saxon automobile, or dived through the back-bar mirror during a fake hold-up—and also, there was the case of the Carter Car and the young widow living on Reese River!

* * *

Miss Ann Harris was elected Chairman of the Board of “Booe, Inc.,” on July 10th, 1912. Since that date four charming daughters have been admitted into the Firm as General Partners.

And then there is that grand Patriarch of the organized construction business: **WILLIAM E. HAGUE!** Bill is a Veteran in experience, but will ever be a boy at heart.

And let him deny this if he can! One Sunday, about three months ago, we called on Bill at his country ranch, down in the San Benito hills. Bill wasn't at the ranch-house, so we wandered on, and danged if we didn't find him shooting at sparrows with an AIR RIFLE!

* * *

It was one time reported that Hague built the Great Wall of China. We investigated, and found that this is not true! Had Bill been the Contractor on that job, the Japs would not today be running the tail off the Chinese—in fact we are not sure a Jap airplane could fly over a Hague-built wall!

ORMAN LUTZ of the California Professional and Vocational Standards Department! Lutz will help us if we get too far beyond the limit stakes. Lutz thinks that every licensed Contractor should have a **LICENSE!**



PORTLAND CHAPTER ELECTS

Paul L. Crooks of P. L. Crooks & Co. was elected president of the Portland Chapter, Associated General Contractors of America, at the annual meeting of that body held in the Multnomah Hotel, Portland. Ross B. Hammond was elected first vice-president and chairman of the building division and Philip Hart of the Pacific Bridge Company, second vice-president and chairman of the public works division. J. A. Lyons was re-elected treasurer.

The board of directors elected consists of the following: T. W. Baker, Baker Construction Co.; Fred Christensen, Fred Christensen, Inc.; T. H. Banfield, Parker Banfield; P. L. Crooks, P. L. Crooks & Co.; C. T. Parker, Parker-Schram Co.; H. A. Dick, Gilpin Construction Co.; W. T. Jacobsen, Jacobsen-Jensen; R. F. Hoffmark, A. Guthrie & Co.; J. C. Compton; Ross B. Hammond, P. L. Dolph, L. H. Hoffman Co.; G. B. Kibbe, Kern & Kibbe; W. H. Feigenson, Lindstrom & Feigenson; J. A. Lyons; Philip Hart, Pacific Bridge Co.; Robert Wallace, Robertson, Hay & Wallace; Gilbert Shea, J. F. Shea & Co.; M. J. Lynch, United Contracting Co.; Cal. Stebinger, Stebinger Bros.

NORTHERN CALIFORNIA CHAPTER ELECTS

Clyde W. Wood of Stockton was elected president of the Northern California Chapter, Associated General Contractors of America, at a recent meeting of the board of directors.

Geo. G. Pollock of Sacramento was elected vice-president, and Floyd O. Booe, re-elected secretary-manager.

New directors to serve the Chapter during the ensuing year are Clyde W. Wood, Geo. G. Pollock, A. J. Crocker, R. D. Watson, John Phillips, K. K. Bechtel and Adolph Teichert, Jr.

LIMIT STAKES AND LEVELS

(Continued from Page 4)

\$14,300,000, according to Ernest W. Sawyer, member of the international highway commission.

Sawyer, just back from a survey of the territory thru which the highway will run, reports it will open up 370,000,000 acres of land along its 2,225-mile course.

The highway is completed from Blaine to Hazelton, B. C., but from that point onward the road must be built through virgin territory.

C. H. Purcell, California state highway engineer, has announced that plans for the San Francisco Bay Bridge will probably not be completed before January 1, 1933, and that four years have been allowed for completion of the structure, according to present estimates. About fifty-five engineers are working on the plans and surveys. The total estimated cost of the bridge is placed at \$75,000,000. Contracts for borings on the site of the bridge have been let and are now under way.

The practicing engineers and surveyors of Rochester, N. Y., are waging a campaign to restrict engineers on public payrolls from engaging in private work, Engineering News-Record reports. City Manager Story has issued a memorandum to the employees of the city engineering department requesting them to refrain from doing such outside work. The practicing engineers and surveyors assert that a recent check shows that during October twenty-two maps were filed in the bureau of buildings. Of these, fourteen were signed by city employees; during November eleven maps were filed, of which five were signed by city employees.

The board of water and power commissioners of Los Angeles will call soon for bids for the construction of a 60,000-kw. steam-generating plant to be erected at Wilmington, Los Angeles harbor. The estimated cost of the plant, to be the first unit of a proposed three-unit plant with ultimate capacity of 180,000-kw., is \$7,000,000.

Are street paving inspectors competent to inspect the construction of a big steel frame building?

Members of the Oakland civil service board declare they are worrying about this problem, since the city council recently adopted an ordinance re-naming "street construction inspector" as "construction inspector," in order to permit them to supervise the driving of piles and the erecting of the foundation of the exposition building.

Building department officials, however, protested that the inspection of a building belongs to building inspectors and not to street inspectors. The civil service board, discussing the matter informally, declared that buildings should come under the supervision of the building department and not the street department. Secretary Herbert Graham of the board was requested to bring the matter to the attention of the departmental officials for a discussion and a report.

The civil service board has been asked to certify the "street construction inspectors," in conformity with the city council ordinance, but the board members say they will wait until they are informed whether street men will inspect buildings, or not.

**Carey Elastite
Expansion
Joint**

Name Reg. U. S. Patent Office

*For Pavements, Sidewalks, Curbs,
Reservoirs and all Classes of
Concrete Work*

Elastite is a preformed expansion joint, easy to install, and insures a smooth-riding pavement. Regular Elastite Asphalt Expansion Joint and Improved Elastite Rubber Expansion Joint carried in Los Angeles stock. Immediate delivery in small quantities or carloads.

Warren & Bailey Co.

Office and Warehouse: 350 So. Anderson St.
ANgelus 2151 Los Angeles, Calif.

SMITH BROS. TRUCK CO.

"TRANSPORTATION SPECIALISTS"

Portable Crane Service—Rigging

1704 E. 16th St. Los Angeles WEstmore 3271

Important Contract Awards

A resume of the more important contract awards during the month of Dec. for public works construction—complete particulars of which were published in the daily news service of Pacific Constructor.

ARIZONA STATE HIGHWAYS

COCONINO COUNTY, Ariz.—Everly & Allison, Albuquerque, N. M., at \$145,131 for grading Route No. 10, Grand National Park, and Section A of the Cameron-Desert View approach to park.

ARIZONA STATE—C. G. Willis & Son, Los Angeles, at \$87,703 for grading, draining and placing subgrade stabilizer on Benson-Douglas Highway, F.A. 79-G, Schedule 2.

ARIZONA STATE—H. L. Royden, Phoenix, at \$57,488.70, using treated redwood timbers for the construction of two timber bridges on the Holbrook-Lupton Highway and grading, draining and placing of subgrade stabilizer over 2.8 miles.

ARIZONA STATE—New Mexico Construction Co., Albuquerque, N. M., at \$142,925 for grading, draining and placing of subgrade stabilizer over portions and processing by the road mix method the entire length of the project, 22 miles.

CALIFORNIA STATE HIGHWAYS

MADERA COUNTY, Cal.—Valley Paving & Construction Co., Fresno, at \$31,554 to grade and pave with cement concrete 0.6-mile at Madera.

HUMBOLDT COUNTY, Cal.—Young & Son Co., Berkeley, at \$30,584 to grade and surface with untreated crushed gravel or stone 0.9-mile of the Dyerville Bridge approaches.

ORANGE COUNTY, Cal.—Jahn & Bressi of Los Angeles, bidding \$366,823.75 to grade and pave with cement concrete 5.5-miles between Corona Del Mar and Laguna Beach.

SAN JOAQUIN COUNTY, Cal.—Hanrahan Co., San Francisco, at \$136,806 to grade and pave with asphaltic concrete 8.4 miles between 4.5 miles east of Lodi and 1.8 miles east of Clements.

MONO COUNTY, Cal.—Morrison-Knudsen Co., Boise, Idaho, at \$142,169 to grade and surface with bituminous treated crushed gravel or stone 8.5 miles between Casa Diablo Hot Springs and Crestview.

SANTA BARBARA COUNTY, Cal.—Fredrickson & Watson, Oakland, at \$188,811.30 to grade and pave with cement concrete 6 miles between 2 miles north of Solomon Summit and 1½ miles south of Santa Maria.

LASSEN COUNTY, Cal.—California Construction Co. of San Francisco at \$217,937.30 to grade and surface with crushed run base and bituminous treated crushed gravel or stone surfacing (plant mix) 9.2 miles between Williards and Susanville.

SAN BERNARDINO COUNTY, Cal.—Contract awarded to Healy-Tibbitts Construction Co. of San

Francisco by the State Highway Commission to grade and surface with oil-treated selected material 10.9 miles between Devere and Alray on the Cajon Pass Road has been assigned by that company to J. P. Holland of San Francisco. The bid of the successful contractor was \$321,514.

SAN LUIS OBISPO COUNTY, Cal.—Bodenhamer Construction Co., Oakland, at \$41,774.20 to construct two reinforced concrete bridges in Monterey County.

TRINITY COUNTY, Cal.—John Berlinger, Oakland, at \$19,269.50 to construct a reinforced concrete girder bridge over Canyon Creek, 11 miles west of Weaverville.

MENDOCINO COUNTY, Cal.—Gutleben Bros., Oakland, at \$208,248 to construct two reinforced concrete bridges about 7½ miles south of Lanes Flat, one over Big Dann Creek and another over Cedar Creek.

SAN FRANCISCO—M. B. McGowan, San Francisco, at \$18,500 awarded contract by Chief Engineer C. H. Purcell to investigate bridge foundation sites on Yerba Buena Island in connection with San Francisco-Oakland bay bridge.

MISCELLANEOUS AWARDS

BERKELEY, Cal.—Central California Roads Co., Oakland, at \$138,875 awarded contract by city council to improve portions of Spruce and Oxford Streets.

SIGNAL HILL, Cal.—J. D. Sherer & Son, Long Beach, at \$33,950 awarded contract by city council to construct treatment plant in connection with sewer system.

CHURCHILL COUNTY, Nev.—Nevada Rock & Sand Co., Inc., Reno, at \$35,943.17 awarded contract by State Highway Commission for 9.59 miles of grading, structures and surfacing materials between 9.59 miles south of Fallon and Fallon.

SACRAMENTO, Cal.—Olympian Dredging Co., San Francisco, at \$52,785 awarded contract by U. S. Engineer Office to raise and strengthen existing levee on the east side of the Yolo By-Pass and along the west side of Reclamation District No. 1600.

SACRAMENTO, Cal.—Franks Contracting Co., San Francisco, at \$48,996.90 awarded contract by U. S. Engineer Office to raise and strengthen levee on west side of Yolo By-Pass and east side of Cache Slough around Liberty Island, involving the moving of 621,000 cu. yds. of material.

MISCELLANEOUS BUILDING CONSTRUCTION

West Los Angeles, Cal.—Murch Bros. Construction Co., St. Louis, Mo., at \$340,600, awarded contract by U. S. Veterans' Bureau to erect addition to Wadsworth Hospital.

San Francisco—Young & Horstmeyer, San Francisco, at \$77,398, awarded contract to erect monumental tower in Pioneer Park on Telegraph Hill.

San Diego, Cal.—Jarboe Construction Co., San Diego, at \$130,000, awarded contract to erect reinforced concrete Natural History Museum in Balboa Park.

Stockton, Cal.—Murch Bros. Construction Co., St. Louis, Mo., at \$406,000, awarded contract to erect post-office.

United Commercial Company, Inc.

*All Our Used Machinery, Second-hand
Shovels at Less Than Cost*

234 Stewart Street

San Francisco

Union Tank and Pipe Co., Ltd.

STEEL PLATE AND SHEET METAL
PRODUCTS

Phone Jefferson 2251

2801 Santa Fe Avenue

Los Angeles, Calif.

Restoration of Confidence Need of Building Industry

By Edward J. Harding, Managing Director, Associated General Contractors of America

Candidly facing the 1932 construction outlook, with neither undue optimism nor pessimism, the Associated General Contractors of America see for the coming year exactly what the country chooses to make of it. From all present indications the volume of work for 1932 will depend largely upon what constructive action is taken to stimulate it.

Every day it can be more clearly seen that the premise of the program adopted by the Associated General Contractors last October, "Present conditions will not adjust themselves but must be adjusted," is a sound and vital fundamental. The restoration of confidence is imperative and until some genuine constructive move is made, confidence will continue to decline.

The rate of construction contract award figures in the 37 states reported by the F. W. Dodge Corporation continues to hover under \$7,000,000 per calendar day as compared with \$11,000,000 and \$13,000,000 per calendar day in 1930 and with \$16,000,000 per calendar day in 1929.

If a measure of confidence is to be restored in 1932 and the business index forced upward at least to the level of 1930, the contract award rate, as revealed by the Dodge figures, must be forced up and not allowed to drop below \$14,000,000 per calendar day. This can be done by a united attack on both the building and engineering construction fields.

The leadership for this attack, however, hardly can be expected from individual efforts, but very properly may be furnished by the Federal Government itself as the logical solution of the national problem of business stagnation and unemployment. The field of needed public construction is vast, including highways, public buildings, rebuilt slum areas, reclaimed waste lands, grade separations, farm to market roads and other new construction

which eventually must be provided. If governmental agencies this year take the lead in supplying their own construction needs, private construction undoubtedly will quickly follow and the wheels of industry once again will be humming in high gear.

There is no argument as to the construction industry occupying the strategic point in any attempt at forcing the movement toward business recovery. This is granted by all economists, leading public officials and business leaders. The only argument that can exist concerns ways and means to maintain construction awards at a level that will secure the desired objective.

It seems certain that establishment of a Reconstruction Finance Corporation and a system of Federal Home Loan Discount Banks, as recommended by President Hoover, would have a very beneficial effect on private construction, not only through facilitating the securing of capital for new construction, but by lending demand for much needed improvement in construction quality and methods of appraisal. The President's conference on home building and home ownership has stimulated thought throughout the nation with relation to housing facilities and it may be that a reawakening in this market, with special attention to modestly priced homes for the average wage earner, may be developed.

The construction industry itself is prepared to serve the public on a higher plane than ever before, and will continue its fight for skill, integrity and responsibility during the coming year.

BUILDING CONSTRUCTION

Bakersfield, Cal.—Wm. Eissler, Bakersfield, at \$100,000, awarded contract to erect reinforced concrete church for First Baptist denomination.

Portland, Ore.—L. H. Hoffman, Portland, at \$117,750, exclusive of heating, ventilating, plumbing and electric work, awarded contract to erect Port Art Museum.

Chico, Cal.—H. Mayson, Los Angeles, at \$82,379, awarded contract by State Department of Public Works to erect brick library and classroom building at State Teachers' College. Contract does not include electric work, plumbing and heating.

Port Angeles, Wash.—A. D. Belanger Co., Everett, Wash., at \$123,495, awarded contract to erect postoffice.

Wappat Electric Handsaw CUTS your costs

This husky, well balanced, high strength steel, electric saw is built to use. Air-cooled motor, stronger gears—with table attachment makes a bench saw. Built in three sizes—six models—and cuts up to 4 5/8 inches.

Concrete Surfacers Foley Saw Filing Machines
Syntron Electric Hammers Electric Drills—Grinders
Strand Flexible Shafts and Equipment

M. N. THACKABERRY

TOOLS RENTED

Telephone
MUtual 7508

308 E. Third Street
Los Angeles, Calif.

ENGINEERING NEWS

BRIDGES

SEATTLE, Wash.—Until 10 A. M., January 25, new bids will be received by King County Commissioners to construct Juanita trestle, 1750 ft. in length. Alternative bids will be taken on the following items: (1) untreated timbers, (2) treated timbers and concrete, and (4) treated timbers and concrete combined. Bids received Dec. 8 rejected. Certified check 5%. Thos. Hunt, county engineer.

OREGON STATE—See "Streets and Highways," this issue. Bids wanted by Oregon State Highway Commission, to be opened January 21.

SOLANO COUNTY, Cal.—M. A. Jenkins, 3560 Y St., Sacramento, at \$3,740 submitted low bid to U. S. Engineer Office, California Fruit Building, Sacramento, for removing an existing timber trestle and furnishing complete and in place of same one 80-ft. timber trussed highway bridge span, together with timber pile abutments, across the dredge cut on the west side of Yolo Bay Pass in Solano County, about one-half mile south of the boundary line between Solano and Yolo counties. Bids were taken as follows: (1) dismantle and remove a section 80 ft. long of existing timber trestle; (2) construct two timber pile abutments in place;

(3) construct 1 timber trussed bridge span in place, 80-ft. long.

Complete bids follow:

M. A. Jenkins, Sacramento, (1) \$180
(2) \$250 (3) \$3310 total \$3740.

W. J. O'Neil, San Francisco, \$276
(2) \$285 (3) \$2500 total \$4061.

P. F. Bender, Sacramento, (1) \$100
(2) \$300 (3) \$3541 total \$4441.

Bundesen and Lauritzen, Pittsburg, (1) \$300 (2) \$310 (3) \$3779.50 total \$4,489.50.

Chas. F. Rose, Dixon, (1) \$218 (2) \$408.40 (3) \$2898 total \$4524.40.

Hellwig Const. Co., Sebastopol (1) \$125 (2) \$510 (3) \$4213 total \$4848.

L. Hecht, San Francisco (1) \$186 (2) \$280 (3) \$4763 total \$5229.

Lindgren & Swinerton, San Francisco (1) \$550 (2) \$950 (3) \$3950 total \$5450.

Rufus J. Bean, Ingot, (1) \$500 (2) \$600 (3) \$5122 total \$6222.37.

Pacific Const. Co., San Francisco (1) \$725 (2) \$550 (3) \$5028 total \$6303.

Holdener Const. Co., Sacramento (1) \$255 (2) \$850 (3) \$5340 total \$6445.

C. A. Lordson (1) \$330 (2) \$220 (3) \$5036.60 total \$6586.60.

Charles E. Wilkins, Sacramento (1) \$750 (2) \$700 (3) \$5328.28 total \$6828.28.

STOCKTON, San Joaquin Co., Cal.—Julius B. Manthey, county surveyor of San Joaquin County, preparing plans for Garwood Ferry bridge. The approximate quantities are:

1,100 cu. yds. excavation;
10,720 lin. ft. piles and foundation;

12,800 lin. ft. protection work;
925 cu. yds. Class A concrete;

460 cu. yds. Class B concrete;
5 cu. yds. Class C concrete;

55 tons reinforcing steel;
270 tons structural steel.

The estimated cost is \$85,000.

PLACERVILLE, El Dorado Co., Cal.—Until Feb. 2, P. M., bids will be received by Arthur J. Koletzke, county clerk, to construct a concrete slab bridge across Slate Creek near Gordons. Certified check 10% payable to clerk required with bid. Plans obtain-

able from County Surveyor Henry LaHiff on deposit of \$10, returnable.

SAN DIEGO, Cal.—Until 10 A. M., Jan. 18, bids will be received by county supervisors to construct concrete pile trestle bridge across Sorrento Canyon on the route of the state highway to connect the new Torrey Pines Road with the state's realignment of the state highway from Del Mar South. The structure will consist of ten spans of 30-ft. each, the bridge being 42 ft. in width, plus one 4-ft. sidewalk, and will have cement concrete deck and concrete rail. Each bent will have eight piles, making 72 in all, and the abutments will have a total of 62 piles, making a total of about 134 concrete piles. Plans obtainable from county surveyor, Ernest R. Childs, San Diego. Payments will be made in cash, funds being derived from the gasoline tax funds appropriated to San Diego County. The state highway bridge department, prepared the plans and the state will supervise construction.

PETALUMA, Sonoma Co., Cal.—U. S. Engineer is holding hearings at Petaluma in connection with the application of the city of Petaluma to construct a bridge over Petaluma Creek at D St. A bascule type structure is contemplated. L. H. Nishkian, consulting engineer, 525 Market Street, San Francisco, represents the city at the hearings and will draw plans for the proposed structure.

LOS ANGELES, Cal.—Merrill Butler Chief Bridge Engineer, Los Angeles City, Room 657, City Hall, has completed plans for the bridge on West Blvd. over Venice Blvd. and Pacific Electric Railway tracks. Estimated cost \$75,000. Will be reinforced concrete, rigid frame type bridge 526 ft. in length, with a 30-ft. roadway and one 5-ft. sidewalk, making an overall width of 39 ft. The project will involve approximate quantities as follows:

- (1) 2905 cu. yds. concrete;
- (2) 174 tons reinforcing steel;
- (3) 8 concrete lighting standards;
- (4) 8-in. cement concrete pavement (quantities later);
- (5) 8-in. asphaltic concrete pavement (quantities later);
- (6) lump sum for pedestrian subway.

WASHINGTON STATE—See "Streets and Highways," this issue. Bids wanted for highway and bridge construction by State Highway Commission; to be opened February 2.

DREDGING, HARBOR WORKS & EXCAVATIONS

WATSONVILLE, Santa Cruz Co., Cal.—Granite Const. Co., Watsonville, at approximately \$2,000 awarded contract by Southern Pacific R. Co. to repair and rebuild portions of the Pajaro River levee on the Monterey County side just south of the S. P. bridge.

ALAMEDA, Alameda Co., Calif.—Healy-Thibbitts Const. Co., 64 Pine St., San Francisco, at \$2,220 awarded contract by Constructing Quartermaster, Benton Field Air Depot, for driving 21 test piles at the Benton Air Field.

LOS ANGELES, Cal.—Lewis Const. Co., 210 S Vermont Ave., awarded contract by Columbia Casualty Co. to complete a contract awarded by the board of supervisors Oct. 5 to C. Anili Co. for the construction of levees on the west bank of the Los Angeles river bet. Dayton Ave. and Fletcher Dr. About six per cent of the work involved in the original contract, which amounted to \$35,142, has been completed. The approximate quantities in the original estimate follow:

- (1) 410,000 sq. ft. guniting levee slopes and special gunite work complete;
- (2) 305,000 sq. ft. pre-cast concrete block toe mat complete;
- (3) 210 cu. yds. reinf. conc. drainage structures and misc. reinf. conc. struc., including excavation.

(District to furnish cement, reinforced steel and reinforced bars for concrete blocks).

NYSSA, Ore.—J. A. Terteling, Ellensburg, Wash., at \$132,430, under Schedule No. 1, awarded contract by U. S. Bureau of Reclamation for construction of the North Canal, Owyhee Project, Oregon-Idaho, including earthwork, tunnels and structures. General Constr. Co., Seattle, awarded contract at \$151,050, under Schedule No. 2. Work under Schedule No. 1 covers earthwork and structures on North Canal Sta. 4-20.63 to Sta. 235-64.38 and operating roads at Tunnel No. 2 and between Tunnel No. 3 and Black Willow Station. Schedule No. 2 involves Tunnel Nos. 2 and 3, approach tunnel to Owyhee River syphon and tunnel transitions.

IRRIGATION PROJECTS

IMPERIAL COUNTY, Cal.—The directors of the Imperial Irrigation District, El Centro, have set Feb. 11 as the date when the proposed All-American Canal contract will be submitted to district voters for approval. The resolution was adopted on a vote of 3 to 2. The contract calls for the construction of a new main irrigation canal from an intake on the Colorado River four miles above the Laguna dam and connecting with Imperial and Coachella Valleys. It will serve about 500,000 acres in the Imperial and 500,000 in the Coachella Valley and adjacent area. The contract provides for annexation of the Coachella area to the Imperial district. The estimated cost is \$33,500,000, repayable, without interest, within a period of 40 years.

STREET LIGHTING SYSTEMS

SAN FRANCISCO—H. C. Reid, 389 Clementine St., at \$6070 awarded contract by Board of Public Works to install ornamental street lighting system in the Great Highway, between Point Lobos Ave. and Lincoln Way. Complete bids published in issue of Dec. 31.

BEVERLY HILLS, Los Angeles Co., Cal.—Until February 2, 8 P. M., bids will be received by E. J. Fliminger, city clerk, to install street lighting system in the Civic Center, involving:

- (1) 13 combined trolley pole standards
- (2) 13 single lamp standards;
- (3) 8 double lamp standards.

Specifications obtainable from city engineer.

SAN FRANCISCO.—H. C. Reid, 389 Clementina St., at \$3,692 awarded contract by Board of Public Works to install street lighting system in South Van Ness Ave. between Market and Howard Sts. Project involves: (1) erect, assemble and paint 36 ornamental iron standards; (2) furnish and install 36 luminaries and lamps; (3) construct 36 concrete foundations; (4) 5,600 ft. 5000-volt S/c R and L C wire; (5) 1,350 ft. 1 1/2-in. galv. conduit. Complete list of bids follows:

| | |
|----------------------------|---------|
| H. C. Reid..... | \$3,692 |
| R. Flatland..... | 4,495 |
| Weidental-Gosliner Co..... | 4,680 |
| Eaton and Smith..... | 4,779 |

BERKELEY, Alameda Co., Calif.—Until January 22, 11 A. M., bids will be received by the Regents of the University of California, California Hall, Berkeley, to construct street lighting system in Fulton and Oxford Streets between Bancroft and Berkeley Ways. Plans obtainable from the Cashier's Window, California Hall, U. of C., Berkeley.

PACIFIC COLONY, Los Angeles Co., Cal.—Walker-Martin Corp., Ltd., 1241 E Florence, Los Angeles, at \$6,430 awarded contract by State Department of Public Works, Sacramento, for ground lighting system at Pacific Colony. Complete list of bids published in issue of January 6.

MACHINERY AND EQUIPMENT

WASHINGTON, D. C.—See "Government Work and Supplies," this issue. Bids wanted for miscellaneous supplies and equipment for various Pacific Coast Navy Yards and Stations: cable, miscellaneous machinery, resistors, etc.

SAN JOSE, Santa Clara Co., Cal.—Until January 25, 10 A. M., bids will be received by Henry A. Pfister, county clerk, for the sale of one 2-ton Graham Truck with 1 1/2-yard hydraulic hoist.. Truck may be inspected at Olsen and Company's yards. Certified check \$50 payable to clerk required with bid.

BERKELEY, Alameda Co., Calif.—Until Jan. 26, 10 A. M., bids will be received by Florence E. Turner, city clerk, to furnish one ambulance complete for the Police Department. Specifications obtainable from office of city clerk. Certified check 10% required with bid.

SAN FRANCISCO—See "Schools," this issue. Contract awards by City Purchasing Agent, under Proposal No. 778, to furnish shop equipment for school departments.

SACRAMENTO, Cal.—Until January 19, 3 P. M., under Order No. 4095-1906, bids will be received by U. S. Engineer Office, California Fruit Bldg., to furnish and deliver Rio Vista, Solano County, one pneumatic drill, Thor No. 1, with screw feed and No. 1 Morse taper socket, or equal, shown in Thor Cat. No. 10 of independent Pneumatic Tool Co. Allowance is to be made for one used Thor Pneumatic Drill FFGG.

SACRAMENTO, Cal.—Until January 19, 3 P. M., under Order No. 4094-1906, bids will be received by the U. S. Engineer Office, California Fruit Bldg., for the sale of one used Thor Pneumatic Drill FFGG, no longer required. Drill may be inspected at U.

S. Engineer Office, Rio Vista, Solano county.

SAN MATEO, San Mateo Co., Cal.—White Co., at \$11,056 awarded contract by San Mateo High School District to furnish school bus with Gibson body. The White bid was the highest received and was awarded the contract over the protests of local bidders.

Bids submitted follow:
Dodge by Ross C. Bley, Burlingame (chassis), \$6,519.82; International Harvester (chassis), \$4,350.80; White (chassis and body), \$11,056; Moreland Co. (chassis) \$6,093; Diamond T (chassis), \$6,900; Industrial Steel products, Pierce Arrow (chassis), \$8,975; Studebaker represented by John D. Clark of San Mateo (chassis), \$8,120; Paigeol (chassis), \$6,560; Yellow, represented by Howard Buick Co., of Burlingame (chassis), \$7,312; Kiebler (chassis) \$7,460; Mack four bids from \$5,556 to \$9,337.

Bids on bodies were: S. S. Albright, Sacramento, \$5,200; California Motor Coach Co., San Francisco, \$3,350; Wm. B. Gibson, San Francisco, \$3,500; Liberty, Oakland, \$1,700; P. and C., \$2,900.

ALHAMBRA, Los Angeles Co., Cal.—Until 9 A. M., January 19, bids will be received by the Alhambra city commission for furnishing a 2-ton or 2 1/2-ton truck for the city water department. T. E. Downer, city water superintendent.

SAN DIEGO, Calif.—Following bids received by Bureau of Yards & Docks, Navy Dept., Washington, D. C., under Spec. No. 6650, to furnish three 560 c.f.b., horizontal, motor-driven air compressors with intercoolers, automatic starting compensators, air circuit breaker, disconnecting switches and electric wiring at the Naval Operating Base (Destroyer Base), San Diego:

- Pennsylvania Pump and Compressor Co., Philadelphia, Item (1) \$14,350 (2) \$16,465.
 - Chicago Pneumatic Tool Co. (1) \$15-147 (2) \$17,445.
 - Ingersoll-Rand Corp., (1) \$16,539 (2) \$19,190.
 - Equipment & Machinery Co., San Diego, (1) \$16,885 (2) \$18,990.
 - Gardner-Denver Co., Quincy (1) \$17-049 (2) \$17,517.
 - Bury Compressor Co., Erie, Pa., (1) \$17,118 (2) \$19,419.
 - Sullivan Machine Co., Chicago (1) \$17,965 (2) \$19,024.
 - Hardie Tynes Mfg. Co., Birmingham (1) \$19,829 (2) \$22,802.
- Bids were taken under advisement.

RAILROADS

SAN FRANCISCO.—General Electric Supply Corp., 1201 Bryant St., awarded contract by City Purchasing Agent, under Proposal No. 788, to furnish five miles of 4/0 figure eight, hard drawn copper trolley wire at \$11.28 per 100 lbs. with allowance of \$18 each for empty reels. Material to be delivered l.o.b. car barn, 2600 Geary Street, San Francisco.

HONDURAS, Central America.—H. B. Waters, Columbus, Ohio, has been awarded a contract by the Government of Honduras, Central America, for the construction of 200 miles of railroad at a cost of \$8,000,000. The new railroad, which will supplement the present 70-mile system of the Honduras National Railway, will be completed in eight years.

STOCKTON, San Joaquin Co., Cal.—Until January 25, 5 P. M., bids will be received by E. L. Trahern, city clerk, to construct approximately 4 1/2 miles of municipal belt line railway in connection with the Stockton Deep Water Project. The cost of construction is estimated at \$100,000. The project involves:

- (1) 9,000 cu. yds. excavation for railroad and highway roadbed;
- (2) 15,500 cu. yds. borrow excavation for railroad roadbed;
- (3) 8,000 cu. yds. borrow excavation for highway embankment;
- (4) 25,000 cu. yds. ditch backfilling;
- (5) 450 lin. ft. 8-in. corr. iron pipe culverts complete in place;
- (6) 150 lin. ft. 12-in. do;
- (7) 50 lin. ft. 18-in. do;
- (8) 150 lin. ft. 24-in. do;
- (9) 320 lin. ft. 36-in. do;
- (10) 130 lin. ft. 48-in. do;
- (11) 1 only 18-in. corr. iron pipe siphon complete in place;
- (12) 2 only 24-in. do;
- (13) 1,500 creosoted hardwood cross ties, 7x8-in. x 8-ft.;
- (14) 10,000 creosoted Douglas fir cross ties, 7x8-in. x 8-ft.;
- (15) 4,000 Redwood cross ties, 7x8-in. x 8-ft.;
- (16) 48 M. ft. B.M. creosoted Douglas fir switch ties, 7x9-in.;
- (17) 17,500 track ft. No. 1 relay rail, complete with angle bars;
- (18) 11,600 track ft. No. 2 do;
- (19) \$3,200 only, S. H. new tie plates; to fit rail under items 17 and 18;
- (20) 130 cwt. new track bolts and nuts heat-treated;
- (21) 8.2 M. new hipwiper nutlocks 7/8";
- (22) 675 cwt. new track spikes 5/8x6-in.
- (23) 3,000 fair rail anchors or equal to fit rail section bid under item 18 (new or second hand);
- (24) 500 tie bars or gauge rods (new or second hand);
- (25) 1 only, new 85 lb. No. 7 turnout complete (see foot note);
- (26) 1 only, new 90 lb. No. 7 do;
- (27) 16 only, new 85 lb. No. 9 do;
- (28) 16 only, new 90 lb. No. 9 do;
- (29) 10,200 cu. yds. gravel ballast;
- (30) 23,200 lin. ft. laying, ballasting and surfacing tracks;
- (31) 9 only, switches, installing;
- (32) 3,000 only rail anchors, installing;
- (33) 500 only, tire bars, installing;
- (34) 7 only, street crossings, Standard No. 2A, installing, complete in place;
- (35) 5 only, street crossings, Standard No. 3C, installing, complete in place;
- (36) 750 sq. ft. conform paving;
- (37) 20 only, catchbasins, installed, complete;
- (38) 15 only, road crossing signs, installed, complete;
- (39) 5 only, whistle posts, installed, complete;
- (40) 450 sq. ft. 4-in. asph. conc. sidewalks, complete in place.

Items 25, 26, 27 and 28, Contractor will be required to furnish 16 only No. 9 turnouts and 1 only No. 7 turnout. Col. B. C. Allen is city port director and Lyle Payton, city engineer.

FIRE ALARM SYSTEMS

OKLAND, Cal.—Until January 21, 9 P. M., bids will be received by W. W. Chappell, city clerk, to furnish and install electrical broadcasting system for the Police Department. Specifications on file in office of clerk.

FIRE EQUIPMENT

ALHAMBRA, Los Angeles Co., Cal. Until January 19, 9 A. M., bids will be received by city council to furnish (1) 1,000 ft. 2 1/2-in. double jacket,

rubber lined fire hose, coupled;

(2) 200 ft. 1½-in. double jacket rubber lined fire hose.

All hose to be coupled in 50-foot lengths so made as to stand test pressure of 400 lbs. per sq. in. Certified check or bond for 10 per cent required with bid.

LOS ANGELES, Cal.—The Seagrave Corp., 846 E. 6th St., awarded contract by city purchasing agent, at \$3500 each for two Seagrave motors under Specifications No. 2702.

LOS ANGELES, Cal.—The Republic Rubber Co., Youngstown, Ohio, was awarded contract by city purchasing agent, at \$15,980 for furnishing fire hose under Specifications No. 2700.

RESERVOIRS AND DAMS

PASADENA, Los Angeles Co., Cal.—Samuel B. Morris, chief engineer and Superintendent of the Municipal Water Department, is completing plans and bids will be asked about Feb. 1 to construct the Pine Canyon Dam in the San Gabriel Canyon. Project involves about 470,000 cu. yds. concrete and 400,000 cu. yds. excavation. About ½ mile of outlet tunnel has been completed. Structure will be a gravity section dam, 265 feet in height above the stream bed and 750 feet in length across the top. It will impound 40,000 ac. ft. Estimated cost \$5,770,000.

PIPE LINES, WELLS, ETC.

BAKERSFIELD, Kern Co., Calif.—Until January 18, 2 P. M., bids will be received by E. E. Wallace, district engineer, State Highway Commission, Fresno, to drill water well 21 miles south of Bakersfield. Certified check 10% payable to the Director of Public Works required with bid. Specifications obtainable from the engineer.

MARYSVILLE, Yuba Co., Cal.—The following bids received by U. S. Engineer Office, California Fruit Building, Sacramento, to furnish f.o.b. trucks or railroad cars at Marysville: (1) 25 drop inlets, to be made of 16-gauge corrugated galvanized iron pipe; (2) 25 band couplers, each 1½-in. long, complete, for connecting the 8-in. dia. stubs of the drop inlets to 8-in. dia. corrugated iron culverts:

| | | |
|-------------------------|----------------------|---------|
| Western Pipe & Steel | | |
| Co., S. F. | \$3.83 (1) | \$95.75 |
| | .95 (2) | 23.75 |
| | (alternate) 4.31 (1) | 107.75 |
| California Cor. Culvert | | |
| Co., S. F. | 4.51 (1) | 112.25 |
| | .93 (2) | 23.25 |
| Golden State Cul. Co., | | |
| Oakland | 6.75 (1) | 168.75 |
| | .75 (2) | 18.75 |

YREKA, Siskiyou Co., Cal.—Western Pipe & Steel Co., 444 Market St., San Francisco, at \$56 per ft. awarded contract by city council to furnish 3606 ft. of 8-in. 14 gauge riveted and double dipped soil proof, wrapped sheet steel pipe, and at \$2.26 each to furnish couplings for the new line from Greenhorn to reservoir. Bids also received from Crane Co., Montague Pipe & Steel Co., Sacramento Pipe Works.

SACRAMENTO, Cal.—Until January 21, 3 P. M., under Circular Proposal No. 32-237, Specifications No. 4112, bids will be received by U. S. Engineer Office, California Fruit Bldg., Sacramento, for assembling and installing a 40-ft. extension to existing 36-inch double corrugated pipe culvert, and a 60-ft. corrugated pipe

extension 42-in. in diameter to existing box culvert, located on east levee of the Feather River near the Eliza Bend pumping station, involving:

- (1) Installing 36-in. culvert extension complete with headwall;
- (2) Installing 42-in. culvert extension complete with headwall and stopwall.

MARYSVILLE, Yuba Co., Cal.—Until January 19, 3 P. M., under Order No. 4113, bids will be received by U. S. Engineer Office, California Fruit Bldg., Sacramento, to furnish f. o. b. trucks or railroad cars at Marysville: (1) 60 lin. ft. 10-gauge, corr. galv. iron culvert pipe, 42-in. dia., to be made up in 3 sections, each 20 ft. long;

- (2) 2 10-gauge, corr. galv. iron coupling bands to fit 42-in. dia. pipe of Item 1. Each band to be 12½-in. wide and complete with bolts, etc.;
- (3) 1 c. i. automatic drainage gate with balanced shutter for 42-inch dia. pipe of Item 1, complete and assembled to one end of a section of the pipe. Gate to be equal to "Calco" automatic drainage gate, model 100.

SANTA CRUZ, Santa Cruz Co., Cal.—S. A. Evans, city clerk, will ask bids at once to furnish about 2600 ft. of pipe to extend the Soquel road water system from Rodeo Ave. to 41st St. Estimated cost, \$2049.

SEWERS AND SEWAGE DISPOSAL PLANTS

LAGUNA BEACH, Orange Co., Cal.—No bids submitted to the city council for the \$180,000 bond issue voted for the construction of a sewage disposal plant, main sewers, etc. The matter of re-advertising was taken under advisement.

ORANGE, Orange Co., Cal.—City council plans formation of two new sewer districts, one in North Parker St. and one which includes a district extending from Palm Ave. to Batavia St., north on Batavia to Walnut, east on Walnut to Parker, and north on Parker to Clark. C. C. Bonebreak is city engineer.

LOS ANGELES, Cal.—Revised plans for Section No. 4 of the Jefferson Storm Drain System, have been submitted to the Board of Public Works. It is expected that bids for construction will be asked about January 15. The project involves:

Item (1) Storm Drain and Structures Lump Sum Bid

- 10 ft. transition chamber, Sec. A to 66 R.C.P.;
- 739.79 ft. Sec. A 7x4.75-ft. R. C. box;
- 30 ft. Sec. B do;
- 1122.70 ft. 90-in. concrete storm drain (heavy);
- 1230.80 ft. 87-in. do;
- 665.41 ft. 87-in. concrete storm drain (double medium);
- 27.50 ft. 81-in. mon. conc. sewer;
- 828.30 ft. 84-in. R.C.P. (heavy);
- 738 ft. 81-in. do;
- 725.30 ft. 72-in. R.C.P. (double heavy);
- 962.20 ft. 66-in. do;
- 1493.74 ft. 66-in. R.C.P. (medium);
- 57.84 ft. 63-in. R.C.P. (double medium)
- 1114 ft. 63-in. R.C.P. (medium);
- 1052.49 ft. 60-in. R.C.P. (double medium);
- 139.08 ft. 57-in. do;
- 40 ft. 57-in. R.C.P. (double medium with cradle);

- 473.22 ft. 57-in. R.C.P. (medium);
 - 2602.57 ft. 54-in. R.C.P. (double medium);
 - 145.21 ft. 54-in. R.C.P. (double medium with cradle);
 - 2894.50 ft. 51-in. R.C.P. (double medium);
 - 629.50 ft. 48-in. do;
 - 3432.01 ft. 45-in. do;
 - 106.49 ft. 45-in. R.C.P. (double medium with cradle);
 - 1801.34 ft. 42-in. R. C.P. (double medium);
 - 261.39 ft. 39-in. R.C.P. (double heavy);
 - 30 ft. 39-in. R.C.P. (double heavy) with cradle;
 - 1535.72 ft. 39-in. R.C.P. (double medium);
 - 107 ft. 39-in. R.C.P. (double medium) with cradle;
 - 1254 ft. 36-in. R.C.P. (double heavy);
 - 246.60 ft. 36-in. R.C.P. (double medium);
 - 626.24 ft. 33-in. R.C.P. (double heavy);
 - 1266.53 ft. 33-in. R.C.P. (double medium);
 - 30 ft. 33-in. R.C.P. (double medium with cradle);
 - 326.94 ft. 30-in. R.C.P. (double heavy);
 - 50.70 ft. 30-in. R.C.P. (double medium)
 - 649.82 ft. 27-in. R.C.P. (double heavy);
 - 34 ft. 27-in. R.C.P. (double heavy) with cradle;
 - 114.44 ft. 27-in. R.C.P. (double medium);
 - 529 ft. 27-in. R.C.P. (heavy);
 - 310.83 ft. 27-in. R.C.P. (medium);
 - 1040.29 ft. 24-in. R.C.P. (double medium);
 - 57 ft. 24-in. R.C.P. (heavy)
- Structures (Price included in Storm Drain Bid)**
- 38 manholes KYZ Case I;
 - 57 manholes KYZ Case II;
 - 2 manholes KYZ Case III;
 - 30 manholes KYZ Case IV;
 - 1 manhole KYZ Case IV (7 ft.);
 - 4 junction structures A;
 - 2 special junction structures;
 - 15 catchbasins No. 28—1 grating;
 - 1 catchbasin No. 28—2 gratings;
 - 271 catchbasins No. 29;
 - 35 catchbasins No. 30;
 - 12 catchbasin No. 31;
 - 1 catchbasin No. 31;
 - 3 junction chambers No. 2;
 - 128 manhole frame and cover sets;
 - 322 catchbasin frame and cover sets;
 - 15 single grating sets;
 - 1 double grating set.

Item (2) Sanitary Sewer—Lump Sum Bid

- 12 ft. concrete R.F. for 24-in. vit. pipe (Type X);
- 10 conc. piers for 8-in. C. I. pipe;
- 11 ft. concrete R.F. for 6-in. vit. pipe (Type X);
- 5 6-in. wyes (main sewer);
- 157.67 ft. 8-in. cem. pipe (main sewer)
- 2810.10 ft. 6-in. cement pipe;
- 77 8-in. wyes;
- 118.73 ft. 8-in. C. I. pipe;
- 38 ft. concrete R.F. for 8-in. cement pipe;
- 11 manholes B;
- 3 Drop manholes S;
- 1 junction chamber F;
- 2 flushing structures (5-ft. dia.);
- 1 flushing structure (4½-in. dia.);
- 17 manhole frame and cover sets;
- 1 remodel structure;
- 1 lamphole X.

Unit prices will be asked for following items:

- 2717 ft. 6-in. house connection sewers;
- 1107.50 ft. concrete reinf. for house connection sewers;
- 17,984 sq. ft. 8-in. conc. local depressions;
- 16,110 sq. ft. 6-in. conc. pave.;
- 10,298 sq. ft. cement walk;
- 43,829 sq. ft. concrete gutter;
- 8657 ft. heavy class. cement curb;
- 549 ft. curb armor.

Engineer's estimate, \$475,000.

WATERWORKS

ALAMEDA, Alameda Co., Cal.—Until January 21, 2-P. M., (previously reported Jan. 22), bids will be received by C. H. Sweetser, district engineer, U. S. Bureau of Public Roads, 461 Market Street, San Francisco, to construct Unit No. 5, Government Island Project, involving the construction of a fresh water distributing system and a salt water fire protection system, and involves in the main:

- (1) 8,000 lin. ft. dip and wrap new 6-in. steel pipe;
- (2) 13 6-in. gate valves and appurtenances;
- (3) 8000 lin. ft. laying 6-in. pipe line and appurtenances;
- (4) 7 6-in. hydrant ells;
- (5) 20 recondition and install fire hydrants and furnish and install necessary appurtenances;
- (6) 210 lin. ft. 2½-in. galv. wrought iron pipe;
- (7) 400 lin. ft. 3-in. do;
- (8) 8 2½-in. hose gate valves;
- (9) 8 3-in. gate valves;
- (10) 4 3-in. water meters and appurtenances.
- (11) 520 lin. ft. 2½-in. and 3-in. services and appurtenances to be laid.

Specifications obtainable on deposit of \$10, returnable. Certified checks payable to Federal Reserve Bank of San Francisco.

LA HABRA, Orange Co., Cal.—City Engineer John Hanks in a report to the city council estimates the cost of a municipal water system at \$80,000. The estimate includes drilling of two wells, each with pumping plant, and a reservoir in the hills north of the city. The plans include a complete distribution system, involving 6-in. to 12-in. pipe.

The segregated costs are:

| | |
|-----------------------------------|----------|
| Pipe and fittings..... | \$42,000 |
| Installation of pipe lines..... | 10,000 |
| Pumping plants..... | 10,000 |
| Reservoir..... | 6,000 |
| Land for same..... | 1,000 |
| Fire hydrants..... | 2,700 |
| Meters and house connections..... | 5,000 |
| Legal and misc. expense..... | 3,300 |

WHITTIER, Los Angeles Co., Cal.—C. G. Claussen & Co., 2120 E 25th St., Los Angeles, awarded contract by city council to furnish Class 150 cast iron pipe as follows:

- (1) 5000 ft. 4-in. at 25c ft.
- (2) 5000 ft. 6-in. at 40c ft.

None of the bids increased the price on 10,000 ft. of each, called for in an alternative proposal. The bids follow:

C. G. Claussen Co.—(1) 25c (2) 40c.

Utilities Equip. Corp., Ltd.—(1) no bid; (2) 43.4c.

National Cast Iron Pipe Co.—(1) 30.5c; (2) 43.5c.

Grinnell Co.—(1) 30.5c; (2) 43.5c.

American Cast Iron Pipe Co.—(1) 32c; (2) 45.5c.

U. S. Pipe & Foundry Co.—(1) 32c; (2) 40c.

Pacific States Cast Iron Pipe Co.—(12-ft. lengths)—(1) 33c; (2) no bid; (16-ft. lengths), (1) 35c; (2) 49c.

WHITTIER, Los Angeles Co., Cal.—Ducommun Corp., 219 S Central Ave., Los Angeles, awarded contract by the city council for furnishing copper service pipe as follows:

- (1) 7000 ft. ¾-in. pipe, 18 ft. and 20 ft. lengths, at \$9.51 per C ft.
- (2) 300 ft. 2-in. pipe, 20 ft. lengths, at \$27.51 per C ft.

The bids were:

Ducommun Corp.—(1) \$9.51; (2) \$27.51.

Hacker Pipe & Supply Co.—(1) \$9.53 (2) \$27.69.

Crane Co.—(1) \$9.74; (2) \$28.15.

Calif. Pipe & Supply Co.—(1) \$10.22; (2) \$29.67.

Utilities Equip. Corp., Ltd.—(1) \$10.35; (2) \$29.95.

Grinnell Co.—(1) \$10.34; (2) \$29.90.

Pacific Pipe & Supply Co.—(1) \$10.43; (2) \$30.18.

Van D. Clothier—(1) \$10.625; (2) \$29. C. G. Claussen & Co.—(1) \$10.65; (2) \$30.95.

Chase Brass & Copper Co.—(1) \$10.91; (2) \$31.55.

FALLON, Nevada.—Until 7:30 P. M. Jan. 19, bids will be received by city council to construct pipe line and pumping plant, involving:

- (1) 5400 ft. 12-in. pipe (c. l. or steel);
- (2) one 10-in. cushioned check valve;
- (3) two 10-in. gate valves;
- (4) one 10-in. tee;
- (5) one 12-in. gate valve;
- (6) one deep well turbine pump of 500 G.P.M. against 314 ft. head;
- (7) motor and starter.

Work will be paid for in cash. Plans obtainable from city clerk J. R. Pennington, Fallon, and 890 Willow Glen Way, San Jose, Calif., is engineer.

SAN FRANCISCO — Contracts awarded to the following firms by City Purchasing Agent to furnish pipe and fittings under Quotation No. 1943 during period commencing January 1 and ending March 31, 1932.

Standard Supply Co.

Marshall Newell Supply Co.

Steam & Plumbing Service Corp.

Richmond Sanitary Co.

Walworth California Co.

Baker, Hamilton & Pacific Co.

Crane Co.

Petroleum Equipment Co.

Grinnell Co. of the Pacific.

Tay-Holbrook, Inc.

Olsen & Heffernan.

Dalziel Moller Co.

P. E. O'Hair & Co.

C. G. Claussen & Co., Inc.

Federal Pipe & Supply Co.

Dunham, Carrigan & Hayden Co.

SUNNYVALE, Santa Clara Co., Cal.—Wm. F. Serpa, 497 N 13th St., San Jose, at \$45 awarded contract by city trustees to remove and replace steel cover on water tower. R. Hellwig Iron & Wire Works, 407 Vine St., San Jose, at \$153 awarded contract to repair structural steel in tower and Shulman-Conroy Co., 609 Frederick Street, San Francisco, awarded contract for cleaning and painting tank at \$54.

SAN LUIS OBISPO, San Luis Obispo Co., Cal.—No bids received by the county supervisors for the purchase of the \$18,000 bond issue of the Cambria Water District. The bonds were voted to finance construction of a water distributing system for the Cambria section. It is possible the bonds will be offered at private sale.

YAKIMA, Wash.—City Water Superintendent N. A. Gilman is preparing plans to replace 15-in. water pipe line leading from the Naches Heights Reservoir with a 24-in. cast iron line. Estimated cost, \$80,000.

LOS ANGELES Cal.—Until 4 P. M., January 18, bids will be received by the board of education purchasing bureau, 1445 S San Pedro St., for furnishing certain school supplies and equipment, including 34,000 ft. of galvanized pipe.

LOS ANGELES, Cal.—Western Pipe & Steel Co. was awarded contract by city purchasing agent at \$8541.75 for furnishing steel pipe under Specifications No. 2706.

ALHAMBRA, Los Angeles Co., Cal.—Until January 19, 9 A. M., bids will be received by city council to furnish c. l. pipe as follows:

- (1) 7,000 ft. 6-in. cement lined cast iron water pipe;
- (2) 3,000 ft. 8-in. do;

Specifications obtainable from Supt. of Water Dept., 2nd floor, City Hall. Certified check or bond, 10% required with bid.

SUNNYVALE, Santa Clara Co., Cal.—Following contractors have secured plans in connection with the construction of a 200,000-gal. steel water tank on 100-ft. steel tower at the Naval Air Station, Sunnyvale, for which bids will be open 4 January 27, 11 A. M., by Bureau of Yards and Docks, Navy Department, Washington, D. C.:

Chicago Bridge & Iron Works, 338 Rialto Bldg., San Francisco.

Pittsburgh-Des Moines Steel Co., Rialto Bldg., San Francisco.

Omaha Steel Works, 609 South 48th St., Omaha, Neb.

San Francisco Const. Co., 3159 Fillmore St., San Francisco.

MacDonald & Kahn, Financial Center Bldg., San Francisco.

Herriek Iron Works, 18th and Campbell Sts., Oakland.

The Huber Co., 9317 South Alameda St., Los Angeles.

Jacobs & Fattiani, 337 17th Street, Oakland.

Lindgren & Swinerton, Inc., Standard Oil Bldg., San Francisco.

Pacific Coast Eng. Co., foot of 14th St., Oakland.

McClintic-Marshall Corp., 2050 Bryant St., San Francisco.

Crane Co., 301 Brannan Street, San Francisco.

Specifications obtainable from the Commandant, 12th Naval District, 100 Harrison St., San Francisco, on deposit of \$10.00, returnable, checks for same to be made payable to the Chief of the Bureau of Yards and Docks.

KALISPELL, Mont.—National Cast Iron Pipe Company, Kansas City, Mo., awarded contract by city council to furnish 639 tons of cast iron pipe with fittings, at \$49.60 per ton.

SIGNAL HILL, Los Angeles Co., Cal.—Until January 25, 3 P. M. (tentative date), bids will be received by the city council to furnish approximately 4 miles of 20-in. water pipe. Bids will be received on open specifications.

SAN LUIS OBISPO, San Luis Obispo Co., Cal.—Until 2:30 P. M., Feb. 1, new bids will be received by county supervisors for the bonds of the new Cambria Water District of the par value of \$18,000, voted at the recent special election. Proceeds of the sale are to finance construction of a water distributing system.

MONTEREY, Monterey Co., Cal.—Martin Murphy, 1321 Milvia St., Berkeley, at \$3582 submitted low bid to Quartermaster Corps, Presidio, for construction of an extension to the water and sewer systems at the Presidio of Monterey to connect with the Citizens Military Training Camp. Following is a complete list of bids received:

| | |
|---|--------|
| Martin Murphy, Berkeley..... | \$3582 |
| George De Golyer, Oakland..... | 3695 |
| Harvey C. Connor, Redwood City..... | 3969 |
| S. Ruthman, Seaside..... | 3981 |
| J. R. Conahan, Oakland..... | 4077 |
| P. L. Burr, San Francisco..... | 4226 |
| James Currie, Burlingame..... | 4400 |
| Lindgren and Swinerton, Inc., San Francisco..... | 4467 |
| H. W. Doetzkes & C. L. Campbell, San Francisco..... | 4475 |

Oakland Sewer Construction Co.,
Oakland 4488
City Improvement Co., Berkeley..... 4498
Kemper Constr. Co., Palms..... 4600
O. G. Richie, San Francisco..... 4915
P. & H. Constr. Co., San Jose..... 6063
Bids held under advisement.

PASO ROBLES, San Luis Obispo Co. Cal.—City Engineer Hal Johnson in a report to the city council estimates the cost of a pumping plant in connection with the municipal water system at \$4,800. The plant, with pipe line, would supply 400 gals. per min. Further consideration will be given the report at the Jan. 18 meeting.

SACRAMENTO, Cal.—Pacific States C. I. Pipe Co., 111 Sutter Street, San Francisco, at \$1,025 awarded contract by city council to furnish c. i. pipe fittings, as follows: 30 4-in. c. i. all full T's; 20 only 4-in. c. i. 45-deg.; 40 4-in. c. i. 90-deg.; 30 6-in. c. i. 22½-deg.; 30 6-in. c. i. 45-deg.; 30 6-in. c. i. 90-deg.; 10 8-in. c. i. 22½-deg.; 10 8-in. c. i. 45-deg.; and 10 8-in. c. i. 90-deg. B & S T's; 40 6x8-in. and 20 8x6-in. c. i. all bell T's; 6 4-in. c. i. offsets.

SACRAMENTO, Cal.—A American Pump Co., at \$88.40, submitted low bid to U. S. Engineer Office, Sacramento, to furnish and deliver Rio Vista, Solano County, one portable gasoline-driven direct connected centrifugal pump, net weight not over 150 lbs. for pump and engine combined; capable of delivering 100 gals. per minute against a 10-ft. head; complete. Complete bids follow:
American Pump Co., (model) Sterling, \$88.40.

A. L. Young Mach. Co., San Francisco, model BD, \$105; model EL Sterling, \$156.

Brown Bevers Co., \$135.
John G. Rapp Corp., San Francisco, Evinsrud, \$188.50.

Simonds Machinery Co., San Francisco, American Morse, \$197.

Wesco-Chippewa Sales, Ruston-Ritz, \$217.50.

Edw. R. Bacon Co., San Francisco, Homewright, \$240.

Byron-Jackson Co., San Francisco, American Indian, \$248.

McPherson Pump, San Francisco, American Morse, \$250.

Taylor & Sullivan, San Francisco, Johnson, \$280.

SIGNAL HILL, Los Angeles Co., Cal. Until 3 P. M., January 25, bids will be received by city council for construction of 5.3 miles or about 29,843 lin. ft. of water pipe lines for the city of Signal Hill, in accordance with revised plans prepared by W. V. Compney, Water Superintendent. The pipe will be laid with at least 30-in. cover, although no schedule of depths has been prepared. The line will consist of pipe as follows:

(1) 12,271 ft. 18-in. pipe line;

(2) 17,572 ft. 20-in. pipe line;

Bidders are permitted to bid on the following types of pipe:

Cast iron pipe, class "100";

Concrete pipe, centrifugally spun;

Steel pipe, 7-gauge, 3-16-in. thickness;

Bids will be taken on the alternative proposals as follows:

(A) Price for pipe installed complete, lump sum bid or average price per foot;

(B) Price for pipe delivered trench-side;

(C) Price for installing only.

The work will be paid for in cash from water department operating funds.

EL CENTRO, Imperial Co., Calif.—National Cast Iron Pipe Co., 710 4th Place, Los Angeles, at \$365 stock awarded contract by city council to furnish 3,000 ft. of 4-in. Bell and Spigot cast iron pipe. The same company also submitted a bid of \$385 for the same pipe from stock. Other bids were U. S. Pipe & Foundry Co., \$38 from foundry; \$40 from stock.

Standard Pipe & Supply Co., \$2875 (flanged and bolted, 12-ft. lengths),

Pacific States Pipe & Supply, \$40 for 12-foot lengths; \$42 for 16-foot lengths.

Grinnell Co., \$34 for Belgium cast iron pipe.

C. G. Clausen, \$375 and \$345.

American Cast Iron Pipe Co., \$37 from foundry; \$396 from stock.

SACRAMENTO, Cal.—Until Jan. 18, 3 P. M., under Order No. 4907-1906, bids will be received by U. S. Engineer Office, California Fruit Building, to furnish and deliver Rio Vista, Solano County:

1 length pipe, black, 2-in. length;

3 ells, black, 3-in.;

2 dozen nipples, close, black, ¼-in.;

4 hand rail ells, galv., side outlet, ¾-in., right hand. No. 2, pg. 90.

Marshall-Newell Cat. No. 8 or equal;

4 hand rail tees, galv., ¾-in., right hand. No. 3, page 90, Marshall-Newell Cat. No. 8, or equal;

4 hand rail ells, galv., ¾-in., right hand. No. 1, pg. 90, Marshall-Newell Cat. No. 8, or equal;

6 pipe flanges, galv. cast iron, stand., 25 lbs. pressure, 9-in. O. D. for 4-in. pipe, faced but not drilled;

2 length pipe, galv., ¼-in.;

2 dozen unions, galv., ground joints, 1-in.;

2 dozen nipples, close, galv., ½-in.;

2 dozen do 1¼-in.;

2 dozen bushings, galv., ¾x½-in.;

15 lengths pipe, galv., ½-in.;

15 do ¾-in.;

6 ells, galv., 3-in.;

12 tees, brass, ¼-in.;

12 unions, brass, ground joints, ¼-in.;

12 ells, brass, 45-deg., ½-in.

PALO ALTO, Santa Clara Co., Cal.—Huber Co., 9317 S. Alameda Street, Los Angeles, at \$7274 submitted low bid to Supervising Superintendent of Construction, U. S. Veterans' Hospital Palo Alto, to install one steel water tank and tower. This work will include furnishing all labor and performing all work required for the erection of steel water tank and tower, including piping, valves and appurtenances. Following is a complete list of bids:

Huber Co., Los Angeles, \$7274; 140 days.

Chicago Bridge & Iron Co., S. F., \$7,925; 85 days.

W. E. Caldwell Co., Louisville, Ky., \$9,146; 90 days.

Herrick Iron Works, Oakland, \$9180; 100 days.

Pittsburgh-Des Moines Steel Co., S. F., \$9,460; 100 days.

California Steel Products Co., S. F., \$10,398; 120 days.

Bids referred to Washington for award.

January 21, 3 P. M., under Order No. 4110/1910, bids will be received by U. S. Engineer Office, California Fruit Bldg., Sacramento, to furnish f. o. b. Rio Vista:

(1) 160 lb. Seed, Park Lawn Mixture (Golden Gate Lawn Mixture). Equal Page 22, Hallauell Seed Co. Garden Book for 1932.

(2) 80 lbs. Astoria Bent Lawn Grass Seed. Equal Page 22, Hallauell Seed Co. Garden Book for 1932.

STREETS AND HIGHWAYS

WASHINGTON STATE.—Morrison-Knudsen, Boise, Idaho, at \$122,822 awarded contract by State Highway Commission for 2.6 miles grading and surfacing with crushed stone and the construction of an 800-ft. tunnel on the Ocean Beach Highway from Fort Columbia to Point Ellice in Pacific County.

NEW MEXICO STATE.—Hill and Heflin, Artesia, N. M., awarded contract by the State Highway Department at \$82,619.38 for highway construction in F. A. P. No. 8, involving grading, drainage structures and crushed gravel base course, 22x6-in. length, 10.4 miles.

A. O. Peabody, Las Cruces, N. M., awarded contract at \$22,661.06 for highway construction in F. A. P. No. 176-A, involving grading, construction of drainage structures and 20 ft. x 6 in. maricopa type cement conc. pave., length 1.6 miles.

A. O. Peabody, Las Cruces, N. M., awarded contract at \$31,590 for highway construction in F. A. P. No. 165-A, involving grading, construction of drainage structures and 20 ft. x 6-in. maricopa type cement conc. pave., length, 1 mile.

LOS ANGELES, Cal.—R. A. Watson, 1026 McCadden Place, awarded contract by board of public works at \$51,320.78 to improve Lankershim Blvd. bet. San Fernando Road and Burbank Blvd., involving: grading (9000 cu. yds. excav. and 1640 cu. yds. fill);

6129 tons asphalt conc. wearing surface; 12,344 tons asphalt conc. base; 158 tons decomposed granite in place; storm drain, including culverts.

26 tons asphaltic oil.

28

SEAL BEACH, Orange Co., Cal.—Sully-Miller Contracting Co., 1500 W 7th St., Long Beach, submitted only bid to city council at \$39,391 to improve Central Ave. bet. 8th St. and the state highway, under the 1911 act, involving:

(1) grading;

(2) 116,787 sq. ft. 6-in. concrete pave., including grading;

(3) 3390 lin. ft. concrete curb;

(4) 16,252 sq. ft. cement walk.

Ray Shaw, city engineer. The unit prices of the bid, which was taken under advisement two weeks, was as follows: grading, \$5500; paving, 20.5c. sq. ft.; curb, 55c. ft.; walk 17c. sq. ft.

The county of Orange will pay 25%.

SALINAS, Monterey Co., Cal.—City council declares intention No. 99 to improve portions of Iverson Street, involving:

(1) 15,875 sq. ft. grading;

(2) 602 lin. ft. curb;

(3) 2,757 sq. ft. 3½-in. sidewalk;

(4) 12,255 sq. ft. 5-in. conc. grading.

Work under Imp. Act 1911 and Bond Act 1915. Hearing will be Feb. 1, 7:30 P. M. R. Keef is city clerk and Howard Cozzens is city engineer.

PLAYGROUNDS & PARKS

FULLERTON, Orange Co., Cal.—McKown & Kenhl, 9507 Santa Monica Blvd., Beverly Hills, preparing plans for improvements to the Fullerton city park system. An election to vote on a \$87,000 bond issue for these improvements will be held January 26.

RIO VISTA, Solano Co., Cal.—Until

OREGON STATE.—Until January 21 10 A. M. bids will be received by State Highway Commission, Multnomah County Courthouse, Portland, for the following construction:

Lincoln County: Otis - Siletz River Section of Oregon Coast Highway, 11.5 miles broken stone and gravel surfacing and furnish broken stone in stockpiles, involving 53,000 cu. yds. broken stone and gravel.

Malheur County: Juntura-Peach Section of Central Oregon Highway, 6.3 miles grading, involving 132,900 cu. yds. excavation.

Douglas County: Reconstruct south approach to overcrossing of S. P. Railroad on the Pacific Highway at Comstock, involving 30 cu. yds. concrete, 3,800 lin. ft. fir piling, 22 MFEM lumber and 560 lin. ft. prestle superstructure.

Multnomah County: Construct walkway on lift span, stairways on towers and paint towers of Interstate bridge over Columbia River at Vancouver, involving 52,000 lbs. of structural steel, 3 MFEM lumber and 1250 lin. ft. 1½-in. pipe railing.

Malheur County: (a) Bridge over the north fork of Malheur river on Central Oregon Highway, about one mile east of Juntura, involving 220 cu. yds. excavation, 445 cu. yds. concrete, 85,000 lbs. metal reinforcement and 410 lin. ft. concrete handrail; (b) two bridges over Malheur river on Central Oregon Highway, about 2½ miles and 5½ miles respectively east of Juntura, involving 735 cu. yds. excavation, 842 cu. yds. concrete, 158,000 lbs. metal reinforcement and 700 lin. ft. concrete handrail.

Plans obtainable from the commission, State Office Bldg., Salem, on deposit of \$5, returnable. Plans on file at offices of A. G. C. at Portland and Spokane.

WASHINGTON STATE.—Morrison-Knudsen Co., Old National Bank Bldg., Spokane, submitted the low bid to the State Highway Commission at \$122,822 for clearing, grading, draining, construction of a tunnel 800 ft. in length, and surfacing with crushed stone about 2.6 miles of State Road No. 12 in Pacific County, between Fort Columbia and Point Ellice.

WASHINGTON STATE.—L. Romano Engineering Co., Thompson Bldg., Seattle, awarded contract by State Highway Commission, at \$132,542 for clearing, grading, draining, and surfacing with crushed stone approx. 6.9 miles of State Road No. 15, Index to Gold Bar, in Snohomish County, involving: 57 acres clearing; 316,240 cu. yds. excavation; 18,900 cu. yds. crushed stone; 3164 ft. pipe culverts.

FRESNO, Fresno Co., Calif.—City Engineer Jean L. Vincenz is preparing plans to pave area in the Traffic Circle at the west end of the Belmont Ave. subway, involving cement concrete pavement. Estimated cost, \$40,000. Cash payment is to be made. Bids will be asked about Feb. 1.

NEW MEXICO STATE.—Colorado Texas Co., Oklahoma City, awarded contract by State Highway Department Jan. 7 at \$36,385 for furnishing 17,500 barrels of 70-80 road oil. The price includes freight to point of delivery.

VENTURA, Ventura Co., Cal.—City votes bonds of \$100,000 to finance city's portion of cost for Meta St. cut-off. Total cost is \$335,000, of which the state and county will contribute \$235,000. The project involves widening

Main St. to 100 ft. with 250-ft. radius turn into S Garden St., thence with a 100-ft. radius curve into Meta St. The state will widen the Main St. bridge to 100 ft. under a separate contract.

The engineer's preliminary estimate of the proposed construction follows: Paving of a 40-ft. strip and intersections (type not determined), \$123,300; drainage, \$11,200; sidewalk, \$26,550; curb, \$7788; lighting conduit, \$5000; water and sewer connections, \$1000; moving a building, \$44,000; paving a 16-ft. strip with oil macadam, \$7040; land and severance damage, \$99,876; engineering and legal expense, \$9246. D. C. McMillan is city engineer.

STOCKTON, San Joaquin Co., Cal.—Pereira & Reed, 545 Roosevelt Ave., Tracy, at \$425.85, awarded contract by county supervisors to improve Strack Road from Mueller Road to Tracy Island Road, involving:

- (1) 3600 cu. yds. grading;
- (2) 2500 tons base course;
- (3) 235 tons crushed rock;
- (4) 105 tons rock chips;
- (5) 85 tons pea gravel;
- (6) 56 barrels fuel oil;
- (7) 25 tons asphaltic oil.

Complete bids follow:
 (A) Pereira & Reed, Tracy.....\$425.85
 (B) Willard & Biasotti, Stockton 5223.90
 (C) Clyde Wood, Stockton..... 6475.50
 Unit bids follow:

| | | | | | | |
|-----|------|--------|--------|--------|--------|-------------|
| (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| (A) | \$15 | \$1.16 | \$2.13 | \$2.13 | \$2.13 | \$1.60 \$15 |
| (B) | .14 | 1.25 | 2.30 | 2.30 | 2.30 | 1.65 16 |
| (C) | 2.5 | 1.50 | 2.50 | 2.50 | 2.50 | 2.00 20 |

STOCKTON, San Joaquin Co., Cal.—Until Jan. 25, 11 A. M., bids will be received by Eugene D. Graham, county clerk, for improving Floor Rd. from Linden to Floor Bridge, involving:

- (1) 4000 cu. yds. grading;
- (2) 2800 tons base course;
- (3) 250 tons crushed rock;
- (4) 110 tons rock chips;
- (5) 90 tons pea gravel;
- (6) 60 barrels fuel oil;
- (7) 25 tons asphaltic oil;
- (8) 7 pipes 10-in. each.

Estimated cost, \$6,500. Julius B. Mathney, county surveyor.

WASHINGTON STATE.—Until February 2, 10 A. M., bids will be received by State Highway Commission for the following projects:

Pave 0.7 ml. of state road No. 1 in

Blaine, and widen existing pavement four feet with quick curing concrete on the Ferndale north road in Whatcom county for 1.4 miles.

Construct reinforced concrete girder bridge on state road No. 1 at 12th St. in Edlingham; bridge to consist of one 50-ft. and seven 40-ft. girder spans with 30-ft. roadway and two five-ft. sidewalks.

Clearing, grading and draining 2.5 mi. of state road No. 3, Selah-Moxee tunnel to Yakima, involving 142,580 cu. yds. excavation, 715 feet pipe culverts, etc.

Clearing, grading and draining 12 mi. state road No. 4, Forest line south in Ferry county, involving 129 acres clearing 321,850 cu. yds. excav., 106 cu. yds. conc., two reinforced concrete "T" beam bridges, each 40 ft. long, 2334 ft. pipe culverts, etc.

Clearing, grading and draining 2.7 ml. state road No. 5, Clear Fork to south boundary of Rainier national park in Lewis county, involving 23 acres clearing, 152,750 cu. yds. excav., 82 cu. yds. conc., 2279 lin. ft. pipe culverts, etc.

Surfacing with crushed stone 14.2 mi. state road No. 8, Grand Dalles to Museum in Klickitat county involving 4580 cu. yds. excav., 52,350 cu. yds. crushed stone, etc.

Plans obtainable from the commission offices at Olympia. Samuel Humes is highway engineer.

SONOMA-MENOCINO COS., Cal.—Until January 27, 2 P. M., bids will be received by State Highway Commission to grade 13.3 miles between Cloverdale and Hopland, involving:

- (1) 55.5 acres clear and grub right of way;
 - (2) 837 remove trees (size 1);
 - (3) 283 remove trees (size 2);
 - (4) 108 remove trees (size 3);
 - (5) 25 remove trees (size 4);
 - (6) 10 remove trees (size 5);
 - (7) 1,126,000 cu. yds. rdwy. excav. without class;
 - (8) 5,200,000 sta. yds. overhaul;
 - (9) 17,000 cu. yds. imported borrow;
 - (10) 4,600 cu. yds. wall trench excav.;
 - (11) 21,600 cu. yds. struc. trench excav.;
 - (12) 3,450 cu. yds. Class A Port. cem. conc. (struc.);
 - (13) 140 cu. yds. Class A Port. cem. conc. (placed by tremie);
 - (14) 420,000 lbs. bar reinforcing steel (struc.);
 - (15) 7,812 lin. ft. 8-in. corr. metal pipe;
 - (16) 130 lin. ft. 12-in. do;
 - (17) 8,600 lin. ft. 18-in. do;
 - (18) 3,626 lin. ft. 24-in. do;
 - (19) 296 lin. ft. 30-in. do;
 - (20) 1,234 lin. ft. 36-in. do;
 - (21) 70 lin. ft. 48-in. do;
 - (22) 1,600 lin. ft. 6-in. reinf. concrete pipe;
 - (23) 100 lin. ft. 8-in. do;
 - (24) 100 lin. ft. 12-in. do;
 - (25) 430 lin. ft. 4-in. galv. iron pipe;
 - (26) 26,265 lin. ft. 8-in. perf. metal pipe underdrains;
 - (27) 3,200 lbs. cast steel rockers and bearings;
 - (28) 500 lbs. bronze expansion plates;
 - (29) 300 cu. yds. light rip rap;
 - (30) 22 mi. new property fence;
 - (31) 10 8-ft. tubular fence gates complete in place;
 - (32) 80 14-ft. do;
 - (33) 3,980 lin. ft. laminated timber guard rail;
 - (34) 2,000 timber guide posts;
 - (35) 348 culvert markers;
 - (36) 19,500 cu. yds. embankment protection walls;
 - (37) 752 sta. finish roadway;
 - (38) 234 monuments complete in place.
- State will furnish corr. metal pipe, spillway assemblies and cast steel covers and frames for drop inlets.

Oakland Sewer Construction Co.,
 Oakland 4488
 City Improvement Co., Berkeley..... 4498
 Kemper Constr. Co., Palms..... 4600
 O. G. Richie, San Francisco..... 4915
 P. & H. Constr. Co., San Jose..... 6063
 Bids held under advisement.

PASO ROBLES, San Luis Obispo Co. Cal.—City Engineer Hal Johnson in a report to the city council estimates the cost of a pumping plant in connection with the municipal water system at \$4,800. The plant, with pipe line, would supply 400 gals. per min. Further consideration will be given the report at the Jan. 18 meeting.

SACRAMENTO, Cal.—Pacific States C. I. Pipe Co., 111 Sutter Street, San Francisco, at \$1,028 awarded contract by city council to furnish c. i. pipe fittings, as follows: 20 4-in. c. i. all fill T's; 20 only 4-in. c. i. 45-deg; 40 4-in. c. i. 90-deg.; 30 6-in. c. i. 22½-deg.; 30 6-in. c. i. 45-deg.; 30 6-in. c. i. 90-deg.; 10 8-in. c. i. 22½-deg.; 10 8-in. c. i. 45-deg., and 10 8-in. c. i. 90-deg. B & S L's; 40 6x6-in. and 20 8x6-in. c. i. all bell T's; 6 4-in. c. i. offsets.

SACRAMENTO, Cal.—American Pump Co., at \$88.40, submitted low bid to U. S. Engineer Office, Sacramento, to furnish and deliver Rio Vista, Solano County, one portable gasoline-driven direct connected centrifugal pump, net weight not over 150 lbs. for pump and engine combined; capable of delivering 100 gals. per minute against a 10-ft. head; complete. Complete bids follow:
 American Pump Co., (model) Sterling, \$88.40.
 A. L. Young Mach. Co., San Francisco, model BD, \$105; model EL Sterling, \$156.
 Brown Bevers Co., \$135.
 John G. Rapp Corp., San Francisco, Evinrude, \$188.50.
 Simonds Machinery Co., San Francisco, American Morse, \$197.
 Wesco-Chippewa Sales, Ruston-Ritz, \$217.50.
 Edw. R. Bacon Co., San Francisco, Homewright, \$240.
 Byron-Jackson Co., San Francisco, American Indian, \$248.
 McPherson Pump, San Francisco, American Morse, \$250.
 Taylor & Sullivan, San Francisco, Johnson, \$280.

SIGNAL HILL, Los Angeles Co., Cal. Until 3 P. M., January 25, bids will be received by city council for construction of 5.8 miles or about 29,843 lin. ft. of water pipe lines for the city of Signal Hill, in accordance with revised plans prepared by W. V. Compson, Water Superintendent. The pipe will be laid with at least 30-in. cover, although no schedule of depths has been prepared. The line will consist of pipe as follows:
 (1) 12,271 ft 18-in. pipe line;
 (2) 17,572 ft. 20-in. pipe line;
 Bidders are permitted to bid on the following types of pipe:
 Cast iron pipe, class "100";
 Concrete pipe, centrifugally spun;
 Steel pipe, 7-gauge, 3-16-in. thickness.

Bids will be taken on the alternative proposals as follows:
 (A) Price for pipe installed complete, lump sum bid or average price per foot;
 (B) Price for pipe delivered trench-side;
 (C) Price for installing only.
 The work will be paid for in cash from water department operating funds.

EL CENTRO, Imperial Co., Calif.—National Cast Iron Pipe Co., 710 4th Place, Los Angeles, at \$365 stock from foundry in 18-ft. lengths has been awarded contract by city council to furnish 3,000 ft. of 4-in. Bell and Spigot cast iron pipe. The same company also submitted a bid of \$355 for the same pipe from stock. Other bids were
 U. S. Pipe & Foundry Co., \$38 from foundry; \$40 from stock.
 Standard Pipe & Supply Co., \$2875 (flanged and bolted, 12-ft. lengths).
 Pacific States Pipe & Supply, \$40 for 12-foot lengths; \$42 for 16-foot lengths.

Grinnell Co., \$34 for Belgium cast iron pipe.
 C. G. Clausen, \$375 and \$345.
 American Cast Iron Pipe Co., \$37 from foundry; \$396 from stock.

SACRAMENTO, Cal.—Until Jan. 18, 3 P. M., under Order No. 4907-1906, bids will be received by U. S. Engineer Office, California Fruit Building, to furnish and deliver Rio Vista, Solano County:

1 length pipe, black, 2-in. length;
 3 ells, black, 3-in.;
 2 dozen nipples, close, black, ¼-in.;
 4 hand rail ells, galv., side outlet, ¾-in., right hand. No. 2, pg. 90, Marshall-Newell Cat. No. 8 or equal;
 4 hand rail tees, galv., ¾-in., right hand. No. 3, page 90, Marshall-Newell Cat. No. 8, or equal;
 4 hand rail ells, galv., ¾-in., right hand. No. 1, pg. 90, Marshall-Newell Cat. No. 8, or equal;
 6 pipe flanges, galv. cast iron, stand., 25 lbs. pressure, 9-in. O. D. for 4-in. pipe, faced but not drilled;
 2 lengths pipe, galv., ¼-in.;
 2 dozen unions, galv., ground joints, 1-in.;
 2 dozen nipples, close, galv., ½-in.;
 2 dozen do 1¼-in.;
 2 dozen bushings, galv., ¾x½-in.;
 15 lengths pipe, galv., ½-in.;
 15 do ¾-in.;
 6 ells, galv., 3-in.;
 12 tees, brass, ¼-in.;
 12 unions, brass, ground joints, ¾-in.;
 12 ells, brass, 45-deg., ½-in.

PALO ALTO, Santa Clara Co., Cal.—Huber Co., 9317 S Alameda Street, Los Angeles, at \$724 submitted low bid to Supervising Superintendent of Construction, U. S. Veterans' Hospital Palo Alto, to install one steel water tank and tower. This work will include furnishing all labor and performing all work required for the erection of steel water tank and tower, including piping, valves and appurtenances. Following is a complete list of bids:

Huber Co., Los Angeles, \$724; 140 days.
 Chicago Bridge & Iron Co., S. F., \$7,925; 85 days.
 W. E. Caldwell Co., Louisville, Ky., \$5,146; 90 days.
 Herrick Iron Works, Oakland, \$9150; 100 days.
 Pittsburgh-Des Moines Steel Co., S. F., \$9,460; 100 days.
 California Steel Products Co., S. F., \$10,398; 120 days.
 Bids referred to Washington for award.

PLAYGROUNDS & PARKS

FULLERTON, Orange Co., Cal.—McKown & Keuhl, 9507 Santa Monica Blvd., Beverly Hills, preparing plans for improvements to the Fullerton city park system. An election to vote on a \$60,000 bond issue for these improvements will be held January 26.
 RIO VISTA, Solano Co., Cal.—Until

January 21, 3 P. M., under Order No. 4110/1910, bids will be received by U. S. Engineer Office, California Fruit Bldg., Sacramento, to furnish f. o. b. Rio Vista:

- (1) 160 lb. Seed, Park Lawn Mixture (Golden Gate Lawn Mixture). Equal Page 22, Hallauell Seed Co. Garden Book for 1932.
- (2) 10 lbs. Astoria Bent Lawn Grass Seed. Equal Page 22, Hallauell Seed Co. Garden Book for 1932.

STREETS AND HIGHWAYS

WASHINGTON STATE.—Morrison-Knudsen, Boise, Idaho, at \$128,322 awarded contract by State Highway Commission for 2.6 miles grading and surfacing with crushed stone and the construction of an 800-ft. tunnel on the Ocean Beach Highway from Fort Columbia to Point Ellice in Pacific County.

NEW MEXICO STATE.—Hill and Heflin, Artesia, N. M., awarded contract by the State Highway Department at \$82,619.38 for highway construction in F. A. P. No. 8, involving grading, drainage structures and crushed gravel base course, 22x6-in. length, 10.4 miles.

A. O. Peabody, Las Cruces, N. M., awarded contract at \$32,661.06 for highway construction in F.A.P. No. 176-A, involving grading, construction of drainage structures and 20 ft. x 6 in. maricopa type cement conc. pave., length 1.6 miles.

A. O. Peabody, Las Cruces, N. M., awarded contract at \$1,590 for highway construction in F.A.P. No. 168-A, involving grading, construction of drainage structures and 20 ft. x 6-in. maricopa type cement conc. pave., length, 1 mile.

LOS ANGELES, Cal.—R. A. Wattson, 1026 McCadden Place, awarded contract by board of public works at \$51,320.78 to improve Lankershim Blvd. bet. San Fernando Road and Burbank Blvd., involving:
 grading (9060 cu. yds. excavating and 1640 cu. yds. fill);
 6129 tons asph. conc. wearing surface;
 12,344 tons asph. conc. base;
 153 tons decomposed granite in place;
 storm drain, including culverts.
 26 tons asphaltic oil. 23

SEAL BEACH, Orange Co., Cal.—Sully-Miller Contracting Co., 1500 W 7th St., Long Beach, submitted only bid to city council at \$35,291 to improve Central Ave. bet. 8th St. and the state highway, under the 1911 act, involving:

- (1) grading;
 - (2) 116,727 sq. ft. 6-in. concrete pave., including grading;
 - (3) 3290 lin. ft. concrete curb;
 - (4) 16,253 sq. ft. cement walk.
- Ray Shaw, city engineer. The unit prices of the bid, which was taken under advisement two weeks, was as follows: grading, \$5500; paving, 20.5c. sq. ft.; curb, 55c. ft.; walk 17c. sq. ft.
 The county of Orange will pay 25%.

SALINAS, Monterey Co., Cal.—City council declares intention No. 99 to improve portions of Iverson Street, involving:

- (1) 15,875 sq. ft. grading;
 - (2) 603 lin. ft. curb;
 - (3) 2,757 sq. ft. 3½-in. sidewalk;
 - (4) 12,255 sq. ft. 5-in. conc. grading.
- Work under Imp. Act 1911 and Bond Act 1915. Hearing will be Feb. 1, 7:30 P. M. M. R. Keef is city clerk and Howard Cozzens is city engineer.

OREGON STATE.—Until January 21 10 A. M. bids will be received by State Highway Commission, Multnomah County Courthouse, Portland, for the following construction:

Lincoln County: Otis - Siletz River Section of Oregon Coast Highway, 11.5 miles broken stone and gravel surfacing and furnish broken stone in stockpiles, involving 53,000 cu. yds. broken stone and gravel.

Malheur County: Juntura-Peach Section of Central Oregon Highway, 6.3 miles grading, involving 132,000 cu. yds. excavation.

Doug as County: Reconstruct south approach to overcrossing of S. P. Railroad on the Pacific Highway at Comstock, involving 30 cu. yds. concrete, 3,800 lin. ft. fir piling, 22 MFEM lumber and 560 lin. ft. trestle superstructure.

Multnomah County: Construct walkway on lift span, stairways on towers and paint towers of Interstate bridge over Columbia River at Vancouver, involving 52,000 lbs. of structural steel, 3 MFEM lumber and 1250 lin. ft. 1½-in. pipe railing.

Malheur County: (a) Bridge over the north fork of Malheur river on Central Oregon Highway, about one mile east of Juntura, involving 220 cu. yds. excavation, 445 cu. yds. concrete, 85,000 lbs. metal reinforcement and 410 lin. ft. concrete handrail; (b) two bridges over Malheur river on Central Oregon Highway, about 2½ miles and 5½ miles respectively east of Juntura, involving 735 cu. yds. excavation, 342 cu. yds. concrete, 158,000 lbs. metal reinforcement and 700 lin. ft. concrete handrail.

Plans obtainable from the commission, State Office Bldg., Salem, on deposit of \$5, returnable. Plans on file at offices of A. G. C. at Portland and Spokane.

WASHINGTON STATE.—Morrison-Knudsen Co., Old National Bank Bldg., Spokane, submitted the low bid to the State Highway Commission at \$122,822 for clearing, grading, draining, construction of a tunnel 800 ft. in length, and surfacing with crushed stone about 2.6 miles of State Road No. 12 in Pacific County, between Fort Columbia and Point Ellice.

WASHINGTON STATE.—L. Romano Engineering Co., Thompson Bldg., Seattle, awarded contract by State Highway Commission, at \$132,542 for clearing, grading, draining, and surfacing with crushed stone approx. 6.9 miles of State Road No. 15, Index to Gold Bar, in Snohomish County, involving: 57 acres clearing; 316,240 cu. yds. excavation; 18,900 cu. yds. crushed stone; 13,164 ft. pipe culverts.

FRESNO, Fresno Co., Calif.—City Engineer Jean L. Vincenz is preparing plans to pave area in the Traffic Circle at the west end of the Belmont Ave. subway, involving cement concrete pavement. Estimated cost, \$49,000. Cash payment is to be made. Bids will be asked about Feb. 1.

NEW MEXICO STATE.—Colorado Texas Co., Oklahoma City, awarded contract by State Highway Department, Jan. 7, at \$26,285 for furnishing 17,500 barrels of 70-80 road oil. The price includes freight to point of delivery.

VENTURA, Ventura Co., Cal.—City votes bonds of \$100,000 to finance city's portion of cost for Meta St. cut-off. Total cost is \$335,000, of which the state and county will contribute \$235,000. The project involves widening

Main St. to 100 ft. with 250-ft. radius turn into S Garden St., thence with a 100-ft. radius curve into Meta St. The state will widen the Main St. bridge to 100 ft. under a separate contract. The engineer's preliminary estimate of the proposed construction follows: Paving of a 40-ft. strip and intersections (type not determined), \$123,300; drainage, \$11,200; sidewalk, \$26,550; curb, \$7788; lighting conduit, \$5000; water and sewer connections, \$1000; moving a building, \$44,000; paving a 16-ft. strip with oil macadam, \$7040; land and severance damage, \$99,876; engineering and legal expense, \$9246. D. C. McMillan is city engineer.

STOCKTON, San Joaquin Co., Cal.—Pereira & Reed, 545 Roosevelt Ave., Tracy, at \$4925.85, awarded contract by county supervisors to improve Stark Road from Mueller Road to Tracy Island Road, involving: (1) 3600 cu. yds. grading; (2) 2600 tons base course; (3) 235 tons crushed rock; (4) 105 tons rock chips; (5) 85 tons pea gravel; (6) 56 barrels fuel oil; (7) 25 tons asphaltic oil.

Complete bids follow:
 (A) Pereira & Reed, Tracy.....\$4925.85
 (B) Willard & Biasotti, Stockton..... 5223.90
 (C) Clyde Woods, Stockton..... 6475.50
 Unit bids follow:
 (1) (2) (3) (4) (5) (6) (7)
 (A) \$1.15 \$1.16 \$2.13 \$2.13 \$2.13 \$1.60 \$1.60
 (B) .14 1.25 2.30 2.30 2.30 1.65 1.60
 (C) .25 1.50 2.50 2.50 2.50 2.00 2.00

STOCKTON, San Joaquin Co., Cal.—Until Jan. 25, 11 A. M., bids will be received by Eugene D. Graham, county clerk, for improving Floor Rd. from Linden to Floor Bridge, involving:
 (1) 4000 cu. yds. grading;
 (2) 2800 tons base course;
 (3) 250 tons crushed rock;
 (4) 110 tons rock chips;
 (5) 90 tons pea gravel;
 (6) 60 barrels fuel oil;
 (7) 25 tons asphaltic oil;
 (8) 7 pipes 10-in. each.
 Estimated cost, \$6,500. Julius E. Mathney, county surveyor.

WASHINGTON STATE.—Until February 2, 10 A. M., bids will be received by State Highway Commission for the following projects:
 Pave 0.7 mi. of state road No. 1 in

Blaine, and widen existing pavement four feet with quick curing concrete on the Ferrdale north road in Whatcom county for 1.4 miles.

Construct reinforced concrete girder bridge on state road No. 1 at 12th St. in Bellingham; bridge to consist of one 50-ft. and seven 40-ft. girder spans with 30-ft. roadway and two five-ft. sidewalks.

Clearing, grading and draining 2.5 mi. of state road No. 3, Selah-Moxee tunnel to Yakima, involving 142,580 cu. yds. excavation, 715 feet pipe culverts, etc.

Clearing, grading and draining 12 mi. state road No. 4, Forest line south in Ferry county, involving 129 acres clearing 321,850 cu. yds. excav., 106 cu. yds. conc., two reinforced concrete "T" beam bridges, each 40 ft. long, 2334 ft. pipe culverts, etc.

Clearing, grading and draining 2.7 mi. state road No. 5, Clear Fork to south boundary of Rainier national park in Lewis county, involving 23 acres clearing, 152,750 cu. yds. excav., 82 cu. yds. conc., 2279 lin. ft. pipe culverts, etc.

Surfacing with crushed stone 14.2 mi. state road No. 8, Grand Dalles to Museum in Klickitat county involving 4580 cu. yds. excav., 52,250 cu. yds. crushed stone, etc.

Plans obtainable from the commission offices at Olympia. Samuel Humes is highway engineer.

SONOMA-MENOCINO COS., Cal.—Until January 27, 2 P. M., bids will be received by State Highway Commission to grade 12.9 miles between Cloverdale and Hopland, involving:

- (1) 55.5 acres clear and grub right of way;
- (2) 837 remove trees (size 1);
- (3) 283 remove trees (size 2);
- (4) 108 remove trees (size 3);
- (5) 25 remove trees (size 4);
- (6) 10 remove trees (size 5);
- (7) 1,126,000 cu. yds. rdwy. excav. without class;
- (8) 5,200,000 sta. yds. overhaul;
- (9) 17,000 cu. yds. imported borrow;
- (10) 4,600 cu. yds. wall trench excav.;
- (11) 21,500 cu. yds. struc. excav.;
- (12) 3,450 cu. yds. Class A Port. cem. conc. (struc.);
- (13) 140 cu. yds. Class A Port. cem. conc. (placed by tremie);
- (14) 420,000 lbs. bar reinforcing steel (struc.);
- (15) 7,812 lin. ft. 8-in. corr. metal pipe;
- (16) 130 lin. ft. 12-in. do;
- (17) 8,600 lin. ft. 18-in. do;
- (18) 3,626 lin. ft. 24-in. do;
- (19) 296 lin. ft. 30-in. do;
- (20) 1,234 lin. ft. 36-in. do;
- (21) 70 lin. ft. 48-in. do;
- (22) 1,600 lin. ft. 6-in. reinf. concrete pipe;
- (23) 100 lin. ft. 8-in. do;
- (24) 100 lin. ft. 12-in. do;
- (25) 430 lin. ft. 4-in. galv. iron pipe;
- (26) 26,265 lin. ft. 8-in. perf. metal pipe underdrains;
- (27) 3,200 lbs. cast steel rockers and bearings;
- (28) 500 lbs. bronze expansion plates;
- (29) 300 cu. yds. light rip rap;
- (30) 22 mi. new property fence;
- (31) 10 8-ft. tubular fence gates complete in place;
- (32) 80 14-ft. do;
- (33) 3,950 lin. ft. laminated timber guard rail;
- (34) 2,000 timber guide posts;
- (35) 348 culvert markers;
- (36) 19,500 cu. yds. embankment protection walls;
- (37) 752 sta. finish roadway;
- (38) 234 monuments complete in place.

State will furnish corr. metal pipe, spillway assemblies and cast steel covers and frames for drop inlets.

PETROL

ROAD OILS

ASPHALTS

"The largest independent producers of Asphalts and Road Oils in the Pacific Southwest"

The PETROL CORPORATION

4020 Los Angeles Blvd. Phone AN-3141

STOCKTON, San Joaquin Co., Cal.
 —Julius B. Manthey, county engineer of San Joaquin County, is preparing plans to improve Flood Road, involving:
 4,000 cu. yds. grading;
 2,600 tons base gravel;
 235 tons crushed rock;
 105 tons rock chips;
 85 tons pea gravel;
 56 barrels fuel oil;

SAN DIEGO COUNTY, Cal.—J. H. Peterson, San Diego, at \$3783 awarded contract by District Engineer, State Highway Commission, to widen 0.3 mi. of highway embankment in San Diego County between Carlsbad and Ocean-side.

VERNON, Los Angeles Co., Calif.—Los Angeles Paving Co., 3200 E Vernon Ave., Los Angeles, awarded contract by city council at \$18,559 to improve E 26th St. and Soto St. under the Mattoon Act, involving:
 3969 ft. curb;
 3978 sq. ft. 9-in. gutter;
 60,855 sq. ft. 8-in. asp. conc. paving;
 861 ft. 12-in. plain concrete pipe;
 401 ft. 6-in. vitrified pipe;
 2 manholes;
 6 reinf. conc. catchbasins;
 106 cu. yds. reinf. conc. in retaining wall;
 458 ft. timber guard rail.

REDWOOD CITY, San Mateo Co., Cal.—County Supervisors appropriate \$12,500 as their share of cost in widening the Colma-Daly City bottleneck for 1 mile from San Jose Ave. south. State will provide an additional \$200,000 and the City of County of San Francisco, a like amount. The entire cost is estimated at \$700,000. The state has agreed to pave the 40 additional feet of pavement which the widening will make necessary. The width will be 132 feet.

LOS ANGELES, Cal.—Southern California Roads Co., 2235 E 25th Street, awarded contract by board of public works January 8 at \$115,454 to improve La Brea Ave. from Washington Blvd. to Exposition Blvd., cash contract, involving in the main:
 11,737 cu. yds. excavation, 410 cu. yds. fill;
 430,962 sq. ft. 2-in. Willite asphalt concrete wearing surface;
 14,799 tons asphalt conc. base in place;
 curbs, walks, sanitary sewers, storm drains.

SANTA MARIA, Santa Barbara Co., Cal.—City council petitioned to pave Orange St. bet. Miller and Suez Sts. under 1911 Act. Referred to the street committee for report.

NEVADA STATE.—Construction and maintenance program of the Nevada State Highway Commission for the year 1932 will involve an expenditure of \$3,041,300. It is announced by S. C. Durkee, state highway engineer. The program, outlined according to counties, follows:

| | |
|--------------------------------|----------|
| Churchill County | |
| New construction; none. | |
| Oiling— | |
| Sand Springs to Eastgate, | |
| 29.46 mi. | \$82,000 |
| Lahontan to Leeteville, 9.81 | |
| miles | 24,525 |
| Fallon to 9.59 mi. south, 9.59 | |
| miles | 28,975 |
| General maintenance— | |
| 139.64 miles | 36,314 |
| Specific maintenance | 3,149 |

| | |
|---|-----------|
| Clark County | |
| Reconstruction and oiling— | |
| Lower Virgin River bridge | |
| to Mesquite, 10.71 mi. | \$253,800 |
| New bridge over Muddy River | |
| near Glendale | 40,000 |
| General maintenance— | |
| 200.59 miles | 46,612 |
| Specific maintenance | 4,523 |
| Providing congress makes an appropriation under the Colton-Oddie act for a federal lands fund for 1932, the following additional construction will be placed under way in Clark County: | |
| New construction— | |
| Junction Route 6 near Glendale to Clark-Lincoln county line, 24 mi. | \$144,000 |

| | |
|----------------------------------|----------|
| Douglas County | |
| New construction; none. | |
| Reconstruction and oiling; none. | |
| General maintenance— | |
| 59.73 miles | \$14,763 |
| Specific maintenance | 1,347 |

| | |
|---|---------|
| Elko County | |
| New construction— | |
| Wells to 3 ml. north, 3.21 mi. \$ | 16,000 |
| Little Salmon river to Con- | |
| tact, 3.50 miles | 35,000 |
| Reconstruction and oiling— | |
| Wells to east foot of Pequoop summit, 24.33 miles | 207,000 |

| | |
|-----------------------------------|--------|
| Oiling— | |
| Death to Wells, 18.53 miles | 52,000 |
| Pequoop to Silver Zone, 18.76 | |
| miles | 47,000 |
| Grade separation structure at | |
| Silver Zone | 18,000 |
| Bridge over Little Salmon river | |
| ..... | 20,000 |
| General maintenance— | |
| 236.02 miles | 65,669 |
| Specific maintenance | 5,323 |

| | |
|--|-----------|
| Providing congress makes an appropriation under the Colton-Oddie act for a federal lands fund for 1932, the following additional construction will be placed under way in Elko County: | |
| New construction— | |
| White Pine-Elko County line to 8 miles north Currie, | |
| 20.37 miles | \$142,590 |

| | |
|----------------------------------|----------|
| Esmeralda County | |
| New construction; none. | |
| Reconstruction and oiling; none. | |
| General maintenance— | |
| 97.74 miles | \$22,849 |
| Specific maintenance | 2,204 |

| | |
|--|-----------|
| Eureka County | |
| New construction; none. | |
| Reconstruction and oiling— | |
| 4 miles east of Dunphy to | |
| Eureka-Elko Co. line, 18.50 | |
| miles | \$176,000 |
| General maintenance | 20,218 |
| Specific maintenance | 1,638 |
| Providing congress makes an appropriation under the Colton-Oddie act for a federal lands fund for 1932, the following additional construction will be placed under way in Eureka County: | |
| Oiling— | |
| Hay ranch to 14 miles west | |
| 13.83 miles | \$34,575 |

| | |
|----------------------------------|----------|
| Humboldt County | |
| New construction; none. | |
| Reconstruction and oiling; none. | |
| General maintenance— | |
| 102.19 miles | \$24,960 |
| Specific maintenance | 2,304 |

| | |
|-------------------------------|-----------|
| Lander County | |
| New construction; none. | |
| Reconstruction and oiling— | |
| Railroad pass to Austin 19.46 | |
| miles | \$150,000 |
| 12 miles east of Austin to 27 | |
| miles east, 15 miles | 143,000 |
| General maintenance— | |
| 124.42 miles | 34,574 |
| Specific maintenance | 2,806 |

| | |
|---|-----------|
| Lincoln County | |
| Reconstruction and oiling; none. | |
| General maintenance— | |
| 200.44 miles | \$20,472 |
| Specific maintenance | 4,520 |
| Providing congress makes an appropriation under the Colton-Oddie act for a federal lands fund for 1932, the following additional construction will be placed under way in Lincoln County: | |
| New construction— | |
| Clark-Lincoln county line to 24 miles south of Alamo, 26 | |
| miles | \$146,000 |
| Caliente to 12 mi. southeast, | |
| miles | 100,000 |

| | |
|-------------------------------|-----------|
| Lyon County | |
| New construction; none. | |
| Reconstruction and oiling— | |
| Bulkhead to Lyon-Douglas | |
| county line, 12.53 mi. | \$106,000 |
| Mineral-Lyon county line to | |
| Yerington, 13.15 miles | 99,000 |
| Bridge over West Walker river | |
| at Hoyer | 20,000 |
| General maintenance— | |
| 106.60 miles | 27,907 |
| Specific maintenance | 2,104 |

| | |
|----------------------------------|----------|
| Mineral County | |
| New construction; none. | |
| Reconstruction and oiling; none. | |
| General maintenance— | |
| 102.13 miles | \$27,523 |
| Specific maintenance | 2,303 |

| | |
|----------------------------------|----------|
| Nye County | |
| New construction; none. | |
| Reconstruction and oiling; none. | |
| General maintenance— | |
| 267.07 miles | \$55,695 |
| Specific maintenance | 6,023 |

| | |
|-------------------------------|-----------|
| Ormsby County | |
| New construction; none. | |
| Reconstruction— | |
| Ormsby-Washoe county line | |
| to Carson City, 3.44 mi. | \$120,000 |
| General maintenance— | |
| 90.27 miles | 5,414 |
| Specific maintenance | 457 |

| | |
|----------------------------------|----------|
| Pershing County | |
| New construction; none. | |
| Reconstruction and oiling; none. | |
| General maintenance— | |
| 73.76 miles | \$14,752 |
| Specific maintenance | 1,663 |

| | |
|----------------------------------|---------|
| Storey County | |
| New construction; none. | |
| Reconstruction and oiling; none. | |
| General maintenance— | |
| 6.54 miles | \$1,848 |
| Specific maintenance | 147 |

| | |
|----------------------------|-----------|
| Washoe County | |
| New construction; none. | |
| Reconstruction— | |
| Washoe summit to Washoe- | |
| Ormsby county line, 10.33 | |
| miles | \$363,000 |
| General maintenance | 30,725 |
| Specific maintenance | 1,909 |

| | |
|-----------------------------------|-----------|
| White Pine County | |
| New construction; none. | |
| Reconstruction and oiling— | |
| Robinson summit to Moorman | |
| man ranch, 15 miles | \$188,000 |
| West slope Antelope summit | |
| to Pancake summit, 11 mi. | 94,000 |
| Pancake summit to White | |
| Pine-Eureka county line, | |
| 13.65 miles | 119,000 |
| Over Conner's Pass, 9.02 mi. | 49,550 |
| Oiling— | |
| Ely to Conner's Pass, 17.52 | |
| miles | 44,450 |
| General maintenance— | |
| 206.45 miles | 42,318 |
| Specific maintenance | 4,656 |

| | |
|--|----------|
| Providing congress makes an appropriation under the Colton-Oddie act for a federal lands fund for 1932, the following additional construction will be placed under way in White Pine County: | |
| New construction— | |
| Junction Route 24 to White | |
| Pine-Elko county line, 4.63 | |
| miles | \$32,310 |

BUILDING NEWS

APARTMENTS

Plans Being Prepared.

MARKET & APTS. Cost, \$—
BURLINGAME, San Mateo Co., Calif.
 Location withheld.

Two-story reinforced concrete market and apartments (three 2-room and one 3-room apts.) part tile and composition roof, gas steam heat, hardwood floors, colored tile baths and kitchens, concrete floors for market).

Owner—C. R. Jenssen, Hearst Bldg., San Francisco.
 Architect—Not Given.

Plans To Be Prepared.

APARTMENTS Cost, \$60,000
SAN FRANCISCO, NE Webster and North Point Sts.

Three-story and basement frame and stucco apartments (18 rooms) steam heating system, oil burner, tile and composition roof, oak floors, canvas walls, plaster exterior, electric refrigeration, etc.
 Owner—Grace Perogo, 176 Sutter St.
 Architect—Not Yet Selected.

CHURCHES

Plans Being Completed.

CHURCH ADDITION Cost, \$5000
HAYWARD, Alameda Co., Cal.

Wood frame addition to present church (auditorium to seat 250).
 Owner—Presbyterian Church (Rev. W. Auley Pankey, pastor), Hayward.
 Architect—Irwin M. Johnson, 2215 7th Ave., Oakland.
 Bids will be asked in about ten days.

Preparing Working Drawings.

CHURCH Cost, \$12,000
TAFT, Kern Co., Calif.

One-story and basement frame and stucco church (auditorium and Sunday school in basement); composition shingle roof, gas heat, pine floors.

Owner—First Church of Christ Scientist.
 Architect—Chas. E. Butner, Glikburg Bldg., Salinas.

FACTORIES AND WAREHOUSES

MONTEREY COUNTY, Cal.—Theodor Johanns, 2020 15th St., San Francisco, at \$12,176.85 submitted low bid to Department of Public Works, Division of Highways, at the office of the District Engineer, San Luis Obispo, for the erection of maintenance station buildings in Monterey County, about one mile north of Salinas, consisting of standard truck shelter, superintendent's cottage, combined office and lunchroom, gasoline and oil house, combination washshed and garage, blacksmith shop, septic tank and leaching field, station sign, pump house, water tower and tank, well for water supply and fence. Complete bids follow:

| | |
|---------------------------------|-------------|
| Theo. Johanns, S. F. | \$12,176.85 |
| Thermotite Const. Co., San Jose | 12,407.00 |
| W. E. Greene, Salinas | 12,811.00 |
| O. S. Amble, San Francisco | 13,353.00 |
| J. C. Sondberg Sprockles | 13,562.00 |
| J. E. Branagh, Oakland | 14,353.50 |
| Empire Const. Co., S. F. | 17,750.00 |

Planned.

ASSEMBLY PLANT Cost, \$3,000,000
LOS ANGELES, Cal.
 Automobile and truck assembly plant.
 Owner—Chrysler Corporation.
 Architect—Not Given.

More definite information will be given at a later date.

Plans Being Completed.

MAINTENANCE STN. Cost, \$—
SONORA, Tuolumne Co., Cal.

Maintenance station (addition to superintendent's cottage, office building, blacksmith shop and truck shed (10x30 ft.).
 Owner—State of California.
 Plans by State Department of Public Works, Division of Highways, Sacramento.

Bid Wanted—To Close Jan. 27.

TRANSIT SHED Cost, \$275,000
LONG BEACH, Los Angeles Co., Cal.
 Berths 145-146.

One-story reinforced concrete transit shed (1008x120-ft.) steel roof trusses, steel sash, etc.)

Owner—City of Long Beach.

Plans by Eng. Dept. of Owner.

Following is a partial list of contractors who have secured plans: MacDonald & Kahn, Financial Center Bldg., San Francisco; H. M. Baruch Corp., Lincoln Bldg., Los Angeles; Eannister Field Co., 4101 Goodwin Ave., Los Angeles; Fred F. Greenfield Co., 7310 S Figueroa St., Los Angeles; Johnson Const. Co., 2131 Barclay St., Los Angeles; Los Angeles Const. Co., 4816 W Pico St., Los Angeles; A. T. Lane, 253 S Broadway, Los Angeles; Raymond Concrete Pile Co., Washington Bldg., Los Angeles; Merritt-Chapman & Scott Corp., Los Angeles Harbor; Chas. W. Pettifer Co., 733 West 14th St., Long Beach.

Contract Awarded.

WAREHOUSE Cost, \$—
LOS ANGELES, Cal. Loma Vista and Fruitland Avenue.

Two-story and basement reinforced concrete grocery warehouse (100x250 ft.)

Owner—Central Manufacturers Dist.
 Architect—Eng. Dept. of Owner.

Contractor—Wm. P. Nell Co., 4814 Loma Vista Ave., Los Angeles.

Pile Driving Contract Awarded.

FACTORY Cost, \$750,000
OAKLAND, Alameda Co., Cal. Foot of Adeline St. on the estuary.

Pile driving for steel frame and concrete cocoonit products factory (650x100 ft.); steel frame and reinforced concrete warehouse (40x416 ft.); pile foundations, flat slab floor, corrugated iron roof and siding.

Owner—El Dorado Oil Works, Third and University Ave., Berkeley.
 Engineers—Ellison & Russell, Pacific Bldg., San Francisco.

Pile Driving—Duncanson Harrelson Co., deYoung Bldg., San Francisco.
 Bids will be taken in about 90 days for a general contract with separate bids for structural steel.

GARAGES AND SERVICE STATIONS

Plans Being Prepared.

SERVICE STATION Cost, \$9000
OAKLAND, Alameda Co., Calif. NE Lakeshore Ave. and Beacon St.

Tile service station.

Owner—Eureka Mill & Lumber Co., 3615 E 14th St., Oakland.

Plans by Eng. Dept. of Lessee (E. H. Carr, chief engineer).

Lessee—Gilmore Oil Co., Ltd., 3rd and 18th Sts., San Francisco.

Construction will be done by owners and will start in about two weeks.

Plans To Be Prepared.

SERVICE STATION Cost, \$—
OAKLAND, Alameda Co., Calif. NE Lakeshore Ave. and Beacon St.

Service station.

Owner—Eureka Mill and Lumber Co., 3615 E 14th St., Oakland (C. I. Gilbert, secretary).

Architect—Not Given.

Lessee—Gilmore Oil Co., Ltd., 3rd and 18th Sts., San Francisco.

GOVERNMENT WORK AND SUPPLIES

Plans Being Figured—Bids Close Feb. 9, 3 P. M.

POSTOFFICE Cost, \$155,000
BEND, Oregon.

Class A postoffice.

Owner—United States Government.

Plans by Supervising Architect, Treasury Dept., Washington, D. C.

Plans obtainable from the Supervising Architect, Washington, D. C.

Plans Being Figured—Bids Close Feb. 15th.

ADMIN. BLDG. Cost, \$200,000
PORTLAND, Ore. Veterans' Hospital.

Two- to five-story reinforced concrete administration building.

Owner—United States Government.

Plans by Construction Division, U. S. Veterans' Bureau, Washington, D. C.

Plans obtainable from Supervising Superintendent of Construction, U. S. Veterans' Hospital, Palo Alto.

SAN DIEGO, Cal.—See "Machinery and Equipment," this issue. Bids opened by Bureau of Yards and Docks, under Specification No. 6650, to furnish three 500 c.f.m. horizontal, motor driven air compressors.

SKILSAW Portable Electric Hand Saws (four models).

SKILSAW Portable Electric Sander.

SKILSAW Radial Arm Attachments.

SYNTRON Portable Electric Hammers (four models, motorless).

MALL Flexible Shaft Machines (50 models).

Electric Drills, Grinders, Buffers, Routers, Lock Mortisers.

Peter H. Nelson

Labor Saving Portable Electric Tools

1246 Mission St., San Francisco

Underhill 7662

SALES : SERVICE : RENTALS

SUNNYVALE, Santa Clara Co., Cal.—Following contractors have secured plans in connection with the construction of a helium and boiler plant bldg., medium pressure helium storage structure, concrete chimney, tunnel, inverted syphon and gas holder foundation at the Naval Air Station, Sunnyvale.

Bids will be opened February 3, 11 A. M., by the Bureau of Yards and Docks, Navy Department, Washington, D. C.:

G. F. W. Jensen, 320 Market Street, San Francisco.

Pacific Coast Steel Co., 20th and Illinois Sts., San Francisco.

Dyer Bros. Golden Gate Iron Works, 17th and Kansas Sts., San Francisco.

Clinton Const. Co., 923 Folsom St., San Francisco.

C. Dudley DeVelbiss, 369 Pine St., San Francisco.

F. W. Snook Co., 596 Clay St., San Francisco.

Herrick Iron Works, 18th and Campbell Sts., Oakland.

Clinton Stephenson Const. Co., Clay and Montgomery Sts., San Francisco.

Frederickson & Watson, 354 Hobart St., Oakland.

K. E. Parker Co., 135 South Park, San Francisco.

Anderson & Company.

Healy-Tibbitts Const. Co., 64 Pine St., San Francisco.

San Francisco Const. Co., 3159 Fillmore St., San Francisco.

MacDonald & Kahn, Financial Center Bldg., San Francisco.

Schuler & McDonald, 1723 Webster St., Oakland.

Truscon Steel Co., Call Bldg., San Francisco.

Soule Steel Co., 1750 Army St., San Francisco.

Moore Drydock Co., Balfour Bldg., San Francisco.

John O. Carlson.

Neves & Harp, Santa Clara.

M. H. Golden.

The Huber Co., 9317 South Alameda St., Los Angeles.

Lindgren & Swinerton Inc., 225 Bush St., San Francisco.

Barrett & Hilt, 918 Harrison Street, San Francisco.

LeRoy Bldg. Service, 165 Jessie St., San Francisco.

Herman Lawson, 465 Tehama St., San Francisco.

Pacific Coast Engineering Co., foot of 14th St., Oakland.

McClintic Marshall Co., 2650 Bryant St., San Francisco.

Crane Co., 61 New Montgomery St., San Francisco.

P. F. Reilly and John Grace, 703 Market St., San Francisco.

Anton Johnson Co., 517 El Centro, Los Angeles.

Robert McKee, 108 W 6th St., Los Angeles.

William Spivock, Hobart Bldg., San Francisco.

Dinwiddie Const. Co., Crocker Bldg., San Francisco.

E. T. Lesure, 87 Ross Circle, Oakland.

N. H. Sjoberg & Sons, Call Bldg., San Francisco.

Chas. Vezey & Sons, 3220 Sacramento St., Oakland.

Plans obtainable from Commandant, Twelfth Naval District, 100 Harrison St., San Francisco, on deposit of \$25, returnable, checks for same to be made payable to the Chief of the Bureau of Yards and Docks.

SAN FRANCISCO—Until January 28, 10 A. M., under Circular No. 928-32-150, bids will be received by Quartermaster Supply Officer, General Depot, Fort Mason, to furnish and deliver 35 folding camp tables.

NYSSA, Ore.—See "Dredging, Harbor Works and Excavations," this issue. Contract awards in connection with North Canal, Owyhee Project, Oregon-Idaho, involving earthwork, tunnels and structures.

ROSEBURG, Ore.—Until January 28, bids will be received by the Custodian, U. S. Postoffice, Roseburg, for interior painting of the postoffice. Specifications obtainable from the Custodian.

WASHINGTON, D. C.—Bids are being received by the Bureau of Supplies and Accounts, Navy Dept., Washington, D. C., to furnish materials and equipment to Pacific Coast navy yards and stations, further information on the schedules listed being obtainable from the Navy Purchasing Officer, 100 Harrison St., San Francisco:

Bids Open Jan. 19

Mare Island, 12,100 lbs. bronze powder; Puget Sound, 3,800 lbs. do; sch. 7233.

San Francisco, 3,600 ft. combination telephone and life line cable; sch. 7213.

Mare Island, approx. 50,200 lbs. bar steel; sch. 7250.

Bids Open Jan. 26

Mare Island, 1 motor-driven precision lathe; sch. 7222.

Mare Island, 1 motor-driven turret lathe; sch. 7217.

San Diego, 1 motor-driven and spindle sander, and 1 motor-driven tilting arbor universal saw table; sch. 7227.

San Francisco, 1 motor-driven engine lathe; sch. 7223.

Mare Island, 1 motor-driven engine lathe; sch. 7218.

Brooklyn, Mare Island and Puget Sound, 3 electrically operated dish-washing machines and spares; and Mare Island, one electrically operated dish-sterilizing machine and spares; sch. 7219.

Mare Island, 1 motor-driven ball bearing single surface planer; sch. 7225.

Mare Island, resistors; sch. 7254.

SACRAMENTO, Cal.—Until Jan. 19, 3 P. M., under Circular Proposal No. 32-236, Specifications No. 4105, bids will be received by U. S. Engineer Office, California Fruit Bldg., Sacramento, for drydocking, painting and repairing bathhouse, involving:

- (1) 1 job drydocking and cleaning;
- (2) 960 lin. ft. roofing, a walking and cementing all seams and joints;
- (3) 1 job painting sides and bottom of both pontoons;
- (4) 6 columns complete.

PEARL HARBOR, T. H.—Following is a partial list of prospective bidders to erect shop building at Pearl Harbor, under Spec. No. 6376, bids for which will be opened Feb. 3 by the Bureau of Yards and Docks, Navy Department, Washington, D. C.:

The William Bayley Co., 1427 I St., N.W., Washington.

Crane Co., Washington.

Edwin Pratt's Sons Co., 118 West Court St., Kankakee, Ill.

Skinner Engine Co., Erie, Pa.

J. A. Jones Const. Co., Charlotte, North Carolina.

SUNNYVALE, Santa Clara Co., Cal.—The San Francisco Const. Co., 3159 Fillmore St., San Francisco, at \$3,994 awarded contract by Twelfth Naval District for service facilities for Airship Mooring Mast at the U. S. Naval

Air Station, Sunnyvale. The work includes one 5000-gal. underground tank for water, one 5000-gal. underground tank for gasoline; motor-driven pumps for water and for gasoline; 1½-inch

underground supply pipes for water and for gasoline; 4-inch underground pipe for low pressure helium service; excavation and backfill for these services and certain piping connections.

SUNNYVALE, Santa Clara Co., Cal.—Following contractors have secured plans in connection with the construction of an administration building, dispensary and barracks at the Sunnyvale Air Station, for which bids will be opened by the Bureau of Yards and Docks, Navy Department, Washington D. C.:

MacDonald & Kahn, Financial Center Bldg., San Francisco.

Schuler & McDonald, 1723 Webster St., Oakland.

K. E. Parker Co., 135 South Park, San Francisco.

Dinwiddie Const. Co., Crocker Bldg., San Francisco.

Healy-Tibbitts Const. Co., 64 Pine St., San Francisco.

Barrett & Hilt, 918 Harrison Street, San Francisco.

Clinton Const. Co., 923 Folsom St., San Francisco.

E. T. Lesure, 87 Ross Circle, Oakland.

H. B. Post, 1330 Webster St., Palo Alto.

Lindgren & Swinerton Inc., 225 Bush St., San Francisco.

Cyclops Iron Works, 837 Folsom St., San Francisco.

Reilly & Grace, 703 Market St., San Francisco.

Anderson & Company.

N. H. Golden.

Anchor Post Fence Co., 460 5th St., San Francisco.

Robert E. McKee, 108 W 6th Street, Los Angeles.

M. J. King, 63 3rd St., San Francisco.

Herrick Iron Works, 18th and Campbell Sts., Oakland.

Dinwiddie Const. Co., Crocker Bldg., San Francisco.

Clinton Stephenson Const. Co., Clay and Montgomery Sts., San Francisco.

H. Mayson, 9317 Hooper Ave., Los Angeles.

Chas. Vezey & Sons, 3220 Sacramento St., Oakland.

G. F. W. Jensen, 320 Market Street, San Francisco.

Soule Steel Co., 1750 Army St., San Francisco.

Plans and specifications available at the office of the 12th Naval District, 100 Harrison St., San Francisco.

SITKA, Alaska.—Until February 8, bids will be received by Custodian, Collector of Customs, Juneau, Alaska, to furnish and install office screen at Customhouse at Sitka. Specifications obtainable from the Custodian at Juneau.

FAIRBANKS, Alaska.—Following is a partial list of bidders to erect post-office at Fairbanks, bids for which will be opened February 18 by the Supervising Architect, Treasury Department, Washington, D. C.:

Tumwater Lumber Mills, Olympia, Washington.

J. E. Bonnell & Son, Tacoma, Wash.

Mencham & Babcock, Seattle, Wash.

Pacific States Const. Co., Lloyd Bldg. Seattle, Wash.

Johnson-Gardner Co., Portland, Ore.

Walesby Const. Co., Tacoma, Wash.

N. P. Severin Co., 222 W Adams St., Chicago.

Therault Contracting Co., 534 East Johnson St., Philadelphia.

A. M. Lundberg, Railway Exchange Bldg., St. Louis.

Bids Opened.

ALTER OFFICES, ETC. Cost, \$—
SAN FRANCISCO. No. 100 Harrison Street.

Rearrangement of dispensary and planning space in fifth floor of Naval Dist. Headquarters (Specification No. 6741).

Owner—United States Government. Plans by Public Works Officer, Twelfth Naval District, 100 Harrison St., San Francisco.

Low Bidder—Roy Lind, 54 Stanton St., San Francisco.

The work will involve the removal of existing partitions, the installation of new partitions, new case, shelving, doors, glazing, plastering and painting, also the relocation of existing plumbing fixtures, electric fixtures and the installation of new plumbing and electric fixtures, including all necessary piping, fittings and electric wiring.

Following is a complete list of bids received:

| | |
|--------------------------------|--------|
| Roy Lind | \$1634 |
| Theo. Johans | 1643 |
| Chas. Clancy | 1632 |
| Robert McCarthy | 1823 |
| Barrett & Hilp | 1935 |
| Finck & Schindler | 2134 |
| Seymour Show Case Co. | 2134 |
| Geo. T. Williams, Oakland .. | 2270 |
| M. E. Vukicevich | 2277 |
| San Francisco Constr. Co. | 2369 |
| Joel Johnson | 2440 |
| Jacks & Irvine | 2430 |
| Chris. Anderson | 2482 |
| Braas & Kuhn | 2600 |
| Frank J. Reilly | 2693 |
| Fred Turner | 2749 |
| Mullen Manufacturing Co. | 2836 |

Bids held under advisement.

HALLS AND SOCIETY BUILDINGS

PETALUMA, Sonoma Co., Cal. Cal.—Chamber of Commerce announces acceptance of a gift of \$10,000 from C. A. LeBaron of Valley Ford, to finance erection of a clubhouse and athletic field for the Boy Scouts of Petaluma.

Planned.
CLUBHOUSE Cost, \$60,000
STOCKTON, San Joaquin Co., Cal. Modern clubhouse.
Owner—Stockton Golf & Country Club
Architect—Not Selected.
Present clubhouse will be razed.
Club Blvd., Stockton.

Planned.
MEMORIAL Cost, \$30,000
SONORA, Tuolumne Co., Cal. Memorial hall (type of construction not determined).
Owner—County of Tuolumne.
Architect—Not Selected.
On February 3rd, the Board of Supervisors will receive sketches and information from various architects.

Specifications Being Written.
MEMORIAL BLDG. Cost, \$40,000
PLEASANTON, Alameda Co., Cal. One-story Class C masonry veterans' memorial building (auditorium to seat 350; men's and women's club rooms, Spanish type, tile roof).
Owner—County of Alameda.
Architect—Henry H. Meyers, Kohl Bldg., San Francisco.
Bids will be advertised shortly after February 1.

HOSPITALS

Additional Sub-Contracts Awarded.
HOME NOVITIATE Cost, \$—
BURLINGAME, San Mateo Co., Cal. Four-story and basement steel frame

and concrete home and novitiate (tile roof, steam heating system).
Owner—Roman Catholic Archbishop of San Francisco, 1100 Franklin St., San Francisco.
Architect—Edward Eames, 535 Sacramento St., San Francisco.
Contractor—Barrett & Hilp, 918 Harrison St., San Francisco.
Structural Engineer—Elison & Russell, Pacific Bldg., San Francisco.
Portable Incinerators—E. J. Rogers, 557 Market St., San Francisco.
Medicine Cabinets—Albatross Steel Products Co., 39 Natoma St., San Francisco.

Other awards previously reported.

STOCKTON, San Joaquin Co., Cal. Mangrum Holbrook Co., 1235 Mission St., San Francisco at \$5,150 awarded contract by county supervisors for diet kitchen equipment in connection with the first unit of the San Joaquin County General Hospital, near French Camp. Dohrmann Hotel Supply Co., 972 Mission St., San Francisco was awarded contract at \$175.53 for china-ware, \$57.50 for glassware and \$95.16 for silverware. As previously reported refrigeration equipment was awarded to Wilson-Schulz & Co., 30 N. Sutter St., Stockton at \$1,327.

SAN FRANCISCO—Mangrum-Holbrook Co., 1235 Mission St., at \$816.90 awarded contract by City Purchasing Agent, under R. I. Q. 4172, to furnish one 2-oven set and fire portable French type gas range for Laguna Honda Home.

Preliminary Plans Completed.
MEDICAL BLDG. Cost, \$600,000
SAN FRANCISCO. Second and Parnassus Aves.
Six-story steel frame and concrete medical building.
Owner—University of California.
Architect—Wm. C. Hays, Crocker 1st National Bank Bldg., San Francisco.

Upon approval of preliminary plans working drawings will be started.

PHOENIX, ARIZ.—L. E. Crouch, Supreme Chancellor Commander, Knights of Pythias, will be in Phoenix this week to inspect two suggested sites for the proposed tubercular sanitarium to be established in Phoenix by the order.

Plans Being Completed.
HOSPITAL Cost, \$100,000
SEATTLE, Washington. One-story and basement Monolithic concrete hospital (120x125-ft.; 31-bed capacity, private and semi-private rooms).
Owner—Broadway Hospital, Inc., Dr. W. G. Palmer, president, Seattle.
Architect—Hancock & Lockman, Republic Bldg., Seattle.
Structure will be equipped with tel-

ephone, radio and nurses' call system.

Plans Being Prepared.
HOSPITAL Cost, \$70,000
REDDING, Shasta Co., Cal. Reinforced concrete hospital (245x36-ft.) two ward wings (32x43-feet each; 44 rooms).
Owner—County of Shasta.
Architect—Otto Deichmann, 110 Sutter St., San Francisco.

WOODLAND, Yolo Co., Cal.—County Grand Jury, in annual report to the supervisors, recommends immediate abandonment of the present county hospital and the construction of a modern plant on a new site. The jury declares the present hospital "unhealthful and a fire trap." Recommendation is made that the new plant be constructed on the unit system, one unit being erected each year out of the current tax money.

STOCKTON, San Joaquin Co., Cal.—Price Building Spec by State Department of Public Works, Sacramento, to furnish and install five electric dumb waiters in various buildings at Stockton State Hospital.

PACIFIC COLONY, Los Angeles Co. Cal.—Walker-Martin Corp., Ltd., 1241 E. Florence, Los Angeles, at \$6,430 awarded contract by State Department of Public Works, Sacramento, for ground lighting system at Pacific Colony. Complete list of bids published in issue of January 6.

Bids Opened.
INDIGENTS' HOME Cost, \$100,000
SACRAMENTO, Sacramento Co., Cal. Franklin Boulevard.
One-story Indigents' Home (brick exterior walls, tile roof, Spanish style, Class C construction).
Owner—County of Sacramento.
Architect—Harry Devine, California State Life Bldg., Sacramento.
Low Bidder—Harry Schuster Co., Ltd., 354 Hobart St., Oakland.

Following is a complete list of bids received:

| | |
|---|-----------|
| Harry Schuster Co., Ltd, Oakland | \$ 93,246 |
| H. W. Robertson, Sacramento | 94,000 |
| Azevedo & Sarmiento, Sacto..... | 94,930 |
| Guth & Fox, Sacramento..... | 95,976 |
| W. C. Keating, Sacramento..... | 97,400 |
| C. J. Hopkinson, Sacto..... | 99,990 |
| J. Johnson, Sacramento..... | 100,552 |
| Geo. W. Kopp, Sacramento..... | 100,800 |
| Chas. Unger, Sacramento..... | 101,914 |
| Lindgren & Swinerton, Inc. Sacramento | 102,750 |
| Fred H. Betz, Sacramento..... | 102,847 |
| Yoho & Dager, Sacramento..... | 103,518 |
| Chas. Vezey & Son, Oakland..... | 103,941 |
| Campbell Constr. Co., Sacto..... | 104,280 |
| Morrison Knudsen Co., Boise, Idaho | 105,500 |
| Geo. Pollock, Sacramento..... | 107,459 |
| P. P. Bender, Sacramento..... | 108,520 |
| Holdener Constr Co., Sacto..... | 115,200 |

Five low bids held under advisement.

Preparing Plans.
HOSPITAL Cost, \$70,000
REDDING, Shasta Co., Cal. One and two-story reinforced concrete hospital (245x36 ft.); two ward wings (32x43 ft. each); 44 rooms; tile and composition roof, steam heating system.
Owner—County of Shasta.
Architect—Otto Deichmann, 110 Sutter St., San Francisco.
Plans will be ready for bids in about ninety days.

**CAPITAL CITY
TILE COMPANY**

▼
J. C. PALEN,
Manager

▼
914 Seventh Street
Sacramento :: California

SAN FRANCISCO.—Fred E. Turner, 557 Market St., San Francisco, at \$3,725 awarded contract by City Purchasing Agent, under Proposal No. 787 to furnish and install stage fittings and draperies for the Aptos Junior High School.

Low Bidder.
GYMNASIUM Cost, \$—
 LOS ANGELES, Cal. 103rd St. W Alameda St.

Reinforced concrete gymnasium.
 Owner—Los Angeles City School Dist
 Architect—N. S. Nibecker Jr., Los Angeles.

Low Bidder—J. D. Sherer & Son, 1865 E. Anaheim Blvd., Long Beach, at \$42,000.

Painting—J. H. Conner, 3315 E. 61st St., Huntington Park, \$14,844.
Plumbing—Hickman Bros., 473 W. 8th St., San Pedro, \$394.

Heating and Ventilating—Thos. Haverty Co., 8th and Maple Sts., Los Angeles, \$4555.

Electric—H. H. Walker, 1223 Venice Blvd., Los Angeles, \$928.

Being Done By Day's Work.
MUSIC HALL Cost Approx. \$25,000
 ST. HELENA, Napa Co., Cal.
 Two-story frame and stucco music hall (auditorium to seat 100) composition shingle roof, maple floors, steam heat to connect to main plant).

Owner—Pacific Union College, St. Helena.
 Architect—Treichel & Goodpastor, American Bank Bldg., Oakland.
 Work is being done by the students under the supervision of the President of the College.

Contracts Awarded.
SCIENCES BLDG. Cost, \$202,000
 SAN JOSE, Santa Clara Co., Cal.
 Two-story reinforced concrete Natural Sciences Bldg. (wood frame roof, clay tile roofing, brick trimmings on exterior).

Owner—State of California.
 Architect—Ralph W. Wyckoff, Growers' Bank Bldg., San Jose.
 Associated Architect—Chas. McKenzie, Twohy Bldg., San Jose.
 Mechanical Engineers—Leland & Haley, 58 Sutter St., San Francisco.

General Work
 J. F. Shepherd, First National Bank Bldg., Stockton, \$139,356

Plumbing, Heating & Ventilating
 A. J. Peters, 455 East Washington St., San Jose, \$35,902

Electric
 Eddy Electric Co., 309 E Weber St., Stockton, \$10,506

Preparing Working Drawings.
BLEACHERS Cost, \$35,000
 BERKELEY, Alameda Co., Cal. SW of Campus.

Reinforced concrete bleachers.
 Owner—University of California.
 Architect—Geo. W. Kelham, 315 Montgomery St., San Francisco.

Bids will be asked about February 1st.

BANKS, STORES & OFFICES

Contract Awarded.
STORE Cost, \$100,000
 LOS ANGELES, Cal. 425-29 S Broadway.

Two-story and basement Class A reinforced concrete store (60x160-ft.)
 Owner—W. T. Grant Co., 1441 Broadway, New York City.

Plans by Eng. Dept. of Owner (H. T. Williams, chief engineer).

Contractor—Bavin & Burch Co., 173 E Jefferson St., Los Angeles.

Contract Awarded.
PUBLIC UTILITY BLDG. \$72,750
 LONG BEACH, Los Angeles Co., Cal. Broadway and Pacific Ave.
 Reinforced concrete public utility building (60x120 ft.)
 Owner—City of Long Beach.
 Architect—Dedrick & Bobbe, Heartwell Bldg., Long Beach.
 Contractor—Chas. W. Pettifer Co., Inc., 733 W. 14th St., Long Beach.

Being Done By Day's Work by Owner
ALTER STORE Cost, \$11,000
 PRESNO, Fresno Co., Cal. No. 120 N. Fulton Street.
 Alterations and additions to present store building.

Owner—Safeway Stores, Inc., 4th and Jackson Sts., Oakland.
 Plans by Eng. Dept. of Owner.
 Construction is under way.

Plans Completed.
STORE AND OFFICES Cost, \$50,000
 LOS ANGELES, Cal. No. 1000-1002 Westwood Blvd.

Two-story Class C brick store and office building (12 rooms); 50x104.
 Owner—Janss Investment Co., Janss Bldg., Westwood.
 Architect—John and D. B. Parkinson, Title Insurance Bldg., Los Angeles

Plans Being Completed.
STORE Cost, \$15,000
 SAN FRANCISCO, NE Ocean Avenue and Fairfield Way.

One-story frame and stucco store bldg. (concrete retaining wall).

Owner—T. E. Foster, 1930 Sacramento Street.
 Architect—S. Heiman, 57 Post Street.
 Lessee—Westwood Electric Radio Co., 1603 Ocean Avenue.

Bids will be asked in about 2 weeks.

Contract Awarded.
ALTERATIONS Cost, \$10,000

SAN FRANCISCO, 353 Geary Street.
 Alterations to stores for offices.
 Owner—Stewart Hotel, 353 Geary St.
 Architect—Fred. Meyer, 525 Market Street.

Contractor—J. S. Malloch, 666 Mission Street.

Lessee—Union Pacific System, Monadnock Bldg.

Sub-Bids Wanted by General Contractors.

MEDICAL BLDG. Cost, \$50,000
 PALO ALTO, Santa Clara Co., Calif. Homer Ave. and Bryant St. (150x150-ft.)

One and two-story reinforced concrete medical bldg. (tile roof, steel sash, steam heating system).

Owner—Drs. Russell Lee, B. Wilbur, E. F. Roth and M. H. Sailer, 440 Foothill Ave., Stanford University, Palo Alto.

Architect—Birge M. Clark, 310 University Ave., Palo Alto.

Wells P. Goodenough, 310 University Ave., Palo Alto.

F. C. Stole, 3449 Laguna Ave., Oakland.

Plans Being Completed.
SHOP Cost, \$9000

SAN FRANCISCO, Twenty-second St. 137½ E Treat Ave.

Two-story and mezzanine floor reinforced concrete Class B shop (asphaltic roof, reinforced concrete walls and floors, steel windows elevators).

Owner—J. Jacobsen.
 Architect—L. O. Berg, 675 Corbett Ave., San Francisco.

Plans will be completed in about ten days.

Plans Being Figured.
OFFICES Cost, \$60,000
 LOS ANGELES, Cal. Slauson Ave.
 Class A office building (100x89-ft.)
 Owner—Pacific Steel Corp., subsidiary of the Bethlehem Steel Corp., 20th and Illinois Sts., San Francisco.
 Architect—H. L. Gogerty, 6272 Yucca St., Los Angeles.

THEATRES

SAN FRANCISCO.—Fred E. Turner, 557 Market St., San Francisco, at \$3,725 awarded contract by City Purchasing Agent, under Proposal No. 787 to furnish and install stage fittings and draperies for the Aptos Junior High School.

Planned.
THEATRE & STORE Cost, \$—
 LOS ANGELES, Cal. S Broadway and 87th Street.

Brick theatre and store (63x131 ft.) to seat 800.

Owner—Albert Mellinkoff, 811 Foothill St., Beverly Hills.

Architect—C. E. Noerenberg, 210 L. A. Railway Bldg., Los Angeles.
 Lessee—N. W. Webb, % Mecca Theatre, Los Angeles.

WHARVES AND DOCKS

Plans Being Prepared.
EXTEND DOCK Cost, \$200,000
 SAN FRANCISCO, Fort Mason.

Reinforced concrete extension to Dock No. 3; steelbeam cylinder piers, cresooted timber fender pling (81 by 200 feet).

Owner—United States Government.
 Plans by Constructing Quartermaster Fort Mason.

MISCELLANEOUS SUPPLIES AND MATERIALS

SANTA CRUZ, Santa Cruz Co., Cal.
 Pasatiempo Golf Club, Scotts Valley Highway, Santa Cruz, under the leadership of Miss Marion Hollins, has taken options on property with a view to laying out a modern racing plant involving the construction of a track, stables, grandstands and miscellaneous smaller structures. The construction expenditure will be in the neighborhood of \$150,000.

Plans To Be Prepared.
GOLF COURSE Cost, \$40,000
 PACIFIC GROVE, Monterey Co., Cal. (33 acres).

Nine-hole golf course with appurtenances (clubhouse, etc.)

Owner—City of Pacific Grove (Elgin C. Hurlbert, City Clerk).
 Architect—To Be Selected.

Low Bidders.
ENTOMOLOGY BLDG. Cost, \$—
 RIVERSIDE, Riverside Co., Cal.

Two-story and basement reinforced concrete entomology building (100 by 70 ft.)

Owner—University of California.
 Architect—G. Stanley Wilson, 3646 9th St., Riverside.

Low Bidder—C. T. and W. P. Stover, 116 Alexander Ave., Claremont.

Plumbing, Heating and Ventilating—Thos. Haverty Co., 8th St. and Maple Ave., Los Angeles, \$30,345.

Electric—E. Ray Fine, 755 19th St., San Bernardino, \$7750.

Lab. Furniture—E. H. Sheldon Co., Box 226, Corte Madera, \$10,169.
Dumb Waiters—Beckwith Elevators, Ltd., 1339 Santa Fe Ave., Los Angeles, \$1270.

UNIT BID SUMMARY

Compiled from the Daily News Service of Pacific Constructor

GRADE—CONCRETE PAVEMENT—LEVEE—STATE

MERCED COUNTY, Calif.—Delta Dredging Co., Pittsburg, at \$11,604.75 submitted low bid to State Highway Commission to grade and pave with Portland cement concrete about one mile and construct about 3.5 miles of levee, involving:

- (1) 2750 cu. yds. rdwy. excav. without class;
- (2) 1500 cu. yds. imported borrow;
- (3) 20,000 cu. yds. excav. (levee);
- (4) 10 cu. yds. struc. excav.;
- (5) 1600 sq. yds. subgrade for pave.;
- (6) 335 cu. yds. Class A Portland cement concrete (pave.);
- (7) 9200 lbs. bar reinf. steel (pave.);

- (8) 38 lin. ft. 18-in. corr. metal pipe;
- (9) 235 cu. yds. bit. mac. and conc. removed from existing pave. and disposed of;
- (10) 5.5 miles existing property fences moved and reset;
- (11) 8 gates;
- (12) 8 sta. finish roadway;
- (13) 19 monuments complete in place.

The State will furnish corrugated metal pipe and flood gates as more explicitly set forth in the special provisions.

Complete list of bids follows:

- (A) Delta Dredging Co. Pittsburg\$11,604.75

- (B) C. W. Wood, Stockton 12,092.50
- (C) Thermotite Const. Co. San Jose 12,190.50
- (D) Force Const. Co., Piedmont 12,382.00
- (E) W. A. Dontanville, Sallinas 13,051.95
- (F) Granite Const. Co., Watsonville 13,281.50
- (G) Tieslau Bros., Berkeley 13,746.75
- (H) F. W. Nighbert, Bakersfield 14,470.00
- (I) Valley Paving & Const., Fresno 17,727.00

Unit bids follow:

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) |
|-----|-------|-------|-------|--------|-------|---------|--------|--------|-------|----------|---------|---------|--------|
| (A) | \$.25 | \$.48 | \$.18 | \$2.00 | \$.15 | \$12.50 | \$.045 | \$1.00 | \$.75 | \$170.00 | \$25.00 | \$15.00 | \$3.50 |
| (B) | .35 | .50 | .15 | 1.00 | .10 | 15.00 | .05 | 1.00 | 2.00 | 200.00 | 20.00 | 5.00 | 3.00 |
| (C) | .35 | .60 | .15 | 2.00 | .13 | 13.40 | .05 | 1.50 | 3.00 | 200.00 | 20.00 | 9.00 | 3.00 |
| (D) | .35 | .70 | .15 | 1.00 | .20 | 13.50 | .06 | .75 | 2.00 | 125.00 | 15.00 | 6.50 | 3.00 |
| (E) | .35 | .65 | .18 | 2.00 | .09 | 15.65 | .05 | .90 | 1.50 | 300.00 | 20.00 | 8.00 | 3.00 |
| (F) | .25 | .55 | .22 | 1.00 | .10 | 15.00 | .05 | .50 | .80 | 220.00 | 15.00 | 15.00 | 3.00 |
| (G) | .40 | .50 | .18 | 1.50 | .20 | 17.50 | .06 | 1.00 | .75 | 200.00 | 15.00 | 7.00 | 3.00 |
| (H) | .65 | .75 | .15 | 2.00 | .20 | 16.00 | .06 | 1.00 | 2.50 | 250.00 | 16.00 | 15.00 | 3.00 |
| (I) | .40 | .50 | .30 | 1.00 | .10 | 20.00 | .06 | 1.00 | 2.00 | 300.00 | 20.00 | 10.00 | 3.00 |

LONG BEACH BERTHS—CITY—BIDS OPENED

LONG BEACH, Calif.—Sully - Miller Contracting Co., 1500 W 7th St, Long Beach, at \$65,184.93 awarded contract by city council to construct Berths at Pier "A" on the Long Beach Outer Harbor. Following is a complete list of the total bids received:

- (A) Sully-Miller Contracting Co., \$65,-184.93;
- (B) Rainey and MacIsaac, \$67,551.80;
- (C) Union Eng. Co., Ltd., \$68,438.33;
- (D) R. R. Bishop, \$68,900.80;
- (E) Shannahan Bros., \$70,166.36;
- (F) R. H. Travers, \$70,539.03;
- (G) Lynch Const. Co., \$73,695;
- (H) Macco Const. Co., \$75,936.15;
- (I) Merritt, Chapman & Scott, \$74,040.73
- (J) Nead Const. Co., \$74,571.87;
- (K) J. D. Sherer & Son, \$74,681.94;
- (L) Southern Calif. Roads Co., \$79,-131.86.

Construction involves:

- (1) 403 cu. yds. grade No. 1 concrete retaining walls and manholes;
- (2) 1200 lin. ft. 6x12 R. O. P. wall bumper on top of concrete wall;
- (3) electric conduit and signal conduit;
- (4) 2581 lin. ft. 12-in. C.I. water pipe;
- (5) 190 lin. ft. 6-in. do.;
- (6) 800 lin. ft. 4-in. do.;
- (7) 886 lin. ft. 3-in. do.;
- (8) 144 lin. ft. 1-in. dia. pipe for gas line;
- (9) 1,280 lin. ft. triple fibre ducts and double clay ducts with concrete encasement;
- (10) 160 lin. ft. single triple fibre duct with concrete encasement;
- (11) 191 lin. ft. single double vit. duct with concrete encasement;
- (12) 826 lin. ft. 10-in. vit. clay sewer pipe;
- (13) 292 lin. ft. 6-in. do.;
- (14) 125 lin. ft. 6-in. drain tile;

- (15) 3,513 lin. ft. 4-in. do.;
- (16) 4 fr hydrants, includ. riser pipes, base elbows, etc.;
- (17) 162,932 sq. ft. D.G. and oil paving;
- (18) 10,800 sq. ft. 7 1/2-in. asph. conc. paving, type A top;
- (19) 27,400 sq. ft. 4-in. D.G. and 2 1/2-in. asph. concrete;
- (20) 30,800 sq. ft. 6-in. D.G. and 6-in. asph. concrete;
- (21) 6,000 tons stone or ballast;
- (22) 4,655 track feet oil rail;
- (23) 1,900 track feet second hand 85 lb. and 90 lb. rail;
- (24) 1,735 track feet of 128 lb. grooved girder rail;
- (25) 6,466 track feet of new 90 lb., 80 lb. and 75 lb. rail;
- (26) 3 girder rail turnouts, 128 lb.;
- (27) 8 rail turnouts, 90 lb.;
- (28) 500 rail anchors;
- (29) 500 tie rods.

Complete list of unit bids follows:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) |
|------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| (1) | \$ 19.00 | \$ 22.00 | \$ 20.54 | \$ 23.00 | \$ 16.00 | \$ 26.00 | \$ 26.00 | \$ 29.50 | \$ 24.76 | \$ 24.50 | \$ 24.94 | \$ 32.00 |
| (2) | .33 | .22 | .25 | .60 | .36 | .58 | .41 | .40 | .365 | .60 | .359 | .50 |
| (3) | 1250.00 | 1200.00 | 1166.00 | 1170.00 | 1200.00 | 1370.00 | 1291.00 | 1300.00 | 1290.00 | 1466.00 | 1242.00 | 1537.00 |
| (4) | 2.08 | 1.83 | 2.00 | 2.25 | 1.70 | 1.63 | 2.92 | 2.25 | 1.84 | 2.70 | 2.42 | 2.46 |
| (5) | 1.20 | 1.12 | 1.82 | 1.60 | 1.25 | 1.12 | 1.56 | 1.25 | 1.26 | 2.50 | 1.62 | 2.56 |
| (6) | .99 | 1.57 | 2.00 | 1.00 | .75 | 1.65 | 2.56 | 1.05 | 1.68 | 2.00 | 2.13 | .92 |
| (7) | .70 | .89 | .70 | .85 | .75 | .62 | .90 | .85 | .24 | 1.20 | .74 | .60 |
| (8) | .20 | .40 | .31 | .43 | .36 | .30 | .45 | .64 | .215 | .70 | .40 | .50 |
| (9) | 1.75 | 2.87 | 2.44 | 2.10 | 2.40 | 1.72 | 1.85 | 3.75 | 2.69 | 3.00 | 2.877 | 2.75 |
| (10) | 1.30 | 1.67 | 1.38 | 1.60 | 1.65 | 1.33 | 1.25 | 2.20 | 2.38 | 2.00 | 2.435 | 1.86 |
| (11) | 1.20 | 1.23 | 1.10 | 1.60 | 1.65 | 1.33 | 1.12 | 1.55 | 1.43 | 2.00 | 2.105 | 1.13 |
| (12) | 1.15 | 1.40 | 1.17 | 1.00 | .80 | 1.90 | 1.26 | 1.15 | 1.41 | 1.25 | 1.017 | 1.15 |
| (13) | .50 | .42 | .54 | .26 | .75 | .58 | .41 | .75 | .68 | .50 | .7511 | .37 |
| (14) | .30 | .22 | .30 | .20 | .30 | .50 | .22 | .50 | .68 | .20 | .3065 | .20 |
| (15) | .20 | .20 | .25 | .17 | .16 | .30 | .18 | .43 | .565 | .20 | .2415 | .16 |
| (16) | 90.00 | 85.00 | 96.00 | 100.00 | 90.00 | 95.00 | 121.00 | 90.00 | 95.50 | 90.00 | 116.55 | 82.00 |
| (17) | .0475 | .0525 | .052 | .0475 | .045 | .054 | .0525 | .05 | .0436 | .06 | .0494 | .061 |
| (18) | .20 | .21 | .20 | .20 | .215 | .22 | .22 | .195 | .225 | .21 | .208 | .22 |
| (19) | .13 | .14 | .11 | .13 | .15 | .133 | .1425 | .145 | .156 | .14 | .1352 | .162 |
| (20) | .21 | .216 | .21 | .21 | .22 | .235 | .22 | .25 | .252 | .23 | .2184 | .224 |
| (21) | 2.73 | 2.61 | 2.79 | 2.90 | 3.30 | 2.75 | 3.25 | 2.40 | 2.48 | 2.60 | 3.122 | 3.17 |
| (22) | .32 | .35 | .20 | .30 | .23 | .15 | .35 | .38 | .175 | .32 | .207 | .32 |
| (23) | .50 | .38 | .51 | .48 | .75 | .91 | .42 | .45 | 1.236 | .45 | .52785 | .45 |
| (24) | .82 | .62 | 1.11 | .78 | 1.50 | 1.05 | .68 | .75 | 1.34 | .72 | 1.273 | .72 |
| (25) | .48 | .38 | .53 | .48 | .90 | .91 | .42 | .45 | 1.236 | .45 | .54855 | .45 |
| (26) | 105.00 | 105.00 | 100.00 | 105.00 | 26.00 | 70.00 | 115.00 | 110.00 | 77.35 | 105.00 | 31.50 | 105.00 |
| (27) | 85.00 | 85.00 | 25.00 | 85.00 | 30.00 | 60.00 | 94.00 | 90.00 | 77.25 | 85.00 | 25.87 | 85.00 |
| (28) | .05 | .05 | .06 | .06 | .10 | .15 | .055 | .06 | .06 | .05 | .0621 | .05 |
| (29) | .25 | .25 | .12 | .25 | .10 | .15 | .28 | .30 | .26 | .25 | .1242 | .25 |

ASPHALT CONCRETE PAVEMENT—BEVERLY HILLS

BEVERLY HILLS, Los Angeles Co., Cal.—Southwest Paving Co., 712 Lankershim Bldg., Los Angeles, submitted low bid to city council at \$10,529.55 to improve Santa Monica Blvd. (north roadway), Linden Drive, Roxbury Dr. and other streets. Cash contract. The items are:

- (1) 57,282 sq. ft. grading;
- (2) 22,199.6 sq. ft. grading (5-in. asph. conc. base with 2-in. asph. conc. (Topeka) wearing surface);
- (3) 15,650.2 sq. ft. gutter (2-in. conc.);
- (4) 3273.1 ft. curb (class B 6x9x15-in.);
- (5) 4127.1 sq. ft. sidewalk (3½-in.).

Unit bids follow:

| | (1) | (2) | (3) | (4) | (5) | Totals |
|-------------------------------|---------|-------|-------|-------|-------|-------------|
| Southwest Paving Co..... | \$,0337 | \$.16 | \$.23 | \$.36 | \$.12 | \$10,529.55 |
| Griffith Company | .035 | .16 | .23 | .40 | .14 | 10,816.01 |
| Geo. R. Curtis Paving Co..... | .036 | .176 | .228 | .40 | .12 | 11,098.82 |
| Chas. U. Heuser..... | .04 | .17 | .24 | .35 | .15 | 11,346.76 |
| R. J. Bianco..... | .038 | .21 | .215 | .40 | .11 | 11,691.69 |
| George A. Shepard..... | .03 | .195 | .25 | .45 | .16 | 11,826.36 |
| P. J. Akmadzich..... | .045 | .18 | .25 | .50 | .15 | 12,485.05 |

RECONSTRUCT CAUSEWAY—GOV'T ISLAND

ALAMEDA, Alameda Co. Cal.—Utah Const. Co., 1 Montgomery Street, San Francisco, submitted low bid at \$27,688.90 and were recommended for the contract by the district engineer, U. S. Bureau of Public Roads, San Francisco, to construct Unit 11, consisting of the reconstruction of the existing causeway from Government Island, Alameda, to Oakland, involving:

- (1) Remove existing superstructure, lump sum bid;
- (2) 11.6 M. B. M. untreated timber in place;
- (3) 292.7 M. B. M. treated timber in

- place;
- (4) 3965 lin. ft. treated piling in place;
- (5) 2530 sq. yds. bituminous wearing surface;
- (6) 800 lin. ft. recondition dip, wrap and relay 6-in. pipe and fittings.

Following is a complete list of bids:

- (A) Utah Const. Co., S. F.\$27,688
- (B) A. W. Kitchen, S. F. 28,943
- (C) Neves & Harp, Santa Clara 29,324
- (D) Healy-Tibbitts, S. F. 30,104
- (E) M. B. McGowan, S. F. 31,316
- (F) Geo. Pollock, Sacramento... 33,552
- (G) B. A. Hawkins & Co., S. F. 33,804

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) |
|-----------|-----------|-----------|----------|-----------|-----------|-----------|-----------|
| (1) | \$1075.00 | \$1580.00 | \$950.00 | \$2061.00 | \$3943.16 | \$2486.00 | \$2700.00 |
| (2) | 50.00 | 88.50 | 45.00 | 70.00 | 97.00 | 70.00 | 65.00 |
| (3) | 67.00 | 72.15 | 70.50 | 89.00 | 70.00 | 85.00 | \$1.00 |
| (4) | .90 | .88 | 1.69 | .62 | 1.04 | 1.00 | 1.25 |
| (5) | .85 | .44 | .15 | .315 | .368 | .32 | .35 |
| (6) | .88 | .77 | .8 | .70 | .88 | .75 | 1.00 |

LEVEE AND GUNITE WORK—LOS ANGELES

LOS ANGELES, Cal.—Ray Schweitzer & Co., 2475 E 9th St., submitted low bid to county supervisors at \$42,365 for construction of levee and Gunite protection work on Pacoima Wash, between Arieta St. and San Fernando Road. The items are:

- (1) 66,500 cu. yds. excavation;
- (2) 186,000 sq. ft. Gunite facing slab;
- (3) 207,000 sq. ft. manufacturing and placing pre-cast mattress;
- (4) 9900 sq. ft. concrete paving slab, Laurel Canyon Blvd.;
- (5) 30 cu. yds. Class B concrete cutoff walls and curtain walls;

- (6) 5 cu. yds. Class C misc. reinforced concrete structures;
- (7) 100 cu. yds. rockfill, Laurel Canyon Blvd.;
- (8) 10,900 lbs. placing metal drainage culverts and gate complete;
- (9) clearing right of way of all debris.

Unit bids follow:

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | Totals |
|-----------------------------------|-------|-------|-------|-------|--------|---------|--------|-------|---------|-------------|
| Ray Schweitzer & Co. | \$,22 | \$,06 | \$,07 | \$,14 | \$,800 | \$10,00 | \$2,00 | \$,01 | \$,00 | \$42,365.00 |
| California Gunite Const. Co. | .17 | .078 | .071 | .164 | 14.46 | 9.54 | 1.25 | .02 | 900.00 | 43,858.10 |
| Oberg Brothers | .13 | .07 | .09 | .20 | 10.00 | 20.00 | 3.00 | .05 | 1000.00 | 44,520.00 |
| Lewis Const. Company | .28 | .055 | .054 | .15 | 15.00 | 20.00 | 3.00 | .02 | 2500.00 | 45,081.00 |
| Robinson-Roberts Company | .245 | .07 | .072 | .16 | 19.50 | 28.50 | 5.00 | .03 | 900.00 | 48,255.00 |
| Lindgren & Swinerton | .22 | .083 | .103 | .15 | 6.00 | 6.00 | .80 | .02 | 900.00 | 54,282.00 |
| James H. Taylor..... | .24 | .075 | .105 | .22 | 10.00 | 15.00 | 2.00 | .015 | 4000.00 | 58,561.50 |

STEEL PIPE—LOS ANGELES—CITY

LOS ANGELES, Calif.—Following bids submitted to city purchasing agent, under Spec. No. 2685 for steel pipe for the Department of Water and Power:

- (1) 24,000 lin. ft. 8-in. inside dia. steel water pipe, 18-22 ft. lengths;
- (2) same 28-32 ft. lengths;
- (3) same, 32-42 ft. lengths;
- (4) 7,100 lin. ft. 6-in. inside dia. steel water pipe, 18-22 ft. lengths;
- (5) same, 28-32 ft. lengths;
- (6) same, 32-42 ft. lengths.

| | (1) | (2) | (3) | (4) | (5) | (6) |
|-------------------------------|----------|---------|----------|---------|---------|---------|
| Pacific Pipe & Supply Co..... | \$1,0361 | \$1,072 | \$1,1148 | \$,6712 | \$,7051 | \$,7145 |
| Electrically welded | 1,0846 | 1,0761 | 1,0863 | .6901 | .7078 | .7334 |
| Ducommun Corporation | 1,0646 | 1,0761 | 1,1148 | .6901 | .7078 | .7334 |
| Electrically welded | 1,0361 | 1,072 | 1,0863 | .6712 | .7051 | .7145 |
| Republic Supply Company | 1,0305 | 1,169 | 1,1047 | .6674 | .6929 | .6883 |
| * Smith, Booth, Usher | | | | 62.80 | | 63.92 |
| Hacker Pipe & Supply Co..... | 1,4395 | 1,4341 | 1,4710 | 1,4638 | 1,5137 | 1,5065 |
| Square cut | 1,4251 | | | | | |
| Grinnell Company | 1,0541 | | | .6932 | .6896 | .7144 |
| Electrically welded | | | | .7215 | .7179 | .7424 |
| Midwest Pipe Company | 1,106 | 1,1120 | | .731 | .742 | .7845 |
| Crane Company | 1,0868 | 1,3886 | 1,1180 | .7140 | .7420 | .7845 |
| Electrically welded | 1,0725 | 1,011 | 1,16 | .7040 | | .7297 |
| Standard Pipe Company | | | | .6339 | | .6496 |
| Santa Fe Pipe Company..... | | | | .61 | | .63 |
| Kelly Pipe Company..... | | | | .6712 | .6826 | .6826 |

* Per C.

A MORE
COMPLETE
REVIEW
OF
UNIT BID
OPENINGS
COVERING
PACIFIC COAST
PROJECTS WILL
BE PUBLISHED
IN FUTURE
ISSUES OF
PACIFIC
CONSTRUCTOR

MEMBERS OF THE ASSOCIATED GENERAL CONTRACTORS

PACIFIC COAST AND INTERMOUNTAIN TERRITORY

CALIFORNIA STATE BRANCH

206 Sansome Street—Garfield 7107—San Francisco

O. C. STRUTHERS, President

E. L. KIER, Vice-President

C. G. FITZGERALD, Secretary

MELVILLE DOZIER, JR., Secretary-Manager

SOUTHERN CALIFORNIA CHAPTER

1318 Pershing Square Bldg.—TRinity 9418
Los Angeles, Calif.

C. G. FitzGerald, President

Melville Dozier, Jr., Manager

Karl P. Lowell, Vice-President

The address of the firm is the same city in which is located the Chapter office unless otherwise shown in membership list.

Building Contractors

| | | |
|----------------------------|---|-------|
| Atkinson, J. F. | 1102 Story Bldg., VAndike | 7783 |
| Baruch Corp., Herbert M. | 1015 Lincoln Bldg., TRinity | 5473 |
| Baum Co., H. W. | 815 Central Bldg., VAndike | 2696 |
| Bavin & Burch Co. | 173 E. Jefferson St., ADams | 6175 |
| Bradley Constr. Co., K. R. | 1833 West Pico, WAsington | 2786 |
| Burgin, W. Jay | 1100 Redondo Ave., Long Beach, L. B. | 81103 |
| Byerts & Dunn | 7908 Santa Monica Blvd., CRestview | 9602 |
| Clinton Construction Co. | 1103 Spring Arcade Bldg., MAdison | 2597 |
| Crowell, Wm. C. | 495 S. Bdwy., Pasadena, WAKEfield | 6692 |
| Crowell Co., Weymouth | 2104 E. 15th St., WEstmore | 5708 |
| DeCamp-Hudson Co., Ltd. | 1277 W. 24th St., WEstmore | 3382 |
| Escherich Bros. | 234 W. 37th Place, ADams | 6294 |
| Hall, J. F. | 531 Douglas Bldg., MUTual | 6722 |
| Houghton & Anderson | 143 Rose St., MUTual | 5430 |
| K. P. Lowell & Co., Ltd. | 606 Union Bank Bldg., VAndike | 4072 |
| Lynch-Cannon Engr. Co. | C. C. Chapman Bldg., VAndike | 2807 |
| Lynch Construction Co. | 730 East Gage Ave., TWinoaks | 1393 |
| Macdonald & Driver | 311 Board of Trade Bldg., TUCKer | 6467 |
| McKee, Robert E. | 1128 Central Bldg., TRinity | 0291 |
| Miller, Geo. E. | 401 N. Canon Dr., B. H., OXFord | 7404 |
| Simpson Construction Co. | 1007 Architects Bldg., MUTual | 7261 |
| Snell, Fred C. | 339 N. Beverly Dr., Beverly Hills, OXFord | 6409 |
| Willard-Brent Co. | 254 E. 27th St., RIchmond | 2101 |

Bridges, Foundations

| | | |
|---------------------------|--------------------------------|-------|
| Ledbetter Co., W. M. | Box 1264, Arcade St., CApitol | 13415 |
| Oberg Brothers | 3470 Hollenbeck Ave., ANGelus | 6503 |
| Raymond Concrete Pile Co. | 1008 Washington Bldg., VAndike | 6536 |

Highways, Paving, Grading

| | | |
|--------------------------|--|--------|
| A. A. Alexander | 1721 E. 20th St., WEstmore | 2553 |
| Basich Bros. | Torrance, Gardena | 446 |
| Bock, Geo. J. | 1007 S. Harvard, EEmpire | 7614 |
| Donovan & Sons, J. G. | 4031 Goodwin Ave., OLYmpic | 0423 |
| Ferry, Peter L. | San Fernando Rd. and Bdwy., Glendale, OL | 0164 |
| Fleming Construction Co. | Pomona | |
| General Engineering Co. | 740 S. Broadway, TRinity | 9381 |
| Griffith Company | L. A. Railway Bldg., WEstmore | 9343 |
| Hall-Johnson Co. | P. O. Box 387, Alhambra, Eliot | 1855 |
| Herz & Co., Geo. | 310 Platte Bldg., San Bernardino, S. B. | 241-42 |
| Heuser, Chas. U. | 316 Allen Ave., Glendale, DOUGlas | 3965 |
| Hudson, Chas. H. | 408 Rives-Strong Bldg., VAndike | 3374 |
| Jahn & Bressi | 701 Lane Mortgage Bldg., TRinity | 8674 |
| Lang Transportation Co. | 5501 Santa Fe Ave., JEFerson | 3104 |
| Lewis Construction Co. | 300 S. Juanita St., WAsington | 1407 |
| Packard & Tanner | 905 W. Latham St., PHOenix, Ariz. | |
| Pearson & Dickerson | 4485 Cypress, Riverside, 1600 | |
| Ross, M. S. | 4011 Goodwin Ave., CApitol | 7603 |
| Southwest Paving Co. | 806 Washington Bldg., TUCKer | 9288 |
| Wells & Bressler | P. O. Drawer K, Santa Ana, 227 | |
| Willas, C. C., & Sons | 2119 E. 25th St., LAfayette | 9826 |

Pipe Lines, Water Works

| | | |
|----------------------------|---------------------------------|------|
| American Concrete Pipe Co. | P. O. Box 1428, Arcade Sta., JE | 4211 |
| Haverty Co., Thos. | 316 E. 8th St., VAndike | 1171 |

Subways, Conduits

| | | |
|------------------------|------------------------------|------|
| Delta Construction Co. | 12421 Alameda St., LAfayette | 7989 |
| Lake, Frank S. | 1761 N. Indiana St., ANGelus | 1290 |

General Engineering

| | | |
|--------------------------------|-------------------------------------|------|
| Atkinson, Lynn S. | 609 S. Grand, TRinity | 7451 |
| Bartmus, Peter | Hollywood Riviera, Redondo, Redondo | 6404 |
| Bent Bros., Inc. | 418 S. Pecan S., ANGelus | 7510 |
| Campbell-Reichert Co. | 4000 Whiteside Ave., ANGelus | 0598 |
| Cox, R. L. | 1100 Westminster, ALhambra | 1699 |
| Emsco Conc. Cutting Corp. | 1517 Santa Fe Ave., VAndike | 7168 |
| Fitz-Gerald Eng. & Constr. Co. | 216 Rowan Bldg., TRinity | 5088 |
| Kemper, Geo. W. | 3701 Overland, Culver City | 4352 |
| Kempner Const. Co., Ltd. | 3701 Overland, Culver City | 4352 |
| Macco Construction Co. | Hynes, JEFerson | 1148 |
| Merritt-Chapman Scott Corp. | P. O. Box 507, San Pedro, 2880 | |
| Mittry Bros. Construction Co. | 722 Detwiler Bldg., VAndike | 0210 |
| Robinson-Roberts Co. | 706 Rives-Strong Bldg., TRinity | 2889 |
| Spicer, C. A. | 818 Financial Center Bldg., TUCKer | 9570 |
| Standard Dredging Co. | 325 Central Bldg., TRinity | 3253 |
| Star House Movers, Inc. | 2230 Silver Lake Ave., OLYmpic | 1976 |
| Watson, R. A. | 1026 N. McCadden Pl., GRANite | 4121 |

Affiliates

| | | |
|------------------------------|---------------------------------------|-------|
| Brashears & Co., G. | 501 Security Bldg., TRinity | 5091 |
| Consolidated Rock Prod. Co. | 656 S. Los Angeles St., TRinity | 0241 |
| Gilmore Oil Co. | 2423 E. 26th St., JEFerson | 1211 |
| Graham Brothers | 1215 W. 7th St., Long Beach, L. B. | 65251 |
| Hartford Accident & Ind. Co. | 548 S. Spring St., MAdison | 1471 |
| L. A. Brick Co. | 1078 Mission Road, ANGelus | 5684 |
| Sun Lumber Co. | Crescent Drive, Beverly Hills, OXFord | 6191 |
| Union Oil Co. | Union Oil Bldg., TUCKer | 7211 |

ALAMEDA COUNTY CHAPTER

354 Hobart St., Rm. 410—GLencourt 7400—Oakland, Calif.

S. G. Johnson, President

H. J. Christensen, Treasurer

Geo. J. Maurer, Vice-President

W. E. Hague, Manager

| | | |
|---------------------------|----------------------------------|------|
| Brennan, J. P. (B) | 2820 Regent, Berkeley, BE | 0346 |
| Christensen, H. J. (B) | 1924 Broadway, Oakland, LA | 7164 |
| DeVelbiss, C. Dudley (B) | 369 Pine St., S. F., CA | 3225 |
| Dyer Construction (B) | 337 17th St., Oakland, CL | 3203 |
| Furlong, Thos. H. L. (B) | 460 Jerome Ave., Piedmont, HU | 0620 |
| Jacobs & Pattiani (BP) | 337 17th St., Oakland, CL | 3203 |
| Johnson, S. G. (B) | 4652 Dolores Ave., Oakland, FR | 6650 |
| Keating, W. C. (B) | 4209 Mountain Blvd., Oakland, AN | 1361 |
| Lesure, E. T. (B) | 87 Ross Circle, Oakland, OL | 0389 |
| Littlefield, R. W. (B) | 337 17th St., Oakland, HI | 0994 |
| Lyons, W. E. (B) | 354 Hobart SST., Oakland, HO | 5325 |
| Maurer, George J. Co. (B) | 50 York Drive, Oakland, HU | 3457 |
| Nordstrom, David H. (B) | 354 Hobart St., Oakland, GL | 7400 |
| Pedgrift, James H. (B) | 4106 Broadway, Oakland, HU | 1300 |
| Petersen, George (B) | 1841 Bancroft, San Leandro, TR | 2043 |
| Petersen, James B. (B) | 4021 Agua Vista, Oakland, FR | 9887 |
| Schultz, Herbert (B) | 811 Mendocino, Berkeley, AS | 2360 |
| Sullivan & Sullivan (B) | 2653 Best Ave., Oakland, AN | 4724 |
| Thornally, W. C. (B) | 354 Hobart St., Oakland, GL | 8476 |
| Westlund, Fred J. (B) | 354 Hobart St., Oakland, CL | 7400 |

Class of Construction: (B) Building; (H) Highway; (P) Public Works; (R) Railroad.

Associate Members

| | | |
|-------------------------------------|---------------------------|------|
| Berkeley Building Materials Co. | Masonic and Brighton, BE. | 2280 |
| Central Building Material Co. | 915 Antonio, TR. | 9326 |
| Contra Costa Building Materials Co. | 808 Gilman St., BE. | 3462 |
| Cowell, Henry, Lime & Cement Co. | 81 Franklin, HI. | 3398 |
| Davis Co., Jas. A. | 517 Fairmont, BE. | 9360 |
| Lannom Bros. Mfg. Co. | 2nd and Washington, LA. | 6500 |
| Makin & Kennedy, Inc. | 101 Fourth St., HO. | 0626 |
| Melrose Building Materials Co. | Tidewater Ave., FR. | 5787 |
| Oakland Building Material Co. | 5000 Broadway, HU. | 6500 |
| Oakland Planning Mill Co. | 2nd and Washington, LA. | 5503 |
| Pacific Coast Aggregates, Inc. | Broadway and Water, HI. | 0770 |
| Powell Bros., Inc. | Harrison and Pearl, AL. | 0630 |
| Sunset Lumber Co. | 400 High St., AT. | 1000 |
| Tilden Lumber Co. | Foot of 2500 Peralta, TE. | 0697 |
| Transite Concrete Co. | Foot of 2500 Peralta, TE. | 0720 |

SAN DIEGO CHAPTER

Spreckels Theater Bldg.—Main 4289—San Diego, Calif.

R. E. Hazard, President M. A. Mathias, Manager
Fred Jarboe, Vice-President

| | | |
|--------------------------------|---------------------------------------|--------|
| Carroll, B. G. | 4396 Maryland St., Hillcrest | 5274-M |
| Daley Corp., (HP) | 3430 Boundary St., Randolph | 1136 |
| Dennis Constr. Co., V. R. (HP) | Box 183, Sta. A, Hillcrest | 8293 |
| Ford, E. Paul (HP) | Box 201, E. San Diego, Arden | 5101 |
| Golden, M. H. (B) | 404 California Bank Bldg., Franklin | 7983 |
| Grove, Cecil B. (HP) | 4319 Ivelave Ave., Franklin | 7474 |
| Hazard Constr. Co., R. E. (HP) | 2508 Kettner Blvd., Franklin | 6315 |
| Jarboe Constr. Co. (B) | 208 Spreckels Theatre Bldg., Franklin | 3792 |
| Kier Const. Co., W. E. (B) | First National Bank Bldg., Main | 2427 |
| Larsen, B. C. (B) | 1340 E. St., Main | 4252 |
| Pacific Const. Co. (HP) | Box 601, E. San Diego, Main | 2295 |
| Penick & Sons, T. B. (HP) | 3075 L St., Main | 4582 |
| Stroud Bros. & Seabrook (HP) | P. O. Box 158, La Mesa | 3391 |
| Watson & Sutton (HP) | P. O. Box 396, Hillcrest | 8749 |

NORTHERN CALIFORNIA CHAPTER

206 Sansome St.—Garfield 7107—San Francisco, Calif.

C. W. Wood, President Geo. G. Pollock, Vice-President
Floyd O. Booe, Secretary-Manager

| | | |
|-------------------------------------|--|--------|
| Atkinson, Lynn S. (HP) | 1316-17 Edwards & Wilbey Bldg., L. A., Tr. | 7451 |
| Daleyn, Guy F. Co., Inc. (BHP) | 601 Russ Bldg., S. F., Sut. | 3629 |
| Ball, N. M. (HP) | 1889 Yosemite Rd., Berkeley, AS. | 6272 |
| Basalt Rock Co., Inc. (H) | 900 8th St., Napa, Napa | 105 |
| Bechtel Co., W. A. (BHP) | 155 Sansome St., S. F., Ga. | 0780 |
| Evandam, M. J. (HP) | 219 Elks Bldg., Stockton | 7470 |
| Bishop, E. B. (HP) | 900 Forum Bldg., Sacramento, Capitol | 2500 |
| Bendhamer Const. Co. | Box 643, 54 Hobart St., Oakland | 4420 |
| Cliff. Const. Co. (BHP) | 715 Standard Oil Bldg., S. F., DO. | 4820 |
| Casson, Jack A. (HP) | Hayward, Calif., Hayward | 556 |
| Carr & Henry Const. Co. (HP) | 364 Market St., S. F., DO. | 4252 |
| Colley, W. C. | 35 Northampton Ave., Berkeley, Ashbury | 1323 |
| Conner, J. L. (HP) | P. O. Box No. 86, Monterey | 1137-M |
| Connolly, T. E. (BHP) | 461 Market St., S. F., Kearny | 6408 |
| Conyes, R. A. (HP) | 1043 28th St., Oakland, Olym. | 9391 |
| Currie, James (BHP) | 1100 Peninsula Ave., Burlingame, Burl. | 3447 |
| Delin, C. M. (HP) | 206 Sansome St., San Francisco, Gar. | 7107 |
| Dodge Bros., Inc. (HP) | Fallon, Nevada, Main | 1761 |
| Clark, A. D., Jr. (HP) | Fallon, Nevada, Min. | 1348 |
| Eaton & Smith (HP) | 715 Ocean Ave., San Francisco, DE. | 6700 |
| Fairbanks, A. J. & J. L., Inc. (HP) | Linden Ave., So. S. F. | 436 |
| Fitzmaurice, J. H. (HP) | 2857 Hannah St., Oakland, Higate | 2490 |
| French Construction Co. (HP) | 70 Bellevue, Piedmont | 9391 |
| Frederickson Bros. (BHP) | First Natl. Bank Bldg., Stockton | 5974 |
| Frederickson & Watson Const. (BPHR) | Bldr. Ex. Oak., GL. | 7517 |
| French, George J., Jr. (HP) | P. O. Box No. 675, Stockton | 6676 |
| Gerwick, Ben C., Inc. (HP) | 112 Market St., S. F., SU. | 8454 |
| Granite Construction Co. (BHP) | Watsonville, California, | 988 |

PACIFIC NORTHWEST BRANCH

West 515 First Avenue—Main 6822—Spokane, Wash.

O. J. AMBERG, President J. C. COMPTON, Vice-President G. D. LYON, Treasurer
JAMES MURDOCK, Vice-President DAN HANNAH, Rec. Secretary J. M. CLIFTON, Vice-Pres. and Secretary

PORTLAND CHAPTER

Multnomah Hotel Lobby—Atwater 7883—Portland, Ore.

J. C. Compton, President Ross B. Hammond, 2nd Vice-President
Paul L. Crooks, 1st Vice-President J. A. Lyons, Treasurer
G. B. Herington, Executive Secretary

| | | |
|-------------------------------|---------------------------|------|
| Anderson Construction Co. | 682 E. 69th St., N., Car. | 0474 |
| Andrews Construction Co. (BH) | 102 N. Broadway, Br. | 5321 |
| Atkinson, Guy F. & Co. (BHP) | Yeon Bldg., Atw. | 3961 |
| Badrudin, J. (HP) | 681 E. 42nd St. N., Car. | 3945 |
| Baker Construction Co. (B) | 202 Multnomah Hotel, Atw. | 7441 |
| Christensen, Fred, Inc. (BHP) | 187 E. 34th St., Ea. | 8933 |

Class of Construction: (B) Building; (H) Highway; (P) Public Works; (R) Railroad.

| | | |
|---------------------------------------|--|--------------------|
| Hanrahan Co. (HP) | Hobart Bldg., San Francisco, CA. | 1639 |
| Healy-Moore Co. (HP) | 344 High St., Oakland, AN. | 0466 |
| Hemstreet & Bell (HP) | 411 E. 2nd St., Marysville | 433 |
| Hodgman & MacVicar (HP) | 714 Plymouth, Pasadena, Tr. | 1563 |
| Holland, J. P., Inc. (HP) | 1834 McKinnon Ave., S. F., MI. | 5400 |
| Isbell Const. Co. (HP) | Carson City, Nev., Ph. | 1754 (Also Fresno) |
| Jenkins, M. A. (HP) | 3560 Y St., Sacramento Capital | 472 |
| Jones & King (HP) | Hayward, Calif. | |
| Kaiser Paving Co. (BHP) | Latham Square Bldg., Oak., HI. | 2614 |
| Kern & Kibbe (HP) | 290 E. Salmon St., Portland, Ore., East | 4116 |
| Knapp, J. F. (HP) | 916 Financial Center Bldg., Oak., GL. | 1620 |
| Larsen Bros. (HP) | Galt, Calif. | |
| Lee, V. B. (HP) | 10059 Carpenter St., San Leandro, Sweet. | 171 |
| Le Tourneau, R. (HP) | 122 Moss Ave., Stockton | 911 |
| Lord & Bishop (HP) | Native Sons Bldg., Sacramento, Main | 398 |
| Lovelace, Nate (HP) | 3433 "N" St., Sacramento, Capital | 1990 |
| McDonald, D. (HP) | 204 23rd St., Sacramento, Cap. | 1866 |
| McGillivray Const Co. (HP) | Box 927, Sacramento, Capital | 2170 |
| McMillan, W. K. (HP) | 2088 Howard St., San Francisco, MA. | 3876 |
| Mercer-Fraser Co. (BHP) | Eureka, Eureka | 808 |
| Nevada Contracting Co. (HP) | Fallon, Nevada, Phone | 1851 |
| Nevada Rock & Sand Co. (HP) | Renov, Nevada, Reno | 5291 |
| Nightbert, Fred W. (HP) | No. 10 "H" St., Bakersfield | |
| Phillips Co., John (HP) | 582 Market St., San Francisco, KE. | 4471 |
| Pollock Co., Geo. (HP) | Forum Bldg., Sacramento, Main | 1457 |
| Skeels & Graham Co. (HP) | P. O. Box 576, Roseville, Calif. | |
| Siens Helmers, Inc. (BHP) | San Francisco, S. F., DA. | 5255 |
| Six Companies, Inc. (BHP) | Financial Center Bldg., S. F., GA. | 942 |
| Tedford, J. N. (HP) | Fallon, Nevada, Main | 461 |
| Teichert, A. & Son, Inc. (HP) | 1846 37th St., Sacramento, Main | 6586 |
| Tieslau Bros. (HP) | 2819 Grove St., Berkeley, BE. | 7709-J |
| Ulrich Const. Co., Geo. J. (BHP) | Modesto, Modesto | 921 |
| Valley Paving & Construction Co. (HP) | 405 Bank of America Bldg., Fresno, | 3-7418 |
| Von der Heilen & Pierson (HP) | Castaic, Calif. | |
| Ward Eng. Co. (HP) | 315 Montgomery St., S. F., DA. | 3984 |
| Wood, C. W. (HP) | P. O. Box 1435, Stockton, | 8743 |
| Young, Clarence (HP) | 3250 Broadway Ter., Oakland, LO. | 3743 |
| Young & Son Co., Ltd. (HP) | 599 Colusa Ave., Berkeley, Berk | 5551 |

Associate Members

| | |
|--|--|
| American Bitumuls Co. (Bitumuls Co.) | 200 Bush St., San Francisco |
| Anderson Bros. Supply Co. (Commissary) | Boulder City, Nev. |
| Andrews, F. T., Co. (C. P. A.) | 1650 Russ Bldg., S. F., GA 7712 |
| Associated Oil Co. (Asso. Prod.) | 79 N. Mont'y St., S. F., KE. 4800 |
| Austin Western Road Machinery Co. (Road Machinery) | 435 Brannan St., San Francisco, DO. 2183 |
| Autocar Sales & Service Co. (Autocar Trucks) | 326 Howard, S. F. |
| Bacon, Edward R., Co. (Road Machinery) | Folsom & 17th Sts., S. F. |
| Blake Bros. Co. (Crushed Rock) | Balboa Bldg., San Francisco |
| Calaveras Cement Co. | 315 Montgomery St., San Francisco |
| Calif. Corr. Culvert Co. (Corr. Pipe) | 5th & Parker, W. Berkeley |
| Caterpillar Tractor Co. (Tractors) | San Leandro |
| Cement Gun Construction Co. (Cement Guns) | 58 Sutter St., S. F. |
| Contractors Insurance Agency (Insurance) | 206 Sansome St., S. F. |
| Cowell Lime & Cement Co. (Cement) | 2 Market St., San Francisco |
| Davis, Norris K. (Equipment) | 400 7th St., San Francisco |
| Garfield & Co. (Equipment) | Hearth Bldg., San Francisco |
| Geiger Iron Works (Equipment) | P. O. Box 423, Stockton |
| Granite Rock Co. (Crushed Rock) | Watsonville |
| Harneschfeger Sales Corp. (Equip.) | 82 Beale St., San Francisco |
| Harron, Rickard & McCone Co. (Equip.) | 1600 Bryant St., S. F. |
| Link-Belt Co. (Equip.) | 400 Paul Ave., San Francisco |
| Murray & Ready (Labor Agency) | 784 Howard St., S. F. |
| Northwest Engineering Co. (Northwest Shovels) | 23 Main St., S. F. |
| Pacific Coast Aggregates | 700 Wells Fargo Bldg., S. F., DA. 7210 |
| Pacific H. B. A. Steel Co., Inc. | 540 Brannan St., San Francisco |
| Pacific Portland Cement Co. (Golden Gate) | Hunter Dulin Bldg., S. F. |
| Pland-Evans (Commissary) | Merchants Ex. Bldg., S. F., GA. 5923 |
| Robinson Tractor Co. (Caterpillar Tractors) | 1705-09 E. 12th, Oak. |
| Santa Cruz Portland Cement Co. (Santa Cruz) | Crocker Bldg., S. F. |
| Shell Co. (Shell Products) | 2 Bush St., San Francisco |
| Soule Steel Co. (Reinforcing Steel) | 1750 Army St., San Francisco |
| Spears-Wells Machinery Co. | 9th and Cedar Sts. Oakland |
| Standard Oil Co. of Calif. (Stand. Prod.) | Standard Oil Bldg., S. F. |
| Union Oil Co. of Calif. (Union Products) | L. A. and S. F. |
| United Commercial Co., Inc. | San Francisco |

| | | |
|-------------------------------------|---------------------------------|------|
| Cochrane Construction Co. (HP) | 65th & Ainsworth, Tr. | 5944 |
| Compton, J. C. (HP) | McMinnville, Ore., McM. | 106 |
| Crooks, P. L., Inc. (HP) | Henry Bldg., Atw. | 7767 |
| Dann, J. J. (HP) | 424 Third St., Atw. | 5837 |
| Dougan-Hammond Constr. Co. (B) | 307-8 Stueck Bldg., Bea. | 4444 |
| Douglas, A. R. (HP) | Kalispel, Montana | |
| Edelsen-Weygandt Co. (HP) | Foot of Jefferson, Atwater | 4090 |
| Enrico, Wm. (HP) | Yachato, Oregon | |
| Gates, E. L. (HP) | Worcester Bldg., Atw. | 6220 |
| Gilpin Construction Co. (HP) | Worcester Bldg., Atw. | 6220 |
| Grays Harbor Constr. Co. (BHP) | Hoquiam, Wash. | |
| Greenwood, A. C. (HP) | 500 N. Front St., Br. | 3030 |
| Griffin, P. C. (BHP) | 826 E. Caruthers, Lan. | 2479 |
| Guthrie & Co., A., Inc. (BHP) | 532 Sherlock Bldg., Atw. | 8316 |
| Hammond, Ross B. (B) | 1312 Public Service Bldg., Atw. | 2159 |
| Hauser Bros. Construction Co. (PHR) | Multnomah Hotel, Atw. | 7441 |

| | |
|--------------------------------------|---|
| Hoffman, L. H. (BP)..... | Public Service Bldg., Atw. 3181 |
| Jacobsen Construction Co. (BP)..... | McKay Bldg., Atw. 5027 |
| Jacobsen-Jensen Co. (PH)..... | 407 Stanton, Gar. 5027 |
| Johnson Contract Co. (HPR)..... | 414 Exchange Bldg., Atw. 6078 |
| Johnson-Gardner Co. (HPR)..... | 414 Exchange Bldg., Atw. 6078 |
| Kern & Kibbe (HPR)..... | 290 E. Salmon St., Ea. 4116 |
| Kuckenberg & Wittman (BPR) 226 | Board of Trade Bldg., Br. 1909 |
| La Pointe Constr. Co..... | 629 E. 54th St. N. Gar. 8312 |
| Lindstrom & Feigenson (BPHR) 421 | Rlyw. Exch. Bldg., Atw. 2662 |
| Lyons, J. A. (BPHR)..... | 1001 Halsey St., Tr. 2841 |
| McCarter Bros. (BPHR)..... | 201 Worcester Bldg., Atw. 6444 |
| Midstate Contract Co. (HP)..... | Box 33, Yakima, Wash. |
| Milne & Dussault (PH)..... | 1853 E. Broadway, Tab. 7277 |
| Morrison & Knudsen (BHPR)..... | 319 Broadway, Boise, Idaho |
| Morgan, T. M. (H)..... | 516 Edwards & Wilbey Bldg., Los Angeles |
| Morgan Trucking Co. (BPHR)..... | 391 E. 6th St., Gar. 1822 |
| Newport Construction Co. (PHR)..... | 317 Exchange Bldg., Atw. 7209 |
| Pacific Bridge Co. (BPHR)..... | Ft. of E. Salmon St., Ea. 2164 |
| Parker & Banfield (BP)..... | 984 E. 17th St., Sel. 6182 |
| Parker-Schram Co. (PHR)..... | Couch Bldg., Atw. 4375 |
| Peck, E. C. & Co. (PH)..... | Orain, Oregon |
| Puckett, W. H. Co. (PHR)..... | 319 Broadway, Boise, Idaho |
| Quinn, Sandebug, Elk & Lind (P)..... | 1180 Sandy Blvd., Tr. 7564 |
| Quinn, J. L. (B)..... | Box 1107, Klamath Falls, Ore. |
| Rehman, J. (PH)..... | 343 Vancouver Ave., Tr. 7823 |
| Robertson, Hay & Wallace (B)..... | 605 Weatherly Bldg., Ea. 3613 |
| *Saxton & Looney..... | Corvallis, Ore. |
| Seed, John S. (B)..... | 201 Worcester Bldg., Atw. 6444 |

| | |
|-----------------------------------|-------------------------------|
| Nelson, Herman..... | 593 Glenn Ave. N., Gar. 2508 |
| Nilson, Emil..... | 449 E. 48th N., Tr. 6433 |
| Quigley, Wm..... | 56 E. 52nd, Tab. 9057 |
| Ryan, Wm. F..... | 1211 E. Kelly St., Tab. 1860 |
| Schenk, J. J..... | 5830 36th Ave. SE., Sun. 7865 |
| Schmitt, H. A..... | Worcester Bldg., Atw. 6444 |
| Seed, J. S., Honorary Member..... | 755 Irving, Bea. 3673 |
| Stuart, Peter..... | 567 E. 35th St. N., Tr. 1579 |
| Twitshell, P. A..... | 461 E. 48th N., Tr. 7206 |
| Winship, T. B..... | 1040 Minnesota, Univ. 0904 |
| Henkel-Shackelford..... | 353 E. Burnside |
| V. D. Rorem..... | 211 Sandy Blvd. |
| L. L. Hickok..... | 201 Worcester Bldg. |
| Fred Sandstrom..... | 445 Multnomah |
| C. W. Christiansen..... | |

SPOKANE CHAPTER

West 515 First Avenue—Main 6822—Spokane

| | |
|---------------------------------------|-------------------------------|
| Louis Larson, President..... | S. W. True, Vice-President |
| G. A. Anderson, Vice-President..... | Dan Hannah, Secty.-Treas |
| Alloway & Georg (B)..... | Hutton Bldg. |
| Applegate, W. E. (H)..... | 7 Buckingham Apts., Salt Lake |
| Auld & Shinn (B)..... | 1121 Indiana |
| Boudrye, Sam R. (H)..... | Seward, Alaska |
| Byers, W. A. (H)..... | 1118 Ide Ave. |
| Clifton, Applegate & Toole (HPR)..... | W. 1204 Mansfield |
| Collins, J. H. & Co. (H)..... | Colville, Wash. |
| Colonial Building Co. (BH)..... | Hutton Bldg. |
| Crick, James (H)..... | Realty Bldg. |
| Degerstrom, N. A. (HPR)..... | Peyton Bldg. |
| Edwards, J. E. (H)..... | S. 1423 Adams |
| Geist, W. L. (H)..... | W. 444 23rd Ave. |
| Gumaer, Robt. M. (H)..... | Copeland, Idaho |
| J. T. Halin..... | Fun Life Bldg. |
| Hansen Construction Co..... | W. 1517 Jackson |
| Harding, Geo. (H)..... | walla Walla, Wash. |
| Hargrave Construction Co. (H)..... | W. 418 Twentieth |
| Hewett, R. R. (H)..... | W. 420 Twenty-second |
| Huetter Construction Co..... | N. 1101 Division |
| Joslin & McAllister (H)..... | Realty Bldg. |
| Kuncy, Max J. (H)..... | Hutton Bldg. |
| Lafferty, A. B. (H)..... | Coeur d'Alene, Idaho |
| Larson Bros. (B)..... | Hyde Bldg. |
| Lohrenz, J. J. (B)..... | Paulsen Bldg. |
| Long, Oliver J. (H)..... | W. 1924 Mansfield |
| Lyons & Rice (H)..... | W. 503 Fourteenth |
| March Construction Co..... | W. 1313 First |
| Martin, F. E. (B)..... | N. 1220 Ide |
| McLellan, A. (B)..... | E. 932 Ermina |
| Medby, M. C. (B)..... | S. 3614 Arthur |
| Meyers, W. C. (B)..... | S. 2217 Iekoa St. |
| Morin, S. C. (B)..... | 231 Waverly Pl. |
| Norman, Nick (B)..... | Realty Bldg. |
| Nyberg, Carl (H)..... | Realty Bldg. |
| Orino, Sam (H)..... | S. 1703 Grand |
| Powell, C. A. (H)..... | W. 1118 Ide |
| Siems, Spokane Co. (BPHR)..... | Chronicle Bldg. |
| Standard Asphalt Paving Co. (HP)..... | 511 Sound Ave. |
| Terteling, J. A., & Sons (HP)..... | W. 1904 2nd Ave. |
| Tobin, James, & Son (H)..... | N. 1220 Ide |
| Triangle Construction Co. (H)..... | N. 119 Wall |
| True-House Construction Co. (B)..... | S. 2008 Oneida |
| Webster, E. A., & Co. (HPR)..... | W. 1703 Cleveland |
| Young, Peter J. (B)..... | |

Associate Members Portland Chapter

| | |
|--|----------------------------------|
| Balzer Machinery Co..... | 275 Pine St., Atw. 9391 |
| Beall Pipe & Tank Co..... | 85 Columbia Blvd., Wa. 3171 |
| Bitumuls Asphalt Paving Co..... | 210 Thompson St., Tr. 9393 |
| Cascade Investment Co..... | 309 E. Main St., Ea. 8315 |
| Clyde Equipment Co..... | 555 Thurman St., Br. 0885 |
| Columbia Brick Works..... | 301 E. Madison, Ea. 1101 |
| Concrete Pipe Co..... | 169 Thompson St., Tr. 1164 |
| Electric Steel Foundry..... | 475 N. 24th St., Bea. 6344 |
| Feenaughty Machinery Co..... | 309 E. Yamhill, Ea. 2187 |
| Grand Sheet Metal Works..... | 60 E. Third N., Ea. 2181 |
| Howard Cooper Corporation..... | 361 Hawthorne, Ea. 8188 |
| Latture, J. L. Equip. Co..... | 312-314 E. Madison St., Ea. 8166 |
| Loggers & Contractors Machy. Co..... | 345 E. Madison St., Ea. 4128 |
| McCraken-Ripley Co..... | 65 Albina Ave., Wal. 7650 |
| McMillan, A. Co..... | 350 E. Ankeney, Ea. 0178 |
| Metropolitan Casualty Ins. Co., The..... | Wilcox Bldg., Atw. 7521 |
| Noble Hospital Assn..... | 400 Mohawk Bldg., Atw. 8291 |
| Nicolaï-Neppach Co..... | 227 Davis St. Berk. 0685 |
| Oregon City Sand & Gravel Co..... | Oregon City, Oregon |
| Oregon Portland Cement..... | 321 E. Madison, Ea. 3116 |
| Phoenix Iron Works..... | 360 Hawthorne, Ea. 0029 |
| Pomeroy, J. H., & Co..... | Box 48, Seattle, Wash. |
| Pure Iron Culvert & Mfg. Co..... | 763 Gladstone, Sel. 2275 |
| Rodgers, Hart, Banks..... | Railway Exch. Bldg., Atw. 8296 |
| Santa Cruz Portland Cement..... | 45 Fourth St., Atw. 0848 |
| Snow, L. A. & Co..... | 244 Union Ave., Ea. 6482 |
| Standard Oil Co..... | Pacific Bldg., Bea. 4161 |
| Steel Tank & Pipe Co..... | 404 Columbia Blvd., Wal. 2401 |
| Swigert, Hart & Yett..... | Ft. of E. Salmon St., Lan. 1125 |
| Union Oil Co. of California..... | P. O. Yeon Bldg., Atw. 9521 |
| Wallace Brick & Structural Steel..... | P. O. Box 48, Seattle, Wash. |
| Western Road Machinery Co..... | 22 E. Sheridan, At. 0221 |
| Zimmerman, Wells & Brown..... | Ft. of Water, At. 0221 |

Affiliated Builders Division, Portland Chapter

| | |
|--|------------------------------|
| Alt, Fred W..... | 1118 Mallory Ave., Wal. 2083 |
| Allyn, B. T..... | 7 E. 60th St. N., Tab. 0194 |
| Blackman, D. R..... | 1140 Powell Blvd., Sel. 2400 |
| Carlson Construction Co..... | 310 Oak St. |
| Chandler Constr. Co., Wilson Bldg., E. 42d | & Sand Blvd., Tr. 8034 |
| Dewitt Building Co., Geo. W..... | 585 E. 41st N., Gar. 3412 |
| Duncan, J. A..... | 474 E. Eighth N. |
| East Side Building Co..... | 319 Railway Exchange Bldg. |
| Eklund, H. O..... | 1595 E. 20th N., Gar. 5512 |
| Goldenberg, G. C..... | Abington Bldg., Atw. 1675 |
| Goodridge, D. A..... | 449 E. 44th N., Tr. 9945 |
| Griffing, F. H., Director..... | 908 E. 23rd N., Gar. 7184 |
| Hubert, Russell S..... | Weatherly Bldg., Gar. 2828 |
| Irwin, A. H..... | 826 E. Lincoln, Lg. 1666 |
| Johnson & Neubert..... | 375 E. 52nd St., Tab. 7227 |
| Kiecher, Wm..... | 1170 Mallory Ave., Wal. 6223 |
| Knott & Rogers..... | 24 E. 81st St., Tab. 7214 |
| Krause, Rudolph K..... | 775 E. 14th N., Gar. 4902 |
| Leistner, C..... | 1444 Sandy Blvd., Gar. 8260 |
| Moore, J. Bryson..... | 353 E. Burnside |
| Murphy, John..... | |

Associate Members

| | |
|---|----------------------------------|
| Beall Pipe & Tank Corp..... | Realty Bldg. |
| Beardmore Transfer Line..... | S. 162 Post |
| Brandt Bros..... | W. 14 Main Ave. |
| Coeur d'Alene Hardware & Foundry..... | Wallace, Idaho |
| Commercial Importing Co..... | 617 Western Ave., Seattle, Wash. |
| Consolidated Supply Co..... | 1316 Old National Bldg. |
| Construction Equipment Co..... | 1118 Ide Ave. |
| Elmendorf-Anthony Co..... | Sherwood Bldg. |
| Feenaughty Machinery Co..... | N. 715 Division St. |
| W. P. Fuller..... | N. 725 Post St. |
| General Machinery Co..... | E. 3501 Riverside |
| Gladding-McBean & Co..... | 524 Old National Bldg. |
| Haywey Fuel Co..... | N. 740 Division St. |
| Hofus-Ferris Equipment Co..... | W. 728 Mallon |
| Holley-Nason Hardware Co..... | 1316 Old National Bldg. |
| International Portland Cement Co..... | 1124 Old National Bldg. |
| Jones & Dillingham Co..... | W. 715 First Ave. |
| Jones & Mitchell..... | Hutton Bldg. |
| Lehigh Portland Cement Co..... | 1316 Old National Bldg. |
| Long, Lake Lumber Co..... | N. 348 Wall St. |
| W. S. McCrea & Co..... | 212 Symons Bldg. |
| J. E. McGovern Co..... | 550 Peyton Bldg. |
| Not-Atwater Co..... | S. 157 Monroe St. |
| Old National Insurance Agency..... | Old National Bank Bldg. |
| L. A. Snow Co..... | 134 International Right-of-Way |
| Spokane Concrete Pipe Co..... | N. 2627 Dakota |
| Spokane Culvert & Tank Co..... | N. End Division Street Bridge |
| Spokane Woodworking Co..... | N. 1049 Atlantic |
| Union Iron Works..... | E. 217 Montgomery Ave. |
| Union Oil Co..... | 611 Chronicle Bldg. |
| Washington Brick, Lime & Sewer Pipe Co..... | S. 151 Washington St. |

Class of Construction: (B) Building; (H) Highway; (P) Public Works; (R) Railroad.

Associate Members

| | |
|-------------------------------------|-----------------------------------|
| Berkeley Building Materials Co. | Masonic and Brighton, BE. 2280 |
| Central Building Material Co. | 915 Antonio, TR. 9326 |
| Contra Costa Building Materials Co. | 808 Gilman St., BE. 3462 |
| Cowell, Henry, Lime & Cement Co. | 21 Franklin, HI. 3548 |
| Davis Co., Jas. A. | 517 Fairmont, BE. 9360 |
| Lannon Bros. Mig. Co. | 5th and Magnolia, GL. 3663 |
| Makin & Kennedy, Inc. | 101 Fourth St., HO. 6236 |
| Melrose Building Materials Co. | Tidewater Ave., FR. 5787 |
| Oakland Building Material Co. | 5000 Broadway, HJ. 6060 |
| Oakland Planning Mill Co. | 2nd and Washington, LA. 5503 |
| Pacific Coast Aggregates, Inc. | Broadway and Water, HI. 0770 |
| Tilden Bros., Inc. | Harrison and Pearl, AL. 0030 |
| Sunset Lumber Co. | Foot of University Ave., BE. 0697 |
| Twin Lumber Co. | Foot of University Ave., BE. 0697 |
| Transite Concrete Co. | 2500 Peralta, TE. 0720 |

SAN DIEGO CHAPTER

Spreckels Theater Bldg.—Main 4289—San Diego, Calif.

R. E. Hazard, President M. A. Mathias, Manager
Fred Jarboe, Vice-President

| | |
|--------------------------------|--|
| Carroll, B. C. | 4396 Maryland St., Hillcrest 5274-M |
| Daley Corporation (HP) | 4430 Boundary St., Randolph 1136 |
| Dennis Constr. Co., V. R. (HP) | Box 183, Sta. A, Hillcrest 8293 |
| Ford, E. Paul (HP) | Box 201, E. San Diego, Randolph 5501 |
| Golten, M. H. | 404 California 400 High St., An. 1008 |
| Grove, Cecil B. | 4316 Island Ave., Franklin 7434 |
| Hazard Constr. Co., R. E. (HP) | 2508 Kettner Blvd., Franklin 6175 |
| Jarboe Constr. Co. (B) | 208 Spreckels Theatre Bldg., Franklin 3792 |
| Kier Const. Co., W. E. (B) | First National Bank Bldg., Main 2427 |
| Larsen, B. O. (B) | 1340 E. St., Main 4272 |
| Miracle Const. Co. (HP) | Box 601, E. San Diego, Main 2295 |
| Penick & Sons, T. B. (HP) | 3075 L St., Main 4582 |
| Stroud Bros. & Seabrook (HP) | P. O. Box 158, La Mesa, 359 |
| Watson & Sutton (HP) | P. O. Box 396, Hillcrest 8741 |

NORTHERN CALIFORNIA CHAPTER

206 Sansome St.—Garfield 7107—San Francisco, Calif.

C. W. Wood, President Geo. C. Pollock, Vice-President
Floyd O. Booe, Secretary-Manager

| | |
|--------------------------------------|--|
| Atkinson, Lynn S. (HP) | 1316-17 Edley Bldg., A. Tr. 7451 |
| Atkinson, Guy F. Co., Inc. (BHP) | 601 Russ Bldg., S. F., Sut. 3629 |
| Ball, N. M. (HP) | 1889 Yosemite Rd., Berkeley, AS. 6722 |
| Basalt Rock Co., Inc. (H) | 900 8th St., Napa, Napa 105 |
| Bechtel Co., W. A. (BHP) | 152 Sansome St., S. F., CA. 0780 |
| Bevanda, M. J. (HP) | 404 California 400 High St., Franklin 7983 |
| Bishop, E. B. (HP) | 900 Forum Bldg., Sacramento, Capitol 2500 |
| Bodenhamer Const. Co. | Box 643, 354 Hobart St., Oakland Calif. Const. Co. (BHP) |
| Calson, Jack A. (HP) | 715 Standard Oil Bldg., S. F., DO. 4820 |
| Clark & Henry Const. Co. (HP) | 364 Market St., S. F., DO. 2903 |
| Colley, W. C. | 35 Northampton Ave., Berkeley, Ashbury 1323 |
| Conner, J. L. (BHP) | P. O. Box No. 86, Monterey 1137-M |
| Connolly, T. E. (BHP) | 461 Market St., S. F., Kearny 6408 |
| Conyes, R. A. (HPR) | 1043 38th St., Oakland, Olyn. 3991 |
| Currie, James (HPR) | 1100 Peninsula Ave., Burlingame, Burl. 4427 |
| Delin, C. M. (HPR) | 206 Sansome St., San Francisco, Gar. 7107 |
| Dodge Bros., Inc. (HP) | Fallon, Nevada, Main 1761 |
| Drum, A. D., Jr. (HP) | Hayward, Calif., Hayward 856 |
| Eaton & Smith (HPR) | 715 Ocean Ave., San Francisco, DE. 6700 |
| Fairbanks, A. J. & J. L., Inc. (HPR) | Linden Ave., So. S. F., 436 |
| Fitzmaurice, J. H. (HP) | 2857 Hannah St., Oakland, Higate 2490 |
| Force Construction Co. (HP) | 70 Bellevue, Piedmont, C-17 |
| Fredrickson Bros. (BHP) | First Natl. Bank Bldg., Stockton, 5974 |
| Fredrickson & Watson Const. (BPHR) | Bldr. Ex. Oak., GL. 7517 |
| French, George J., Jr. (HP) | P. O. Box No. 675, Stockton, 6676 |
| Gerwick, Ben G., Jr. (HP) | 112 Market St., S. F., SU. 8894 |
| Granite Construction Co. (BHP) | Watsonville, California, 988 |

PACIFIC NORTHWEST BRANCH

West 515 First Avenue—Main 6822—Spokane, Wash.

O. J. AMBERG, President J. C. COMPTON, Vice-President G. D. LYON, Treasurer
JAMES MURDOCK, Vice-President DAN HANNAH, Rec. Secretary J. M. CLIFTON, Vice-Pres. and Secretary

PORTLAND CHAPTER

Multnomah Hotel Lobby—Atwater 7883—Portland, Ore.

J. C. Compton, President Ross B. Hammond, 2nd Vice-President
Paul L. Crooks, 1st Vice-President J. A. Lyons, Treasurer
G. B. Herington, Executive Secretary

| | |
|-------------------------------|--------------------------------|
| Anderson Construction Co. | 682 E. 69th St., N., Gar. 0474 |
| Andrews Construction Co. (BH) | 102 N. Broadway, Br. 5321 |
| Atkinson, Guy F. & Co. (BHP) | Yeon Bldg., Atw. 3961 |
| Badraun, J. J. (HP) | 681 E. 42nd St. N., Gar. 3945 |
| Baker Construction Co. (B) | 202 Multnomah Hotel, Atw. 7441 |
| Christensen, Fred, Inc. (BHP) | 187 E. 34th St., Ea. 8934 |

| | |
|---------------------------------------|---|
| Hanrahan Co. (HP) | Hobart Bldg., San Francisco, CA. 1639 |
| Healey-Moore Co. (HP) | 34 High St., Oakland, AN. 0466 |
| Hemstreet & Bell (HP) | 411 "H" Street, Marysville, 433 |
| Hodgman & MacVicar (HP) | 714 Plymouth, Pasadena, Tr. 1563 |
| Holland, J. P., Inc. (HPR) | 1834 McKinnon Ave., S. F., MJ. 3400 |
| Hyatt Const. Co. (HP) | Carson City, Nev., Ph. 1754 (Also Fresno) |
| Jenkins, M. A. (HP) | 360 Y St., Sacramento, Cap. 472 |
| Jones & King (HPR) | Hayward, Calif. |
| Kaiser Paving Co. (BHP) | Latham Square Bldg., Oak., HI. 2614 |
| Kern & Kibbe (HPR) | 290 E. Salmon St., Portland, Ore., East 4116 |
| Knapp, J. F. (HPR) | 916 Financial Center Bldg., Oak., CA. 1620 |
| Larsen Bros. (HP) | Galt, Calif. |
| Lee, V. B. (HP) | 10059 Carpenter St., San Leandro, Sweet. 1717 |
| Letourneau, R. E. (HPR) | 122 Moss Ave., Stockton, 791 |
| Lord & Bishop (HPR) | Native Sons Bldg., Sacramento, Main 3981 |
| Lovelace, Nate (HP) | 3433 "N" St., Sacramento, Capital 1990 |
| McDonald, D. (HPR) | 204 23rd St., Sacramento, Cap. 1806 |
| McGillivray Const. Co. (HP) | Box 927, Sacramento, Capital 2170 |
| McMillan, W. K. (HP) | 2088 Howard St., San Francisco, MA. 3876 |
| Mercer-Fraser Co. (BHP) | Eureka, Eureka 808 |
| Nevada Contracting Co. (HPR) | Fallon, Nevada, Phone 1851 |
| Nevada Rock & Sand Co. (HP) | Reno, Nevada, Reno 5291 |
| Nightbird, Fred W. (HP) | No. 10 "H" St., Bakersfield |
| Phillips Co., John (HP) | 582 Market St., San Francisco, KE. 4471 |
| Pollock Co., Geo. (HPR) | Forum Bldg., Sacramento, Main 1457 |
| Speels & Graham Co. (HPR) | P. O. Box 576, Roseville, Calif. |
| Sierra-Helmrs, Inc. (BHP) | Rescomson St., S. F., DA. 9235 |
| Six Companies, Inc. (BHP) | Financial Center Bldg., S. F., Gar. 3842 |
| Tedford, J. N. (HP) | Fallon, Nevada, Main 461 |
| Teichert, A. & Son, Inc. (HP) | 1846 37th St., Sacramento, Main 6586 |
| McGillivray Const. Co. (HP) | 2819 Grove St., Berkeley, BE. 7709-J |
| Ulrich Const. Co., Geo. (BHP) | Modesto, Modesto 921 |
| Valley Paving & Construction Co. (HP) | 405 Bank of America Bldg., Fresno, 3-7418 |
| Von del Hellen & Pierson (HPR) | Castaic, Calif. |
| Ward Eng. (HP) | 315 Montgomery St., S. F., DA. 8984 |
| Wood, C. W. (HP) | P. O. Box 1435, Stockton, 8743 |
| Young, Clarence (HP) | 5250 Broadway Tr., Oakland, LO. 3743 |
| Young & Son Co., Ltd. (HP) | 599 Colusa Ave., Berkeley, Berk 5551 |

Associate Members

| | |
|--|--|
| American Bitumuls Co. (Bitumuls) | 200 Bush St., San Francisco |
| Anderson Bros. Supply Co. (Commissary) | Boulder City, Nev. |
| Andrews, F. T., Co. (C. P. A.) | 1650 Russ Bldg., S. F., CA. 7712 |
| Associated Oil Co. (Asso. Prod.) | 79 N. Mont'y St., S. F., KE. 4800 |
| Austin Western Road Machinery Co. (Road Machinery) | 433 Brannan St., San Francisco, DO. 2183 |
| Autocar Sales & Service Co. (Autocar Trucks) | 326 Howard, S. F. |
| Bacon, Edward R., Co. (Road Machinery) | Folsom & 17th Sts., S. F. |
| Blake Bros. Co. (Crushed Rock) | Balboa Bldg., San Francisco |
| Calvetas Co. (HP) | 315 Montgomery St., San Francisco |
| Calif. Corr. Culvert Co. (Corr. Pipe) | 5th & Parker, W. Berkeley |
| Caterpillar Tractor Co. (Tractors) | San Leandro |
| Cement Gun Construction Co. (Cement Guns) | 58 Sutter St., S. F. |
| Contractors Insurance Agency (Insurance) | 206 Sansome St., S. F. |
| Cowell Lime & Cement Co. (Cement) | 2 Market St., San Francisco |
| Davis, Norris K. (Equipment) | 400 7th St., San Francisco |
| Garfield & Co. (Equipment) | Hearth Bldg., San Francisco |
| Geiger Iron Works (Equipment) | P. O. Box 423, Stockton |
| Granite Rock Co. (Crushed Rock) | San Francisco |
| Harneschfeger Sales Corp. (Equip.) | 82 Beale St., San Francisco |
| Harron, Rickard & McCone Co. (Equip.) | 1600 Bryant St., S. F. |
| Link-Belt Co. (Equip.) | 400 Paul Ave., San Francisco |
| Murray & Ready (Labor Agency) | 784 Howard St., S. F. |
| Northwest Engineering Co. (Northwest Shovel) | 23 Main St., S. F. |
| Pacific Coast Aggregates | 700 Wells Fargo Bldg., S. F., DA. 7210 |
| Pacific H. B. A. Steel Co., Inc. | 540 Brannan St., San Francisco |
| Pacific Port Cement Co. (Golden Gate) | Hunter-Dulin Bldg., S. F. |
| Pland-Evans (Commissary) | Merchants Ex. Bldg., S. F., CA. 5223 |
| Robinson Tractor Co. (Caterpillar Tractors) | 1705-09 E. 12th, Oak. |
| Santa Cruz Portland Cement Co. (Santa Cruz) | Crocker Bldg., S. F. |
| Standard Oil (Portland Products) | 100 Bush St., San Francisco |
| Soule Steel Co. (Reinforcing Steel) | 1750 Army St., San Francisco |
| Spears-Wells Machinery Co. | 9th and Cedar Sts. Oakland |
| Standard Oil Co. of Calif. (Stand. Prod.) | Standard Oil Bldg., S. F. |
| Union Oil Co. of Calif. (Union Products) | L. A. and S. F. |
| United Commercial Co., Inc. | San Francisco |

Class of Construction: (B) Building; (H) Highway; (P) Public Works; (R) Railroad.

| | |
|------------------------------------|---|
| Hoffman, L. H. (BP) | Public Service Bldg., Atw. 3181 |
| Jacobson Construction Co. (BF) | McKay Bldg., Atw. 3027 |
| Jacobsen-Jensen Co. (PH) | 407 Stanton, Gar. 3313 |
| Johnson Contract Co. (HPR) | 414 Exchange Bldg., Atw. 0678 |
| Johnson-Gardner Co. (HPR) | 414 Exchange Bldg., Atw. 0678 |
| Kern & Kibbe (HPR) | 290 E. Salmon St., Ea. 4116 |
| Kuckenberg & Wittman (BPR) | 226 Board of Trade Bldg., Br. 1999 |
| La Pointe Constr. Co. | 629 E. 54th St. N., Gar. 8312 |
| Lindstrom & Feigenson (BPHR) | 421 Rlwy. Exch. Bldg., Atw. 2662 |
| Yons, J. A. (BPHR) | 1001 Halsey St., Tr. 2841 |
| McKoy Bros. (BPHR) | 201 Worcester Bldg., Atw. 6444 |
| Midstate Contract Co. (HP) | Box 33, Yakima, Wash. |
| Milne & Dussault (PH) | 1853 E. Broadway, Tab. 7277 |
| Morrison & Knudsen (BPHR) | 319 Broadway, Boise, Idaho |
| Morgan, T. M. (H) | 516 Edwards & Wiley Bldg., Los Angeles |
| Morrison Trucking Co. (BPHR) | 391 E. 6th St., Ea. 8327 |
| Newport Construction Co. (PHR) | 317 Exchange Bldg., Atw. 7209 |
| Pacific Bridge Co. (BPHR) | Ft. of E. Salmon St., Ea. 2164 |
| Parker & Banfield (BP) | 984 E. 17th St., Sel. 6182 |
| Parker Schram Co. (BPHR) | Couch Bldg., Atw. 4375 |
| Peck, E. C. & Co. (PH) | Drain, Oregon |
| Puckett, W. H. Co. (PHR) | 319 Broadway, Boise, Idaho |
| Purdin, Sandebug, Elk & Lind (P) | 1180 Sandy Blvd., Tr. 7564 |
| Quinn, J. L. (B) | Box 1107, Klamath Falls, Ore. |
| Rehman, J. (PH) | 343 Vancouver Ave., Tr. 7825 |
| Robertson, Hay & Wallace (B) | 605 Weatherly Bldg., Ea. 3613 |
| *Saxton & Looney | Corvallis, Ore. |
| Seed, John S. (B) | 201 Worcester Bldg., Atw. 6444 |
| Silbaugh, C. E. (BPH) | Honorary Member and Director of Chapter Burns, Ore. |
| Shea & Co., J. F. (PHR) | 211 Henry Bldg., Atw. 2435 |
| Stebinger Bros. (B) | Worcester Bldg., Atw. 6444 |
| Sullivan & Doyle (PHR) | Ft. of Curry St., Atw. 5297 |
| Traver, L. N. (B) | Box 104, Portland, Ore. |
| Umpqua Dredging & Constr. Co. (PH) | Reedsport, Ore. |
| United Contracting Co. (BPHR) | 309.10 Stock Ex. Bldg., Atw. 096 |
| von der Hellen & Pierson (HR) | Medford, Ore. |
| White, Ernest & Co. (B) | Twin Falls, Idaho |
| Wolfe, O. D. (HR) | Washougal, Wash. 9F2 |
| Wren & Greenough (PHR) | 1037 Ch. of Com. Bldg., At. 9882 |
| Wright Construction (BPH) | Arden, Wash. |
| Young, I. L. (BPH) | 524 Henry Bldg., At. 0097 |

Associate Members Portland Chapter

| | |
|-------------------------------------|----------------------------------|
| Balzer Machinery Co. | 275 Pine St., Atw. 9391 |
| Beall Pipe & Tank Co. | 85 Columbia Blvd., Wa. 3171 |
| Bitumuls Asphalt Sales Co. | 210 Thompson St., Tr. 1193 |
| Cascade Investment Co. | 309 E. Main St., Ea. 8375 |
| Clyde Equipment Co. | 555 Thurman St., Br. 0885 |
| Columbia Brick Works | 301 E. Madison, Ea. 1101 |
| Concrete Pipe Co. | 169 Thompson St., Tr. 1164 |
| Electric Steel Foundry | 475 N. 24th St., Bea. 6344 |
| Feanughty Machinery Co. | 305 E. Yamhill, Ea. 2187 |
| Nathan's Metal Works | 60 E. Third, Ea. 2181 |
| Howard Cooper Corporation | 361 Hawthorne, Ea. 8188 |
| Latture, J. L. Equip. Co. | 312-314 E. Madison St., Ea. 8166 |
| Loggers & Contractors Machy. Co. | 345 E. Madison St., Ea. 4128 |
| McCraken-Ripley Co. | 65 Albina Ave., Wal. 7650 |
| McMillan, A. Co. | 350 E. Ankeney, Ea. 0178 |
| Metropolitan Casualty Ins. Co., The | 763 Gladstone, Sel. 2275 |
| Nathan Hospital Assn. | 400 Mohawk Bldg., Atw. 5291 |
| Nicolai-Neppach Co. | 227 Davis St., Berk. 0685 |
| Oregon City Sand & Gravel Co. | Oregon City, Oregon |
| Oregon Portland Cement | 321 E. Madison, Ea. 3116 |
| Phoenix Iron Works | 360 Hawthorne, Ea. 0029 |
| Pomeroy, J. H., & Co. | Box 48, Seattle, Wash. |
| Pure Iron Culvert & Mfg. Co. | 763 Gladstone, Sel. 2275 |
| Rodgers, Hart, Banks | Railway Exch. Bldg., Gar. 4196 |
| Santa Cruz Portland Cement | 45 Fourth St., Atw. 9848 |
| Snow, L. A. & Co. | 244 Union Ave., Ea. 6482 |
| Standard Oil Co. | Pacific Bldg., Bea. 4161 |
| Steel Tank & Pipe Co. | 404 Columbia Blvd., Wal. 2401 |
| Swigert, Hart & Yet | Ft. of E. Salmon St., Lan. 1125 |
| Union Oil Co. of California | Yeon Bldg., Atw. 9521 |
| Wallace Bridge & Structural Steel | P. O. Box 10, Wash. |
| Western Road Machinery Co. | 220 E. Water, Ea. 4862 |
| Zimmerman, Wells & Brown | Ft. of Sheridan, At. 0221 |

Affiliated Builders Division, Portland Chapter

| | |
|--|------------------------------|
| Alt, Fred W. | 1118 Mallory Ave., Wal. 2083 |
| Allyn, B. T. | 7 E. 60th St. N., Tab. 0194 |
| Blackman, F. R. | 1140 Powell Blvd., Sel. 2400 |
| Carson Construction Co. | 310 Oak St., Ea. 4112 |
| Chandler Constr. Co. Wilson Bldg. E. 42d & Sandy Blvd., Tr. 8034 | |
| Dewitt Building Co., Geo. W. | 585 E. 41st N., Gar. 3412 |
| Duncan, J. A. | 474 E. Eighth N. |
| East & Biding Co. | 319 Railway Exchange Bldg. |
| Eklund, N. O. | 1595 Sand, Gar. 4112 |
| Goldenberg, G. C. | Abington Bldg., Atw. 1675 |
| Goodridge, D. A. | 449 E. 44th N., Tr. 9945 |
| Heiling, F. H., Director | 908 E. 23rd N., Gar. 7184 |
| Hurlbert-Russell S. | Weatherly Bldg., Gar. 2828 |
| Irwin, A. H. | 826 E. Lincoln, Lan. 1266 |
| Johnson & Neubert | 375 E. 52nd St., Tab. 7227 |
| Krecher, Wm. | 1170 Mallory Ave., Wal. 6223 |
| Kurtz & Rogers | 74 E. 81st St., Tab. 7214 |
| Krause, Rudolph K. | 752 E. 20th N., Ea. 4116 |
| Leistner, C. | 275 E. 14th N., Gar. 4260 |
| Moore, J. Bryson | 1444 Sandy Blvd., Gar. 8260 |
| Murphy, John | 353 E. Burnside |

| | |
|------------------------------|-------------------------------|
| Nelson, Herman | 593 Glenn Ave. N., Gar. 2508 |
| Nilson, Emil | 449 E. 48th N., Tr. 6433 |
| Quigley, Wm. | 56 E. 52nd, Tab. 9057 |
| Ryan, Wm. F. | 1211 E. Kelly St., Tab. 1860 |
| Schenk, A. J. | 1275 Prescott, Tr. 7432 |
| Kuckmitt, H. A. | 5830 36th Ave. SE., Sun. 7865 |
| Seed, J. S., Honorary Member | Worcester Bldg., Atw. 6444 |
| Stuart, Peter | 755 Irving, Bea. 3673 |
| Twitshell, P. A. | 567 E. 35th St. N., Tr. 1579 |
| Winship, T. B. | 461 E. 48th N., Tr. 7706 |
| Henzel Shackelford | 1040 Minnesota, Univ. 0904 |
| V. D. Reverman | 353 E. Burnside |
| L. H. Hickok | 1111 Sandy Blvd. |
| Fred Sandstrom | 201 Worcester Bldg. |
| C. W. Christiansen | 445 Multnomah |

SPOKANE CHAPTER

West 515 First Avenue—Main 6822—Spokane

| | |
|----------------------------------|-------------------------------|
| Louis Larson, President | S. W. True, Vice-President |
| G. Anderson, Vice-President | Dan Hannah, Secty.-Treas |
| Alloway & Georg (B) | Hutton Bldg. |
| Applegate, W. E. (H) | 7 Buckingham Apts., Salt Lake |
| Auld & Shinn (B) | 1121 Indiana |
| Bourdyre, Sam R. (H) | Seward, Alaska |
| Burnette, E. (H) | 1118 Ide Ave. |
| Byers, W. A. (H) | W. 1204 Mansfield |
| Clifton, Applegate & Toole (HPR) | Hutton Bldg. |
| Collins, J. H. & Co. (H) | Colville, Wash. |
| Colonial Building Co. (BH) | Hutton Bldg. |
| Crick, James (H) | Realty Bldg. |
| Degerstrom, N. A. (HPR) | Peyton Bldg. |
| Edwards, J. E. (H) | S. 1423 Adams |
| Geist, W. F. (H) | W. 444 23rd Ave. |
| Gumaer, Robt. M. (H) | Copeland, Idaho |
| J. T. Halin | Sun Life Bldg. |
| Hansen Construction Co. | W. 1517 Jackson |
| Harding, Geo. (H) | walla Walla, Wash. |
| Hargrave Construction Co. (H) | W. 418 Twentieth |
| Hewett, E. R. (H) | W. 420 Twenty-second |
| Huetter Construction Co. | N. 1101 Division |
| Joslin & McAllister (H) | Realty Bldg. |
| Kuney, Max J. (H) | Hutton Bldg. |
| Lafferty, A. B. (H) | Coeur d'Alene, Idaho |
| Larson Bros. (B) | Hyde Bldg. |
| Lohrenz, J. J. (B) | Paulsen Bldg. |
| Long, Oliver J. (H) | W. 1924 Mansfield |
| Lyon & Price (H) | W. 503 Fourteenth |
| March Construction Co. | W. 1313 First |
| Martin, F. E. (B) | Galax Hotel |
| McLellan, A. (B) | E. 932 Ermina |
| Medby, M. C. (B) | S. 3614 Arthur |
| Mevers, R. S. (B) | S. 221/ Iekon St. |
| Morin, S. G. (B) | 231 Waverly Place |
| Norman, Nick (B) | |
| Nyberg, Carl (H) | Realty Bldg. |
| Orino, Sam (H) | Realty Bldg. |
| Pow, C. H. (H) | S. 703 Grand |
| Siems, Spokane Co. (BPHR) | Realty Bldg. |
| Standard Asphalt Paving Co. (HP) | Chronicle Bldg. |
| Terteling, J. A., & Sons (HP) | 511 Sound Ave. |
| Tobin, James, & Son (H) | W. 1904 2nd Ave. |
| Triangle Construction Co. (H) | N. 119 Wall |
| True-House Construction Co. (B) | N. 119 Wall |
| Webster, E. A., & Co. (HPR) | S. 2008 Oneida |
| Young, Peter J. (B) | 703 Cleveland |

Associate Members

| | |
|---|----------------------------------|
| Beall Pipe & Tank Corp. | Realty Bldg. |
| Beardmore Transfer Line | S. 162 Post St. |
| Brandt Bros. | W. 14 Main Ave. |
| Coeur d'Alene Hardware & Foundry | Wallace, Idaho |
| Commercial Importing Co. | 617 Western Ave., Seattle, Wash. |
| Consolidated Supply Co. | W. 110 Ide Ave. |
| Construction Equipment Co. | 1118 Ide Ave. |
| Elmendorf-Anthony Co. | Sherwood Bldg. |
| Feanughty Machinery Co. | N. 715 Division St. |
| W. P. Fuller (H) | 229 Post St. |
| General Machinery Co. | E. 3501 Riverside |
| Gladding-McBean & Co. | 524 Old National Bldg. |
| Haywey Fuel Co. | N. 740 Division St. |
| Hofus-Ferris Equipment Co. | W. 728 Mallon |
| Holley-Mason Hardware Co. | N. 740 Division St. |
| International Portland Cement Co. | 1124 Old National Bldg. |
| Jones & Dillingham Co. | W. 715 First Ave. |
| James & Mitchell | Hutton Bldg. |
| Lehigh Portland Cement Co. | 1316 Old National Bldg. |
| Long Lake Lumber Co. | N. 348 Wall St. |
| W. S. McCrea & Co. | 212 Symons Bldg. |
| J. E. McGovern Co. | 350 Peyton Bldg. |
| Note-Atwater Co. | S. 157 Howard |
| National Insurance Agency | Old National Bank Bldg. |
| L. A. Snow Co. | 134 International Right-of-Way |
| Spokane Concrete Pipe Co. | N. 2627 Dakota |
| Spokane Culvert & Tank Co. | N. End Division Street Bridge |
| Spokane Woodworking Co. | Spokane Woodworking Co. |
| Union Iron Works | E. 217 Montgomery Ave. |
| Union Oil Co. | 611 Chronicle Bldg. |
| Washington Brick, Lime & Sewer Pipe Co. | S. 1511 Washington St. |

Class of Construction: (B) Building; (H) Highway; (P) Public Works; (R) Railroad.

MOUNTAIN PACIFIC CHAPTER

Washington Hotel—Seattle, Wash.

John M. Clifton, President Wm. C. Richings, Secretary-Treasurer
 Charles T. Jordan, Vice-President E. E. Flood, Executive Manager

Allen & Coven..... Olympia, Wash.
 Barnard Curtiss Co..... Ellensburg, Wash.
 Clifton, Applegate & Toole..... Hutton Bldg., Spokane, Ma. 4415
 James Crick..... Realty Bldg., Spokane, Ma. 2520
 Loy Construction Co..... 901 Westlake N., Seattle, Car. 5741
 N. A. Degerstrom..... Wenatchee, Wash., Red 4210
 Dorsey & Wilder, Inc..... 2006 State St., Bellingham, Wash. 1310
 Fuel Oil Service..... Seaboard Bldg., Seattle, Ma. 3460
 Carl Nyberg..... Chehalis, Wash.
 Goodfellow Bros..... Wenatchee, Wash.
 Grays Harbor Const..... Hoquiam, Wash., Hoq. 3053
 Hendricks & Co..... Olympia, Wash.
 T. R. Hewitt..... 420 W. 22nd, Spokane, Riv. 7534
 Johnson, Homer G..... Perkins Hotel, Portland
 Joslin & McAllister..... Spokane, Wash.
 L. H. Johnson..... 920 N. Tacoma Ave., Tacoma, Ma. 6241
 W. Wiley..... Securities Bldg., Seattle
 Lee & Price..... 503 W. 14th, Spokane, Riv. 5319 R
 Midstate Contract Co..... 513 First Ave., So., Yakima, 7343
 Norris Bros..... 507 Realty Bldg., Spokane, Ma. 6737
 Nygren, D..... Lloyd Bldg., Seattle, Wash.
 Chas. A. Powers..... S. 1703 Grand, Spokane, Riv. 3640
 Puget Sound Bridge & Dredging Co..... Seattle, El. 3100
 Getz & Brown Const. Co..... Colman Bldg., Seattle, El. 7311
 Fred C. Redmon..... 206 S. 4th Ave., Yakima, 9133
 Rumsey & Jordan..... Labor Exchange Bldg., Seattle, Ma. 8751
 Standard Asphalt Co..... Chronicle Bldg., Spokane, Ma. 1689
 Peter Hellen & Pierson..... Enunclaw, Wash.
 Winston Bros..... 4580 Colorado Ave., Seattle, Glen. 2268

SEATTLE CHAPTER

4134 Arcade Bldg.—Main 4709—Seattle, Wash.

James Murdock, President Okey J. Gregg, Secretary
 George E. Teufel, Vice-President A. S. Downey, Treasurer
 H. V. Bogert, Manager

Bartleson & Ness (B)..... 6824 17th NE., Ke. 0513
 Butler, W. T., Inc. (B)..... Central Bldg., El. 5670
 Cawsey, C. C. (B)..... Title Trust Bldg., El. 2830
 Daniels & Anderson Constr. Co. (B)..... Seaboard Bldg., El. 5064
 Garde, Peder P. (B)..... El. 7620
 Goerg, A. C. (HP)..... 413 Fairview N. (Rear), El. 7625
 Heden Construction Co. (B)..... American Bank Bldg., Se. 1080
 Hedin, Nels (B)..... 2312 Federal, Ca. 4661
 Henrikson-Alstrom Constr. Co. (B)..... Security Bldg., El. 6870
 Henry & McFee (BHPR)..... Northern Life Bldg., Ma. 9934
 Hull Building Co. (B)..... Cobb Annex, El. 1005
 Lester & Monahan (P)..... 451 Elliott Ave. W., Ca. 2404
 Manson Construction Co..... Grand Truck Bldg., El. 4526
 McDonald, Neil (B)..... Seaboard Bldg., El. 5638
 Wenden, S. (B)..... Port Angeles, Wash.
 Murdock & Eckman (B)..... Liggett Bldg., El. 7760
 Nelse Mortensen & Co. (B)..... 1021 Westlake N., Ca. 6659
 Pacific States Construction Co. (B)..... 1105 Second Ave., El. 8855
 Quist Co., A. W. (BP)..... Exchange Bldg., Ma. 4497
 Scherer & Carlson (B)..... Terminal Sales Bldg., Ma. 8398
 Sheble Construction Co. (B)..... Henry Bldg., El. 8189
 Sound Constr. & Eng. Co. (B)..... Northern Life Tower, El. 4961
 Strandberg & Robinson (B)..... Arcade Bldg., El. 8579
 Sylliaasen & Sando (B)..... Arcade Bldg., Ma. 1641
 Teufel & Carlson (B)..... Skinner Bldg., El. 6431
 Warrack Construction Co. (BP)..... McDonald Bldg., El. 8265
 West Coast Constr. Co. (B)..... Lloyd Bldg., El. 6391
 Western Construction Co. (B)..... Seaboard Bldg., El. 6043

SEATTLE CONSTRUCTION COUNCIL

Affiliated with
ASSOCIATED GENERAL CONTRACTORS OF AMERICA
 Building Material Dealers' Association

Abel, Inc..... 2700 Westlake N., Ca. 9800
 C. S. Barlow & Sons, Inc..... 1326 Northlake, Me. 0790
 Builders Bldg. (BHP)..... Hope Bldg., El. 0893
 Clay Products Delivery Co..... 1546 Westlake N., Ca. 6870
 Columbia Lumber Co..... 5015 Rainier, Ra. 2400
 Dally, S. W. R. Co..... Pioneer Bldg., Ma. 8678
 Fremont Fuel Co..... 4210 W. Alaska, Wa. 0483
 Fryer, D. E. & Co..... 1233 Utah, Ma. 7147
 Gladding, McBean & Co..... 1500 1st Ave. S., Ma. 9389
 Granger, Sam, Inc..... Foot of 3rd, El. 8700
 Klinker Sand & Gravel Co..... 3155 Elliott Ave., Ca. 0320
 Mcullen & Co..... 6515 W. Marignal Way, Me. 0998
 Pioneer Sand & Gravel Co..... 462 N. 34th, Me. 5000
 Queen Anne Sand Co..... 901 Harrison St., Ma. 2900
 Spring Hill Fuel Co..... Third W. Fulton, Co. 2743
 Spokane Grain & Fuel Co..... 5223 California Ave., We. 1650
 Salmon Bay Sand & Gravel Co..... 7109 Woodlawn Ave., Ke. 0151
 Tourtelotte-Braley, Inc..... Ft. 20th NW., Su. 0034
 Wash. Brick, Lime & Sewer Pipe Co..... 2706 27th, Wa. 7264
 Seaboard Bldg., Ma. 1542

Seattle Association of Insulation Contractors

Asbestos Covering & Supply Co..... 1037 Sixth S., El. 4234
 Brower & Co., Chas. R..... 114 Virginia St., El. 2049
 Fryer, D. E., & Co..... 1233 Utah, Ma. 7147
 Jenkins, V. S., Co..... 1559 Railroad S., El. 7516

Contracting Plasterers' Association of Seattle

Allyn, W. A..... 4240 Raymond, Ra. 1459
 Blake, C. W..... 218 Fidalgo, Cl. 1265
 Carr Bros..... 10241 1st, W. 7384 R1
 Corberg, Walter..... 4147 Arcade Bldg., El. 7858
 Al. Craig..... 3207 Belvidere, We. 4594
 Dines, Chas..... 1601 Lakeview Blvd., Ca. 4977
 Edwards, A. E..... 7706 27th, Wa. 7264
 Erickson, O. C..... 2904 W. McGraw, Ca. 8223
 Goch, Wm..... 110 W. 83rd, Su. 1541

Haley & Smyth..... Peoples Bank Bldg., El. 8406
 Hoefle, E. F..... 782 46th S., Ra. 3323
 Johnson, Joe..... 2603 W. 85th, Su. 8974
 Jensen, Pete..... 7029 18th NE., Ke. 1339
 Kelly, J. J..... 115-20 North, Su. 7683
 Laugh & Sons, Cust..... 713 W. Fremont, Ca. 1064
 Lindhoff, A. C..... 2107 W. Barre St., Ca. 0790
 McDougall & Co., E. C..... Lloyd Bldg., Ma. 5441
 Mortensen, J. K..... 12040 7th NW., Su. 9245
 Nelson & Son, C. H..... 815 Yale Ave. N., Ca. 2921
 Sorensen, Chas..... 2302 30th St., Ca. 6774
 Stevens, John..... 3450 23rd W., Ca. 6711
 Thorlakson, G. B..... 3026 W. 69th, Su. 0868
 Ward, E. P..... 2309 Warren Ave., Ca. 5011
 Wilson & Long..... Railway Exchange Bldg., Ma. 5159

Amalgamated Sheet Metal & Roofing Association

Builders Sheet Metal & Roofing..... 1716 Yale, El. 3650
 Getchell Roofing & Flooring Co..... 901 Westlake N., Ca. 5741
 Independent Sheet Metal Co..... 172 33rd Ave. S., Ma. 1544
 Occidental Sheet Metal Works..... 2310 Rainier, Be. 2006
 Penn Sheet Metal & Roofing Co..... 550 Denny, El. 3729
 Puget Sound Sheet Metal Works..... 3631 E. Marginal Way, Ma. 0176
 Seattle Cornicor Works..... 1730 First Ave. W., Ca. 5444
 Van Doren Roofing & Cornicor Co..... 713 Westlake N., Ca. 7577
 Washington Sheet Metal Works..... 1205 Westlake N., Ca. 5718

Northwest Master Painters' Assn., Inc., Seattle Chapter

Dennis, W. C..... 308 Broadway N., Ca. 0660
 Erickson Painting & Decorating Co..... Res. 1615 3rd Ave., Ea. 2440
 Fisher, H. P..... 5205 Renton Ave., Ra. 3679
 Grant & Son..... 4411 Woodlawn Ave., Me. 6010
 Gustavson, O. A..... 4211 Juneau, R. 0248
 Jarvie, Cust & Co..... 927 16th, Ca. 7905
 Major, Geo. S..... 338 16th NE., Ca. 6525
 Nelson & Chrystal, Inc..... 211 E. Garfield, Ca. 2844
 Nielson, A. P..... 1820 17th Ave., Pr. 3322
 Shepherd, A. F., Co..... 529 5th Ave. W., Ca. 6196
 Sundberg, Oscar..... 7007 2nd NE., Ke. 4969
 Anderson & Nelson..... 10708 1st NW., Su. 5828
 Atlas Painting & Decorating..... 3404 Woodlawn Park Ave., Mel. 0610
 Weissenborn Decorating Co., A..... 7325 Pontius, Ca. 1824
 West 25 Painting & Decorating Co..... 4th W. McGraw St., Ca. 5775
 Zetterlund, Albert..... 4 W. McGraw St., Ca. 5777

Associated Woodwork Manufacturers of Seattle

Guarantee Millwork, Inc..... N. 34th and Woodlawn, Mel. 6500
 Nordquist & Nelson, Inc..... 120 W. Nickerson, Wa. 7173
 Pacific Door & Mfg. Co..... 7th S. and Charleston, Gl. 1410

Unclassified

Superior Portland Cement..... Seaboard Bldg., El. 2280
 Pacific Line Co., Ltd..... Arctic Bldg., El. 3591
 Seattle Hardwood Floor Co..... 616 7th Ave. N., Ca. 1274
 Rodgers Tile Co..... 117-21 Yale Ave. N., Ma. 3446
 Olympic Portland Cement Co., Ltd..... Baxter Horton Bldg., El. 5064
 W. P. Fuller & Co. (PH)..... Second S. Jackson, El. 5334
 Standard Gypsum Co..... 1871 16th Ave. SW., El. 4033
 Pacific Coast Cement Co..... L. C. Smith Bldg., Ma. 5080
 Lockwood Lumber Co..... Western Ave. and Broad St., El. 2569
 C. C. Belknap Glass Co..... Railroad Ave. and Stewart, Ma. 9469

INTERMOUNTAIN BRANCH

Central Bldg.—Salt Lake City, Utah

A. E. Christensen, President T. C. Sorensen, Secretary-Treasurer
 J. B. Mullins, Vice-President Mark Tuttle, Manager

Alston & Hoggan (B)..... Beason Bldg., Was. 2374
 Angel, J. H. (B)..... 202 Ness Bldg., Was. 5228
 Bernsten Brothers (B)..... 1180 Warnock Ave., Hy. 4927-W
 Bundy, Ora (PBH)..... Kiesel Bldg., Ogden, 872
 Burke, J. J. (PH)..... Kearns Bldg., Was. 845
 Christenson Const. Co. (HR)..... Felt Bldg., Was. 5756
 Christensen & Gardner (PH)..... Terminal Bldg., Was. 2962
 Clyde, W. W., Co. (PH)..... Springville, Utah
 *Compton, J. C. (HPR)..... McMinnville, Oregon
 Dean, W. J. & Vernon W. Clyde..... 1007 Garfield Ave., Hy. 1957-M
 Dinmore, C. F., & Co. (PB)..... Eccles Bldg., Ogden, 389
 Draper, H. M., Const. Co. (B)..... Box 616 Salt Lake City, Was. 4885
 Fetzer, Louis S..... Templeton Bldg., Hy. 1932-W
 Gibbons, Rec. (HP)..... 165 4th North, Was. 1238
 Griffith, J. L. (PHR)..... 17 Central Bldg., Was. 1919
 Jacobson Construction Co. (B)..... 210 Terminal Bldg., Was. 3186
 Kampe, Charles (B)..... 26 South 12th East, Hy. 7076
 *Morrison-Kelton Const. Co. (HPR)..... Cont. Natl. Bank Bldg., Was. 6395
 Mosser, John H. (B)..... Logan, Utah
 Mullins & Wheeler (P)..... 2203 Hyland Drive, Hy. 1944
 Nelson, Olaf (HPR)..... Logan, Utah
 *Newell, S. Co. (PBHR)..... 1538 W. 21st, Was. 4091
 Palfreyman, B. D. (H)..... 167 East 2nd North, Provo, Utah
 Paulsen, Paul (B)..... Vermont Bldg., Was. 4091
 Reynolds, Elv. Construction Co. (HPR)..... Springville, Utah
 Rowland T..... 1538 W. 21st, Was. 4091
 Ryberg-Baker (HPR)..... 207 Terminal Bldg., Was. 2962
 Ryberg-Sorenson Co. (B)..... 207 Terminal Bldg., Was. 2962
 Schraven, H. E. (B)..... Dooly Bldg., Was. 6431
 Smith, Enoch (PH)..... 77 East 2nd South, Hy. 6084
 Strange, J. P. (H)..... 402 Utah Sav. & Trust Bldg., Was. 7276
 Strong & Grant (PBH)..... Springville, Utah
 Sumsion, J. M. (HPR)..... Springville, Utah
 Taylor-Young Co. (B)..... Ness Bldg., Was. 5866
 Thom, O. Q. (H)..... Cont. Natl. Bank Bldg., Utah
 Union Construction Co. (HP)..... Ogden, Utah, Ogden 53
 Utah Construction Co. (PHR)..... McIntyre Bldg., Was. 4435
 Utah Construction Co. (PHR)..... First Natl. Bank Bldg., Ogden 53
 Walker Bros. Trucking Co. (P)..... 2105 South W. 5088
 Watts-Samuels Co. (PHR)..... 1611 Hot Springs Ave., Was. 5507
 Wheelwright Constr. Co. (HPR)..... 2434 Monroe Ave., Ogden, 451
 Whiting, Floyd S. (HPR)..... Kaysville, Utah, 135
 Whiting, J. C. (HPR)..... Springville, Utah, 5866
 Whiting, J. C. (HPR)..... (B) 2759 Grant Ave., Ogden, 246
 Young, A. C., & Co. (HPR)..... Richfield, Utah, 451
 *Contributing Members

PACIFIC

SKILL - INTEGRITY



RESPONSIBILITY

25
per Copy

CONSTRUCTOR

CONSOLIDATED WITH

Building and Engineering News

IN THIS ISSUE



Relocation of Telephone Cables in San Francisco Bay

By Spencer B. Lane, Assoc. Mem. A. S. C. E.

Sanctity of Street Improvement Assessments

By Geo. N. Crocker, Attorney

The Trade Publication—Its Value and Purpose
in Industry

By J. P. Farrell, Editor, Pacific Constructor

New Jersey Highway Commission to Classify
Prospective Bidders

A. G. C. and Builders' Exchange Activities

Items of Interest Affecting the Construction Industry



Send for a Sample Copy of



The only daily construction newspaper affording complete coverage of the construction activities in Central and Northern California and the major projects undertaken in the Eleven Western States.

Features timely reports on all types of building and engineering construction—work contemplated, bids wanted, bids opened and contracts awarded. Building permits, building contracts, mechanics' liens and acceptances, business opportunities, official proposals, etc.

Free sample copies will be forwarded upon request.

Subscription price, \$1.50 per month or \$15.00 per year when paid in advance.



DAILY PACIFIC BUILDER

545-547 Mission Street

San Francisco, Calif.

PACIFIC CONSTRUCTOR

With which is Consolidated Building and Engineering News

Official Publication of the Associated General Contractors of America
for the Eleven Pacific Coast States

J. P. FARRELL, *Editor*

SPENCER B. LANE, *Assoc. Editor, Assoc. M. Am. Soc. C. E.*

Vol. #15

SAN FRANCISCO, CALIF., FEBRUARY 1, 1932

No. 2

The Trade Publication--Its Value and Purpose In Industry

By J. P. FARRELL, Editor, Pacific Constructor

It isn't what we think, nor what we shall say, that will establish the good reputation of Pacific Constructor; but, it will be what others think.

WHY should any industry have a trade publication? Is it simply because it is the customary thing? Is it only a pretext for private individuals to enrich themselves at the expense

of the particular industry which it aims to serve or is it because that particular industry needs a trade publication?

Surely no one can deny that it would be a poor industry indeed that did not have a trade publication.

The only excuse for the existence of a trade publication is to give service to a particular industry. In that way it will be of actual benefit to the individuals that are in that industry.



J. P. FARRELL

It has long been declared—and admitted—that a trade publication is any industry's most valuable service asset. Removed, a vacuum would be created that could be filled by no other agency. The "news" which a trade publication supplies, while a principal factor, is only a part of its function. A real trade publication informs and instructs with various features.

A good trade publication can build up a fine, closely-knit, co-operative and progressive industry—an industry that can really accomplish something and count for something as a part and parcel of this great United States.

A good trade publication stimulates constructive thinking. It aims to build up those individual units of the craft that are falling down—or have fallen down. It

encourages proper action. The industry that supports its trade publication gets somewhere.

While a trade publication is a private enterprise, it must have the welfare of the industry which it serves at heart; first, last and always. It must never stoop to "selling out" for private gain. It must never stoop to working "rackets" with a view to increasing its revenue, either from the standpoint of circulation or advertising. It must always be on the lookout for the thousand and one ways in which it can be of loyal service to the industry's interest.

The first duty of a trade publication is to give its readers all the legitimate news of the industry. There may be an honest opinion as to what constitutes legitimate news and how such news is secured; but for that, the editor must take the responsibility.

A second duty of the trade publication is to give as fair and as accurate presentation of the developments in the field as it is possible to give.

A third duty—and an important one—is that of the trade publication to its subscribers and advertisers. They come seeking service. They expect to pay for it, and it is up to the management to see that they get value received.

While a trade publication is in a sense a public servant to some particular industry, it is a private enterprise, supported and maintained by private capital, the same as a grocery or a meat market.

The average trade publication is anxious to help subscribers and patrons. Its success, naturally, is built upon their prosperity. The trade publication—properly managed—is a real service to the particular industry which it aims to serve. It seeks to cement opinion behind any beneficial or worthy motive, or to sustain confidence in the industry in difficult times when a tendency towards pessimism might work great injury.

The policy of Pacific Constructor will be the encouragement of everything that will promote the progress of the construction industry. It will lend its efforts to all movements that go towards making a bigger, a better and a mere harmonious industry.

Pacific Constructor aims to be the representative construction publication for the Pacific Coast. It will always aim at accuracy—first, last and always.

Limit Stakes and Levels

By THE EDITOR

Thank you!

The publishers and editorial staff of Pacific Constructor appreciates the reception given by the advertisers and subscribers to our January 15 issue.

There is a great deal of satisfaction in knowing that our humble efforts to please thousands of readers have met with approval to such an extent that we are busy accepting congratulations by phone, letter and personal call. To all these must be added telegrams from distant points—the one carrying the big thrill coming from the Nation's capital, Washington, D. C. While it was not from our engineer-President, it had as much effect.

Again, thank you.

"While the contractors' license law is still quite a recent act, I believe that crooked dealings among contractors and troubles from rank incompetency have been materially curbed by the measure," says Col. Carlos Huntington, director of the State Department of Professional and Vocational Standards, charged with enforcement of the law.

Recent complaints filed with the registrar have charged abandonment of contract, disregard of plans and specifications, diversion of funds and materials, violations of wage and labor laws, failure to comply with city ordinances affecting contractors, misrepresentation in securing licenses, as well as other various fraudulent acts.

Who says a contractor doesn't think?

The Gulf Bitulithic Co., of Houston Texas, working on a highway project between Houston and LaPorte, Texas, lacked railway switching facilities to move cars of sand and stone needed in a hurry.

The superintendent on the job happened to think that a circus was showing in Houston. He sent out the old circus man's call of distress, "Bring up the elephants," always heard when wagons sank hub-deep in muddy country roads.

The answer came quickly. A herd of pachyderms happened, at the time, to be enjoying a lay-off from regular duty and were at once drafted into road-building service at the contractor's material-handling yard and batching plant. Scenes typical of India were re-enacted along the shore of the gulf as the huge beasts, guided by mahouts straddling their ponderous necks, shunted gondola cars of sand and stone about the contractor's yard and spotted them for unloading by a clamshell bucket on a crawler crane.

Who says a contractor *doesn't* think?

Members of the Mountain Pacific Chapter, A.G.C., at Spokane, estimated that they accomplished \$8,000,000 worth of highway construction last year and could expect more during the coming eleven months. A comparison with 1930 was not available, as the chapter is but a year old.

Representative Goss, of Connecticut, has proposed measures to remedy the pernicious bid-shopping practice. He would have general contractors on public works submit with their bids a list of sub-contractors and material supply men he intends to employ in the fulfillment of the
(Continued on Page 15)

LOW COST ROAD CONSTRUCTION AND MAINTENANCE POPULAR TOPICS AT AMERICAN ROAD BUILDERS' MEET

The convention and road show held last month in the commodious city exposition building, in Detroit, was notable for the comprehensive and diversified exhibits of road building and maintenance equipment and material. Particular emphasis was given to low cost road construction and maintenance, and the showing of motor trucks in which 90 per cent of the truck manufacturers were represented with extensive displays. The exposition building was filled with exhibits, and a marked interest was shown by the thousands who attended.

In the forty convention sessions, the problems of construction and maintenance, traffic, motor freight, and other subjects related to highway activities were thoroughly aired and innumerable recommendations made.

The meeting mobilized the army of state, county and city officials, engineers, contractors, commercial highway users, and manufacturers to fight any tendency to slow down construction projects in the name of economy, and to divert to other uses than road and street construction and maintenance the tax money derived from motor vehicles.

Thos. H. MacDonald, chief of the U. S. Bureau of Public Roads, in an address at the planning meeting, said that "the cost of road building is now 45 per cent below the 1924 prices. The diversion of highway revenue taxes for other than state highway purposes is now \$150,375,000 annually, and the tendency to reach into these special highway taxes is the most alarming one with which we have to contend, so far as the future of a stable and adequate road program is concerned."

The two developments in motor vehicles of major importance to the public pocketbook and better service, according to Mr. MacDonald, are the development of better pneumatic tires and the redesign of heavy motor vehicles to distribute the load on more wheels. "From the standpoint of the future of highway building, regardless of how commodities or people are carried by the various public transportation agencies, no matters now in controversy will affect more than a minor percentage of the use of the highways," he said. "Long distance highway traffic has little effect on the necessity for road improvement or the volume of use of highways."

Many concurrent meetings of other associations were held covering subjects such as the technology of asphalt, and the co-ordination of motor freight transport through the many state hauling associations represented.

T. H. Cutler, chief engineer of the Missouri Highway Department, was elected president of the American Road Builders' Association to take office in May. The City Officials' Division elected R. B. Brooks, Director of Public Service, St. Louis, as president, and the County Highway Officials' Division elected W. O. Washington, County Engineer, Brownsville, Texas.

The location of the next road show will be determined at the May meeting of the association in Washington, D. C., the national headquarters.

BARNUM WAS RIGHT

T. C. Sorensen, secretary-treasurer, Intermountain Branch, at Salt Lake City, tells this one:

First Contractor—(listening to bids being read): "Barnum was right. There is one born every minute."

Second Contractor—(who was also "high bidder"): "Yes, and the son of a gun goes into the contracting business."

Relocation Of Telephone Cables In San Francisco Bay

By SPENCER B. LANE

BETWEEN San Francisco and Yerba Buena Island the proposed San Francisco-Oakland bridge has been located over that part of the bay which was occupied by the telephone cables of the Pacific Telephone and Telegraph Co. In order to clear the site for the bridge the telephone company picked up all twelve cables and relaid them clear of the proposed bridge piers. Due to the depth of water, tidal currents and bottom conditions this work involved many interesting problems.

Each of these cables was about 10,000 feet long. On the San Francisco side some of them started from Ferry Slip No. 3 and some from Pier No. 14. All of them ran to a cable house on the southwest point of Yerba Buena Island. The oldest cable to be moved was laid in 1915. The

sextants were used. The flagstaff on the Telephone Building, the flagstaff on Telegraph Hill, and the lighthouse on Alcatraz Island were the observation points. By taking such observations every 200 feet throughout the length of the cable its location was plotted on a chart. One cable was located at a time until all twelve were plotted on the chart.

As soon as all the cables had been located the work of moving them was begun. This part of the work required the services of a diver. Mr. William Reed did the diving work for the entire job. He was a world war naval wreck diver. He is well known for his work in connection with the raising of submarine S-51. The work required that he be in constant communication with the cable barge above. In order to accomplish this a telephone transmitter, perfected by the telephone company, was mounted in his helmet as shown in the illustration. He wore ear receivers. This telephone instrument was connected by wire with another on the barge above. In this way the men on the surface were able to keep in touch with what was going on below.

The depth of water varied. Near Yerba Buena Island it reached the maximum of 130 feet. Severe tidal currents were encountered; one day a maximum current of 4.95 miles per hour was recorded. Heavy current and deep water made it necessary to use four anchors to hold the barge in position. Under such conditions it was necessary to do as much of the work as possible at periods of slack water, particularly in the greater depths. For this reason, and to complete the work as quickly as possible, three shifts of eleven men each were used to man the barge. In this way the work was carried on day and night.

In places the cables were buried in the mud of the bottom. The approximate depth was determined by the intensity of the roaring in the receiver of the detector. The maximum depth of this mud covering was 15 feet. The construction of the cables was such that they could not be pulled loose without damage. Each wire was insulated with a wrapping of paper. A lead sheath enclosed all the wires; kept the water out. This lead sheath was covered



Pacific Telephone and Telegraph Co. Cable Barge.
(P. T. & T. Photo.)

smallest contained 148 wires; the largest 1224 wires. The diameters varied from 2.5 inches to 3.85 inches. The heaviest weighed 21 pounds to the foot. The telephone company did not have any accurate records of the location of any of these cables between the ends:

The first problem was to determine the exact location of each cable throughout its entire length. For this purpose the Pacific Telephone and Telegraph Company designed and built a "detector." This instrument was a coil of wire of a predetermined impedance. This coil was wrapped around a core of steel laminations, then sealed in a water tight container of rubber. A tug boat was used to drag this detector along the bottom across the course of the cables. This was done at intervals of about 200 feet. Wires connected the detector with the deck of the tug.

One pair of wires in the cable to be located was energized with a pulsating current. The wires from the detector were connected to an amplifying apparatus and a telephone receiver on the tug. As the detector was dragged near the cable the pulsating current caused a roar in the telephone receiver. This roar became louder as the detector approached the cable; reached a maximum when it was directly over the pulsating current. The location of the tug was then determined by two observations taken from the deck when the roar was loudest. The 2 mariners'



Jet nozzle. Cable passes through two sets of rollers below rollers. Lead weight is shown below rollers.
(P. T. & T. Photo.)

with a protective wrapping of jute. Outside of this jute galvanized iron wires were wrapped spirally around the cable to protect it against mechanical injury. When a severe strain was put on the cable these armor wires tended to straighten out. The lead sheath tended to stretch. If this stretching became too great the paper insulation would break; the cable would be ruined.

The actual work of moving a cable was begun at a point where it was separated from the others and was not too deeply buried. The diver first went down and fastened two wire ropes to the cable about 20 feet apart. Both these ropes led to the cable barge above. The diver then cut the cable as quickly as possible at a point between these two ropes. As soon as he had cut the cable he slipped a rubber sleeve over each end. These rubber sleeves kept the water out of the paper insulation of the cable as much as possible. One end of the cable was then raised to the deck of the barge. The wet end was cut off; a cap soldered in place. That end was then lowered back into the water and buoyed. When the water was deep and the tide strong the cable suspended from the barge was subjected to a severe vibration; at times as much as three inches. This could not be allowed to continue for any great length of time as it caused crystallization of the lead sheath, with its consequent breaking and leakage.

The other end was then picked up by the barge. This end was made fast to the cable drum. A jet nozzle was built to cut away the mud on top of the cable. This jet was mounted on rollers which fitted over the cable. It was weighted with 800 pounds of lead. It was allowed to slide down the cable ahead of the barge. A fire hose ran to this jet from a pump on the barge; was loosely secured to the cable by means of large shackles. A water pressure of 100 pounds per square inch was maintained on the jet. As the barge moved ahead the jet ran down the sloping cable. This jet cut away the mud which buried the cable, which was wound onto the cable drum of the barge. The diver walked along the bottom while this was being done and cleared obstructions as they developed. Telephone communication between the barge and the diver was very valuable during this stage of the work.

When that portion of the cable which was to be moved had been wound onto the drum, it was relaid in the new position previously selected. It was usually necessary to splice in a piece to make this cable reach the cut end which had been buoyed and left. This piece was often a few hundred feet long. When this connection was made the cable was returned to service. As the cable was relaid its position was plotted every 200 feet. This was done in the same way its original location was mapped.

The cable barge was designed by the engineers of the Pacific Telephone and Telegraph Co. to meet requirements set up by Mr. F. O. Edmunds, Division Construction Superintendent. It was built by the Wallace Bridge and Structural Steel Co. of Seattle, Washington, in 1928. It is 40 feet wide, 100 feet long, and 12 feet deep. It is equipped with a cable reel and pumps. It has a steel boom 70 feet long. Its rated lifting capacity is 35 tons. The steel hull is built on the Ellis Channel system. Living quarters for a crew of 20 men are provided in the hull.

The bottom of the bay along the route of the cables was quite thoroughly explored during these operations. The first 3000 feet from the San Francisco shore is soft black mud. The next 1000 feet is hard; resembles a cinder path. Next there is 2000 feet of very fine hard packed sand. Then comes about 1000 feet of hard black mud; almost clay. Beyond that the route is close to the old dumping ground, where for 2000 feet there is soft black mud and a miscellaneous collection of refuse. From that point to Yerba Buena Island the bottom is rock.

The work was begun on June 30, 1931, and completed on September 26, 1931. The entire project was carried out under the personal supervision of Mr. F. O. Edmunds, Division Construction Superintendent of the Pacific Telephone and Telegraph Co. Mr. Edmunds was very ably assisted by Mr. E. A. Erath, District Construction Superintendent. Both Mr. Edmunds and Mr. Erath devoted their entire time to the work while it was in progress, practically living on the cable barge. The work was done by company forces.

WHY TAKE "CHANCES" IN CONTRACTING GAME WHEN CIDER FIELD OFFERS GREAT OPPORTUNITY TO PICK UP EASY MONEY

A contractor "takes a chance" in the contracting business. Hence, there is no reason at all why he shouldn't take a chance in another racket, especially a business where all he has to provide is the cash while his partner furnishes the "know how" and experience.

Here is a copy of a letter received by a well-known veteran of the contracting business, as published in Engineering News-Record:

Dear Sir: After a good deal of inquiry and lots of time spent, I have just found out where you live, and I will write this quick before it is too late in the season.

Our season is nearly over up here in Connecticut, but you are a lot farther south, and so your season will run for some time yet, or at least I hope so. You may not remember my name, but I am the cider merchant who had a talk with you a couple of years ago one fall day, when you stopped in here at my place of business. I remember very well that you said you owned a lot of apple trees, and you were interested in the apple and cider pressing business, and so I was thinking that now with this year's big apple crop and the terribly low price, that maybe we could do some business this year on the cider proposition, unless you have already tied up with some other guy before this. You remember that you said at that time that you had plenty of money, and I said I knew the cider business from the bottom up, so I was wondering if we couldn't get together and me use some of that money and set us up a nice sideline business down your way. My proposition would be for you to furnish the cash and me to chip in the "know how" and experience. Since you saw me here that time one of my neighbors double-crossed me, and I got picked up and had to spend a stretch of time in the cooler, for a little sideline stuff that I was accommodating the boys with, but that sure taught me a lesson and I don't think I will get caught again; and, anyway, I'm almost sure that even though you are my pardner that you wouldn't have to do no time if we did happen to be unlucky with the sideline stuff, which is where the real money game is. You are used to taking chances in that contracting business you are in, so why not take a chance with an oldtimer like me and we will pick us up some of this easy money these days, as long as you have got the trees and the cash. We can get a press in short order and get going quick.

You probably know lots of big shots down your way who would be glad to get some real stuff made by the boy who knows how to make it. And from what I hear lately, this contracting game is a kind of a hard graft these times anyway, so you may not be so busy at that, even if we should get pinched, but I don't think that will happen this time as I will use my head and keep us clear.

Please let me know quick about this, and I will be right down and we will get started. Yours truly, SLICK—

P. S.—My real name is Bill, but the boys always call me Slick as a kind of a nick name.

PORTLAND A. S. C. E. ELECTS

John W. Cunningham was elected president of the Portland section of the American Society of Civil Engineers at the annual dinner meeting of the section last month. Others elected were: C. F. Thomas, vice-president; H. H. Canfield, secretary; Geary Kimbrell, treasurer. The retiring president was O. E. Stanley.

New Jersey Highway Commission To Classify Prospective Bidders

ALL BIDDERS on state highway in New Jersey are to be classified according to regulations adopted by the State Highway Commission on January 5. Prospective bidders will be classified under the following headings: general construction work, grading work, paving work and bridge construction.

Each bidder who qualifies for any one of the four classes will be graded according to financial ability, adequacy of plant and equipment, organization, and prior experience, also such other pertinent and material facts as may seem desirable. Details of the requirements are set out in the commission's resolution.

Bids will be accepted only from persons qualified in accordance with this classification. Bidders dissatisfied with their classification will be granted a hearing by the commission.

Regulations of the commission, issued in accordance with Chapter 165, Laws of 1931, are published herewith:

All persons proposing to bid on state highway work must furnish a statement, under oath, in response to a questionnaire to be submitted by the State Highway Commission. Such statement shall fully develop the financial ability, adequacy of plant and equipment, organization, and prior experience, and such other pertinent and material facts as may be desirable.

In order that proper classification may be made, the following regulations have been adopted by the State Highway Commission:

(1) Prospective bidders will be classified as follows:

GENERAL CONSTRUCTION WORK—Any class of work ordinarily undertaken by the State Highway Department.

GRADING WORK—Work involving grading and drainage structures.

PAVING WORK—Work involving grading, drainage, structures, and paving.

BRIDGE WORK—Work involving bridges, viaducts, and other similar structures.

Each bidder who qualifies for any one of the four classifications will be graded in accordance with his financial ability, adequacy of plant and equipment, organization and prior experience, and also such other pertinent and material facts as may seem desirable. Each bidder will be given a rating designed to indicate the kind and quantity of work upon which he will be eligible to bid.

Bids will be accepted only from persons qualified in accordance with this classification.

(2) Prospective bidders must submit financial and equipment statement and experience statement in response to questionnaires provided by the commission every six months, or as often as may be required by the commission. No bid will be received from a contractor unless he has submitted statement in response to questionnaire at least 20 days before bids are to be submitted. Prospective bidders must also submit with each bid revised financial statement and plant and equipment statement in response to questionnaires provided by the commission.

(3) Prospective bidders on general construction work, paving work and bridge construction must show liquid assets equal to at least the capacity or eligibility rating that will be assigned to them on the basis of the following schedule:

| | |
|---|---------|
| For work up to \$100,000..... | 33 1/3% |
| For work from \$100,000 to \$250,000..... | 25% |
| For work from \$250,000 to \$500,000..... | 20% |
| For work over \$500,000..... | 15% |

That is to say, no prospective bidder in the above classifications will be eligible to bid on projects of a value so great that his liquid assets will not be at least equal to the percentage shown in the above schedule.

Prospective bidders on grading work must show liquid assets to at least 20% of the capacity or eligibility rating that will be assigned to them.

(4) In addition to the liquid assets necessary to be shown for a given capacity rating, prospective bidders must also show that they possess and have available appropriate and sufficient equipment to perform satisfactorily the kind and quantity of work contemplated by the classification and rating, or, in lieu of actual equipment on hand, the showing of liquid assets to-

gether with verified credit must be sufficient to provide the necessary equipment in addition to meeting the percentage requirements stated above.

(5) The experience showing made by prospective bidders will also affect their capacity rating.

(6) Based upon the statement in response to the questionnaires, the State Highway Commission will classify prospective bidders and give notice of such classification by registered mail within eight days after receipt of the same.

(7) A bidder dissatisfied with his classification may request a hearing before the New Jersey State Highway Commission, and at the hearing may present further evidence to justify a different classification. No change in classification, where the letting has been advertised, will be made unless written request shall have been received at least 20 days preceding the final day for submission of bids.

(8) Any prospective bidder dissatisfied with ruling of the State Highway Commission, or with the original classification, if notice of the classification shall have been sent him not less than 12 days prior to the letting of the contract, may request a hearing before the Board of Review. This request must be filed not less than 10 days prior to the final day for the submission of bids.

(9) The Highway Commission may reject any bidder at any time prior to the actual awarding of contract where there have been developments subsequent to qualification and classification which, in the opinion of the Highway Commission, would affect the responsibility of the bidder. Before taking such action, the Highway Commission will notify the bidder and give him opportunity to present additional information.

PERSONNEL OF METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

For the benefit of contractors and material dealers desiring to make contacts with the Metropolitan Water District of Southern California, a list of officers, directors and department heads are printed herewith:

OFFICE HEADQUARTERS

306 West Third St., Los Angeles.

OFFICERS

W. P. Whitsett, Chairman.
Franklin Thomas, Vice-Chairman.
S. H. Finley, Secretary.

BOARD OF DIRECTORS

Anaheim—O. E. Steward.
Beverly Hills—George R. Barker.
Burbank—Harvey E. Bruce.
Compton—C. A. Dickson.
Fullerton—Walter Humphreys.
Glendale—S. McClure.
Long Beach—Nowland M. Reid.
Los Angeles—John G. Bullock, I. Eisner, W. L. Honnold, John R. Richards, W. P. Whitsett.
Pasadena—Franklin Thomas.
San Marino—Harry L. Heffner.
Santa Ana—S. H. Finley.
Santa Monica—Arthur A. Weber.
Torrance—John Dennis.
Chief Engineer and General Manager—F. E. Weymouth, Room 1104, 306 West Third St.
Office Engineer—C. A. Bissell, Room 1004.
Assistant to General Manager—Don J. Kinsey, Room 1107.
Chief Designing Engineer—Julian Hinds, Room 1004.
Chief Electrical Engineer—J. M. Gaylord, Room 704.
Construction Superintendent—James Munn, Room 1109.
Construction Engineer (Field Office)—J. B. Bond, Box 218, Beaumont.
Chief Counsel—James H. Howard, Room 1204.
Counsel—Chas. C. Cooper, Room 1204.
Comptroller—Chas. H. Toll, vice-president, Security-First National Trust & Savings Bank.
Assistant to Comptroller—J. M. Luney, Room 904.
Purchasing Agent—Eugene H. Riggs, Room 504.
Right-of-Way and Land Agent—M. C. McGarry, 6th Floor.
Personnel Director—Ezra B. Rider, Room 612.
Information—R. Ryan, Room 1105, in charge.

THE LEGAL PAGE FOR CONTRACTORS

BY GEORGE N. CROCKER, Attorney for Associated General Contractors of America, California Branch, Russ Building, San Francisco

(Mr. Crocker will discuss in future issues of the Pacific Constructor any legal points which may be of particular interest to the subscribers to this publication. Address your request to Mr. Crocker at the above address.)

The Sanctity of Street Improvement Assessments

STREET improvement contractors should all rejoice in the recent action of the Supreme Court of California in affirming once again, but in stronger terms than ever before, the impregnability of an approved street improvement assessment against the attacks of disgruntled property owners.

Forty-five residents and taxpayers of the town of Sausalito, California, brought an action to invalidate an assessment in the sum of \$181,304.54 levied against property in Sausalito for street work done under the Street Improvement Act of 1911. They claimed that the work had been improperly done in various respects and should never have been accepted. The Superior Court of Marin County decided in their favor, whereupon the contractor appealed the case. By its decision rendered on November 2 1931, in the case of John A. Hannon, et al, vs. The Town of Sausalito, J. A. Dowling, et al, the California Supreme Court reversed the judgment and declared the assessment to be valid.

The Supreme Court stated that the action of the city council in confirming the assessment after hearing protests made by property owners was conclusive, and could be overturned only by a showing of fraud on the part of the members of the council. This has long been the established rule of law. However, the court went on to decide that slight and unimportant irregularities or departures from specifications in the performance of the work will not be considered sufficient evidence that the city councilmen acted fraudulently in approving the work and confirming the assessment. If the improvement substantially complies with the contract, no grounds exist for invalidating the assessment.

To quote from the Supreme Court's opinion:

"It is the rule of construction that where a street or public improvement contract has been departed from to avoid an unforeseen incongruity, such as changing the grade fixed by the contract so as to make the improvement conform to the grades of intersecting streets and highways anciently established, or to avoid an engineering error or miscalculation which would lead to an absurdity, or where changes would benefit the property owners and would cause no material detriment to the improvement, the city council is fully warranted and acts within the plenary power with which it is clothed by the legislature in passing upon the contractor's work, though there may be found departures, as above indicated, from the plans and specifications. Plenary power was conferred upon municipal governing boards doubtless for the purpose of giving them wide latitude in matters of discretion for the definite reason that in determining the question of compliance with street improvement contracts wide discretion is necessary from the very nature of the work to be performed. Official efficiency requires that their hands be not too tightly tied."

The most encouraging part of the court's opinion, from the contractor's standpoint, is the clear indication that

the court is not much inclined to lend its ear to charges of fraud hurled by disgruntled property owners. To charge that public officials acted fraudulently is to make a rather serious accusation, and the California Supreme Court has in effect served notice that it must give the public officials the benefit of any reasonable doubt.

As the court stated:

"Fraud being a term which imputes venality and corruption to the person charged should be clearly proved and satisfactorily established where the persons charged are public officers vested with ordinary discretionary powers. If official acts may be explained on any reasonable theory of duty honestly, even though mistakenly, performed, it must be resolved in favor of the presumption, which may not be lightly ignored."

Many individuals seem to possess the unhappy faculty of imagining corruption and dishonesty on the part of all those who may disagree with them. Many property owners who rebel at paying their street assessment when the time for payment arrives are of that type and do not hesitate to charge the contractor and the city officials and everyone connected with the work with the grossest villainies. Such property owners may be actually sincere, but they are misguided, and consequently unfair. Another type of property owner exists who will grasp at any technicality that he can find and who will hurl any accusation that may serve his purpose even though he knows there is not a shred of merit in his position, and his sole aim is to have his street work done for nothing. Neither of these types, however, will find a welcome in the courts. They are attempting to buffet a sound public policy and their efforts must fail. To use the language of the California Supreme Court:

"Suspicion easily aroused and baseless charges of dishonesty hurled in the acrimony of controversy have a tendency to defeat rather than promote efficiency in the administration of public affairs."

All contractors who are engaged in street assessment work, or who may intend to engage in such work in the future, should find considerable comfort in the strength and breadth of this decision, which will serve as a leading precedent in any future proceedings attacking the validity of street improvement assessments.

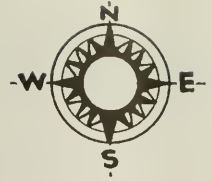
Golden State Flooring Corporation Hardwood Flooring Headquarters

C. E. COATES, Manager

RHODE ISLAND STREET, Bet. 16th and 17th Street
San Francisco, California
Telephone MARKET 3177



Here To There And Back Again



LOOKING 'EM OVER

We are going to get along fine with this page—that is, if we can find a good bullet-proof vest at a reasonable price!

“FLYING BILL” BECHTEL, or W. A. Bechtel as they list the President on the payroll of the Six Companies, has just applied for a patent on a device to shuffle a deck of pinochle cards.

* * * *

Bill aviates around a lot in the skyships—going somewhere and hurrying back so he can start somewhere else. He does a lot of his work while in the plane—in fact, he generally carries along about six pinochle decks!

* * * *

Bill carries along a brass-wire birdcage, and to shuffle the cards puts them in the birdcage and holds it out the plane window into the slip-stream of air, juggling them around for a moment, and they are shuffled! He is trying to patent the idea.

* * * *

Betchel smokes—anything! He got that way while playing vacquero on the western plains, and sometimes tobacco would run low. We are now on the trail of the story about Bill and the Original Bull used by Bull Durham! We will get that story yet!

Bill is head-man of the biggest job this country will have for many years. The story of his career should be an inspiration for every struggling young man.

* * * *

The first real job Bill ever had was touring the kerosene circuit with a Medicine Show, playing Fairs and Carnivals.

Bill was the TROMBONE Player in a WOMAN'S BAND!

LORD & BISHOP, good A. G. C. Members with paid-up dues and everything. HARRY LORD is just chock full of “Skill, Integrity and Responsibility.” Years ago he was State Engineer of Montana. Left there—said he was danged tired of living in a place that used hell for a basement!

* * * *

Harry just kinder married into the building business. His Brother-in-Law is “CHICK” SALE—a SPECIALIST in Building Construction! And if you haven't read THE SPECIALIST, you have missed the funniest 27 hundred words ever written about the building business!!

GRANITE CONSTRUCTION COMPANY, and that means WALTER J. WILKINSON. Walter spent his boyhood on a hill-ranch in Mendocino County—

walking along the sidehills is what gives him that rolling sailor-walk.

He went to Nevada as Construction Engineer for the Southern Pacific. The railway Pass Clerk, in renewing Walter's annual pass, included: “—and Wife.” Rather than let that transportation go to waste, he got married.

Wilkinson is a hunter. Doesn't make any difference what he is hunting, so long as he can be out playing with a gun. He just returned from a Canadian trip, accompanied by EARL GILMORE, President of the California Fish and Game Commission. Earl was hunting for a new Lion for his Gilmore Oil Company!

* * * *

This may be a tip-off, but Wilkinson is planning to crash the front page with his next job by having the aggregate delivered by CLARK BROTHERS in their Stinson Transport Plane!

No, Elmer, the MOSAIC LAW does not mean the regulations for laying wood-block flooring!

In this week's review of Bathing Beauties we have “CURLEY” McDONALD, of Sacramento and elsewhere. Curley likes to play in mud; prefers clean mud, but anyway MUD.

* * * *

Curley started out with a drag-line, building levees along the Sacramento River. He thought he was making rice paddies, but he was wrong. He was making landing fields for ducks.

He helped establish every Duck Club in Central California, and didn't get a commission on a single one—and yet there are those who say Contractors are chiseling sharpshooters!

* * * *

We don't know how McDonald got the contract, but he is now building the coast-line highway from the Monterey Peninsula to Los Angeles.

* * * *

This pavement will extend from CARMEL right smack-dab to the portals of the Angelus Temple—if that means anything to you radio operators—and if you remember back to 1926.



A. G. C. Chapter Activities

SECRETARIES OF A.G.C. CHAPTERS THROUGHOUT THE PACIFIC COAST
ARE REQUESTED TO SUBMIT ITEMS FOR PUBLICATION IN THIS DEPT.

SOUTHERN CALIFORNIA BRANCH HOLDS MEETING, JANUARY 28

President FitzGerald Duly Installed

The regular monthly meeting of the Southern California Branch, A.G.C., was held at the Jonathan Club on Thursday evening, January 28.

This meeting was of particular significance, in so far as it marked the commencement of a new year in the activities of the Southern California Branch. One of the chief features of the evening was the installation of President-Elect C. G. FitzGerald, who paid high tribute to the membership of his branch and outlined a rather extensive and interesting program.

Past President Arthur Bent, first president of the Southern California Branch, acted as installing officer, and made the presentation speech and award of a beautiful electric clock to retiring President Chas. U. Heuser. Mr. Bent paid particular tribute to the splendid work done by Mr. Heuser during his term, and solicited from him his continued interest and activity in behalf of the Chapter.

Lynn S. Atkinson contributed to the success of the meeting by bringing to light some very salient features of A.G.C. activity in his own inimitable manner.

The attitude of the Southern Group seems to be one of optimism, and, as a result, A.G.C. can expect many things from this particular chapter.

SPOKANE CHAPTER ELECTS

Max J. Kuney, of the Max J. Kuney Co., was elected president of the Spokane Chapter, at the annual election of officers held last month. Kuney succeeds Louis Larson, of Larson Brothers.

Nick Norman and I. G. Anderson, the latter of Siems Spokane Co., were elected vice-presidents. R. L. Blair, of the Triangle Construction Co., and S. G. Morin were elected directors.

Dan Mannah, secretary of the Spokane Chapter, looks for an active season for members of the chapter during the coming months.

SEATTLE A. S. C. E. ELECTS

Major O. A. Piper, chief assistant city engineer of Seattle, was named president of the Seattle section, American Society of Civil Engineers, at the annual meeting of that body. Piper succeeds W. F. Way, consulting engineer and contractor, formerly identified with Henry & McFee. At the same meeting M. O. Syliassen, associated with John Graham, architect, was elected vice-president, succeeding E. L. Strandberg, a consulting engineer; Thos. D. Hunt, King county engineer, was renamed secretary-treasurer.

NORTHERN CALIFORNIA CHAPTER ADDS FOUR MEMBERS IN JANUARY

Northern California Chapter has opened the year 1932 with a campaign for new members under the direction of a special membership committee. R. D. Watson is chairman of the membership committee and serving with him are K. K. Bechtel, H. S. Lord, D. McDonald and John Phillips.

Special effort is being made to secure the affiliation with the Chapter of the large construction firm of Northern California engaged in engineering work other than highway building, in order that the roster of the Chapter may be representative of the leaders in all lines of construction.

A special drive is also being made to secure the affiliation of all the contractors in San Francisco engaged on public work of the city and county of San Francisco in order that the campaign which is being carried out for the full enforcement of all provisions of the new city charter relative to contract procedure may have the full support of all contractors affected thereby. Among the firms admitted for membership during the month of January were the following: Guy F. Atkinson Company, Russ Building, San Francisco; Lynn Atkinson, 1316 Edwards & Wildey Building, Los Angeles; Six Companies, Inc., 155 Sansome Street, San Francisco; T. E. Connolly, 461 Market Street, San Francisco; C. T. Malcom, Walnut Creek, and Ward Engineering Company, 315 Montgomery Street, San Francisco.

INTERMOUNTAIN BRANCH HONORED

Intermountain Chapter at Salt Lake City can take a justifiable pride in the fact that three of its members were elected to serve in responsible positions in city affairs at the last general election. Ora Bundy was re-elected mayor of Ogden. J. W. Whiting was elected mayor of Springville and Ernest A. Strong, a city councilman of Springville.

Apparently the voters in casting their ballots recognized the "Skill, Integrity and Responsibility" of the candidates.

(Continued on Page 14)

SECRETARIES, ATTENTION!

If the officers and members of your Chapter are not listed correctly in this issue, will you kindly drop us a line and advise of any changes necessary to bring the membership listing up to date?

This is important. It is well for every member of the A.G.C. to know who his associates are, that he might practice the method of "Business With Members Preferred."

Look over the membership listing, and advise us of any needed changes. Do it now.

THE EDITOR.

Pacific Clay Products

General Offices: 650 Chamber of Commerce Bldg.,
1151 SOUTH BROADWAY
Los Angeles, Calif.

Around The Builders' Exchanges

SECRETARIES OF BUILDERS' EXCHANGES THROUGHOUT THE PACIFIC COAST ARE REQUESTED TO SUBMIT ITEMS FOR PUBLICATION IN THIS DEPARTMENT

MONTEREY COUNTY.—Andrew B. Jacobsen was re-elected president of the Monterey County Builders' Exchange for the fourth time at the annual reorganization of that body.

Fred Ruhl, of Pebble Beach, was re-elected as vice-president for his fourth term, and Dio L. Dawson was named secretary-manager after a like period of service.

Lewis H. Crane, of Carmel, was elected treasurer to succeed H. A. Prince, of Monterey.

The Executive Committee consists of Ed Simpson, of Pacific Grove; Fred Ruhl, Hugh W. Comstock, of Carmel; C. L. Frost and John McNeal, of Monterey.

As a major objective for the year's program, it was decided to undertake a survey of building construction costs in other cities with a view to providing data enabling local bidders to make more of a showing against outside competition on local projects.

PASADENA.—An open public gathering, sponsored by the Pasadena Builders' Exchange, held in the John Muir Technical High School last month, was attended by representatives of service clubs, school authorities and the general public. Speakers included Howard Campion, principal of the Frank Wiggins Trade School, of Los Angeles, and Superintendent of Schools John A. Sesson, of Pasadena.

Vocational training in public schools, to be effective in time of prosperity and humming industry, must be maintained during times of depression, the speakers pointed out.

The meeting was called as the result of various groups calling for further cuts in the cost of education, some advocating the reduction of the vocational training program.

George W. Israel, secretary-manager of the Pasadena Builders' Exchange, is taking an active part in the movement with a view to holding classes to the present schedule.

LONG BEACH.—J. H. Pelkey was elected president of the Long Beach Builders' Exchange at the annual meeting of that organization last month. R. J. Broxholme was elected vice-president; Art Hales, secretary, and H. T. Scott, treasurer. Henry Robinett, Wm. J. Esser and Harry Neave were named directors.

Committees named to serve for the ensuing year are:

Finance and Budget—J. H. Pelkey, H. T. Scott, Roy Baty.

Legislative—C. W. Pettifer, chairman; W. E. Allen, W. J. Burgin, H. L. White, Ray Jackson.

Ethics—P. J. Scanlan, chairman; M. D. Moffitt, Roy Orris, O. W. Fisher, Howard Curran.

Arbitration—R. P. Mussetter, chairman; W. C. Gowen, W. H. Fawcett, J. K. Hoppin, H. L. Douglas.

Building Code—Clyde Hickman, chairman; J. D. Reed, Earl Card, J. E. Burrell, J. W. Black.

New Membership—Fred Dummer, chairman; LeRoy Crager, Winchester Stacy, F. G. Pierce, J. G. Meadows, Sam Duff.

Six new members were added to the roster of the Long Beach Builders' Exchange during the year 1931, according to the annual report of E. A. Bradbury, manager, submitted to the directors last month. This brings the total membership to 107. The report furnishes a complete review of the exchange activities during the past year, together with a financial statement showing the organization in a healthy condition.

A notable feature of the report is acknowledgement of 665 inches of space in the Long Beach Sun and Long Beach Press-Telegram, wherein stories appeared of exchange activities and matters of particular interest to prospective builders.

LOS ANGELES.—The Builders' Exchange of Los Angeles, in conjunction with several organizations of general contractors and surety underwriters, has launched the Construction Industries Joint Committee of California. The purpose of the Joint Committee is to promote economic construction and resist the encroachments of the "Day Labor System," one of the many schemes by which government invades the field of private initiative of its citizens and taxpayers.

STOCKTON.—A get-together meeting of the Stockton Builders' Exchange was held January 12 in the exchange headquarters, 242 East Miner Avenue, that city, with more than sixty members and friends in attendance. Representatives of building trades from various sections of the San Joaquin Valley attended. L. S. Peletz was toastmaster at the "after-the-meeting banquet," when a program of entertainment was featured.

COLTON CEMENT

Uniform Quality : Service : Satisfaction



Manufactured by

CALIFORNIA PORTLAND CEMENT COMPANY

1228 PACIFIC MUTUAL BUILDING

Mills at Colton, California

TR. 1271

Los Angeles

Construction Materials and Equipment

TRADE NOTES—PERSONALS

Contractors Equipment Co., Portland, Ore., has been formed by F. L. Hamann to handle a complete line of construction equipment, as well as rentals and the sale of new and reconditioned equipment.

Patent on an endless chain tread track for use on its 20-ton dump carts was obtained recently by the R. G. LeTourneau Manufacturing Company of Stockton. The tread eliminates friction at the axle and improves efficiency of the wagons.

Cleaver-Brooks Co., Milwaukee, Wis., has been organized to manufacture and market equipment for heating bituminous materials, aggregates and water for central mixing plants, for central proportioning plants on large construction work where winter mixing of concrete is carried on, and for furnishing hot water to industrial plants. J. C. Cleaver is president and R. E. Brooks is secretary-treasurer.

Wellman Engineering Co., Cleveland, Ohio, has acquired the clamshell and trailer business of the G. H. Williams Co., Erie, Pa. Manufacturing activities have been transferred to Cleveland. Several Williams officials, including W. C. Swalley, secretary and general manager; A. J. Lichtinger, assistant manager; C. F. Weiblen, sales manager, and P. T. Robin, chief engineer, will be associated with the Wellman company.

Stanley Tools, New Britain, Conn., announces the purchase of the rule business of Hiram A. Farrand, Inc., of Berlin, N. H.

Smith Tractor & Equipment Co., formerly the E. & F. Smith Co. of New York, has been appointed dealer for the Caterpillar Tractor Co., Peoria, Ill., for the northern New Jersey territory. Headquarters have been opened at 212 Coit St., Irvington, N. J.

Lamb Tractor Co., a \$400,000 corporation, has been organized at Hoquiam, Wash., to manufacture a new type tractor for logging and road grading.

William E. Umstadd has been made executive vice-president of the Timken Roller Bearing Co., Canton, Ohio. Mr. Umstadd has been with the Timken organization for thirteen years, during the last two years of which he has occupied the position of factory manager.

Joy Manufacturing Co., Franklin, Pa., announces a settlement of patent litigation against the Herzler & Henninger Machine Works of Belleville, Ill. Under the terms of the settlement the continued use of Wilson loaders purchased from Herzler & Henninger is granted and repair parts will be available, but the machines cannot be rebuilt or resold.

J. Frederic Wiese, who has been assistant to the general manager of sales of Lukens Steel Co., Coatesville, Pa., has been appointed assistant to F. H. Gordon, vice-president in charge of sales. Mr. Wiese will maintain headquarters at Coatesville.

Link Belt Co., 910 S. Michigan Avenue, Chicago, has issued an art gravure calendar for 1931, each page illus-

trating material handling, screening or positive power transmission equipment. It is 24 by 15 inches in size and will be sent upon request to members of the construction fraternity requesting one on their business letterheads.

Caterpillar Tractor Co., Peoria, Ill., has given the name of special sales division to a group of engineers contacting railroads, public utilities and equipment manufacturers. In accordance with the company's decision to enter the commercial engine field, it has appointed a special staff including W. J. Dakes, manager of engine sales; J. H. Howell, Harold G. Tufty, G. W. A. Bell, Jr., and C. D. Turley. J. N. Barnes, C. M. Burdette and F. G. Nunneley have been appointed assistant sales managers in charge of district representatives and groups of dealers.

TRADE NOTES

H. P. Davis, former engineer for the Kaiser Paving Company in the East Bay section, has been named sales representative for that company in San Francisco and the Peninsula districts. Davis is well known in the San Francisco Bay district and his new assignment is welcomed by members of the construction industry.

(Continued on Page 15)

LE TOURNEAU CATALOG AVAILABLE

R. G. Le Tourneau, Inc., of Stockton, Calif., manufacturers of Le Tourneau heavy grading equipment, announce a new 24-page catalog ready for distribution to engineers, contractors, dealers and other interested persons upon request. The catalog illustrates and describes in detail the construction and operation of Le Tourneau control units, bulldozers, scrapers, rooters, rollers, dumpcarts and cowdozers which have attracted so much attention in the West because of their spectacular performance on the Boulder Dam road, Oregon State highway and other big jobs. An emphasized feature of the Le Tourneau line is its all-steel electric arc-

welded construction, no bolts, rivets or cast iron being used in any Le Tourneau unit, according to the catalog. Many new improvements in the equipment and additions to the line since the previous catalog are fully covered in this new edition. Photographs showing the various units in characteristic performance on many outstanding jobs, both in this country and abroad, are featured in the catalog. Officials of the company are: Robert G. Le Tourneau, president; M. E. Le Tourneau, secretary-treasurer, and J. W. Le Tourneau, sales manager. Requests for the catalog should be addressed to R. G. Le Tourneau, Inc., Stockton, Calif., the home of the company's new all-steel electric arc-welded factory.



STABILIZATION IS NEED OF THE CONSTRUCTION INDUSTRY

By PAUL L. CROOKS, *President,*
Portland Chapter, A.G.C.

Stabilization of the construction industry will be the aim and purpose of Portland Chapter during my term of office.

In the first place, we must see to it that a minimum wage scale is set and rigidly observed in the letting of public works contracts. We must avoid the subterfuge of subletting work on the part of irresponsible contractors who cannot and will not observe contract stipulations.

Exploiting of labor must stop. It is time to call a halt to the common practice of 'brokerage methods' among contractors. Too many jobs go at such a low figure that it is impossible to pay the going wage and show a profit when the contract is completed.

Another matter which is all-important is that of our lien laws and their relation to credit. To stabilize credit we must change lien laws and place credit responsibility where it belongs. We must eliminate such lienable items as rental of equipment, repair parts for equipment, explosives and all materials going into a public works contract.

Why should the state have to bear the responsibility for collecting the merchants' money when the oldest thing about merchandising is the private dealings between buyer and seller and both parties' ability to fulfill such contracts. This is in line with the national policy of the A. G. C. for credit stabilization.

We feel that the credit departments of the various selling organizations should start to function again as they did before all this inflation of credit entered into the picture, instead of merely watching the time expiration of surety bonds and thereby protecting their claim under present laws.

It is not our intention to curtail or limit anyone in the construction industry, but we feel that credit should be extended to the deserving who meet their obligations promptly. We feel that any selling organization has the proper credit facilities for ascertaining and knowing the amount of credit a contracting firm should be entitled to and extending it accordingly.

It is not our intention that labor should not be fully protected, as under present laws, for the average employe has no knowledge of his employer's financial ability to meet such obligations and should be fully protected.

This policy has been discussed with several of the larger equipment dealers and supply men, as well as with several representatives of bonding companies, and they consider the idea sound and workable and have assured us of their support in the matter.

\$8,000,000 R. R. CONTRACT

H. B. Watters, Columbus, Ohio, has been awarded a contract by the Government of Honduras, Central America, for the construction of 200 miles of railroad at a cost of \$8,000,000. The new railroad, which will supplement the present 70-mile system of the Honduras National Railway, will be completed in eight years.

ASSOCIATED EQUIPMENT DISTRIBUTORS ELECT OFFICERS AT DETROIT MEETING

With a majority of the outstanding equipment distributors of the nation in attendance, the annual convention of the Associated Equipment Distributors was held at the Book-Cadillac Hotel, in Detroit, immediately preceding the annual meeting and road show of the American Road Builders' Association.

President Oscar B. Bjorge, head of the Clyde Equipment Co., of Portland and Seattle, presided at all sessions.

During the regime of President Bjorge, the equipment distributors enjoyed a gain in membership, despite the depression. In addition to individual members, the organization added to its roll affiliated groups, including the Machinery Dealers' Association, of Seattle, and similar associations in Minneapolis, Minn., and Atlanta, Ga. Another group is to be formed in Ohio, and others are pending.

President Bjorge was succeeded by E. K. Hurst, of the Western Tractor and Equipment Co. and of the Western Materials Co., of Sioux Falls, S. D. Mr. Bjorge, as immediate past president, becomes ex-officio member of the board of directors. C. E. Baker, of Smith-Booth-Usher, California, is first vice-president; R. R. Nixon, of Chattanooga, second vice-president; A. C. Blaisdell, of Cincinnati, secretary; H. W. Fletcher, of New Orleans, treasurer, and Victor L. Phillips, of Kansas City; Fred Matheis, of Boston; John C. Louis, of Baltimore; Roy C. Whyne, of Louisville; E. W. Gierke, of Davenport; Thomas W. Rosholt, of Minneapolis, and George E. Hillsman, of Chicago, directors.

The next meeting place probably will be at the next national road show. There was considerable sentiment among the distributors in favor of holding the road show every other year instead of every year, as in the past. Well known distributors from all sections of the country appeared as speakers on topics affecting the sale of construction equipment under current conditions.

D. B. MILLER WITH ASPHALT INSTITUTE

Daniel B. Miller has been appointed managing engineer in charge of Pacific Coast activities for the Asphalt Institute of New York. Miller will maintain offices at 206 Sansome Street, San Francisco.

Miller is well known on the Pacific Coast where, since 1923, he has been associated in an engineering advisory capacity with several of the larger surety companies operating in this territory. He is also prominent in military circles in connection with his duties as a lieutenant colonel of the U. S. Army Infantry Reserve. Following his active duty as captain, War Plans Division, General Staff, during the world war, he was engaged in highway construction in the West, where, prior to coming to California, he was chief engineer of maintenance for the Wyoming State Highway Department. For the six years prior to his military service he was connected with the asphalt industry at Washington, D. C.

New Pacific Coast members of The Asphalt Institute are the Standard Oil Company of California, Union Oil Company of California, Shell Oil Company, Associated Oil Company and Gillmore Oil Company, Ltd.

Normandie 4303

Normandie 7715

LEO HONEK

EXCAVATING CONTRACTOR
CONCRETE PAVEMENT BREAKING
Compressed Air Equipment

2941 Denby Avenue Los Angeles, Calif.

Contractors Machinery Exchange

RENTALS A SPECIALTY

Phone FRuitvale 0715

1135—57th Avenue

Oakland, Calif.

LOS ANGELES COUNTY SEEKS BIDS ON SAN GABRIEL DAM CONSTRUCTION

Bids will be considered by the Supervisors of Los Angeles County, on February 8, to construct San Gabriel Dam, No. 2. The structure will be of the rock fill type and will involve an expenditure of between \$2,000,000 and \$3,000,000, according to E. C. Eaton, chief engineer of the Los Angeles County Flood Control Department.

The type will be a rock fill dam without core, with gentle slopes, 1:1.5 on the down-stream face and 1:1.3 on the up-stream. It will be 290 feet in height with a length at the crest of 600 feet, and 100 feet (across the canyon floor), and 100 feet at the base. The thickness at the base will be about 800 feet. The cutoff wall at the up-stream toe will be 50 feet in depth, with grouted holes to a depth of 150 feet. Massive reinforced concrete ball-bearing joints will provide for shock flexation between the facing and rock. The main outlet tunnel will be 15 feet in diameter, the others being 7½ feet in diameter. The 15-foot tunnel will be built by separate contract, but will be lined with class D concrete by the present contractor as shown in item No. 11. Bids will be taken on alternate proposals, Proposal No. 1 being for a structure with laminated concrete facing slabs; Proposal No. 2 being for laminated gunite slabs.

A complete listing of the quantities of materials involved in this project will be found in the "Engineering News" Section of Pacific Constructor.

A. G. C. CHAPTER ACTIVITIES

(Continued from Page 10)

Resolutions condemning the "practice of oppressively reducing wages," were adopted at the annual meeting of the Pacific Northwest Branch of the Associated General Contractors of America, at Spokane, last month.

Certain contractors, one resolution stated, "wrongfully taking advantage of the present regrettable business conditions, have reduced wages of their employes twenty-five cents an hour for common labor, and by such oppressive acts have taken themselves outside the pale of commendatory relations as employers."

SAN DIEGO.—Headquarters of the San Diego Builders' Exchange has been moved from 220 G Street to 1210 Third Avenue, that city, it is announced by Vergil C. Barber, executive secretary of the organization.

PORTLAND, ORE.—Glen Hord was elected president of the Portland, Ore., Builders' Exchange at the annual meeting of that body. F. Eichenlaub was elected vice-president; Willard Griffith, recording secretary, and Hans Skibinski, treasurer.

The Board of Directors is composed of Frank Patterson, Glen Hord, Victor Shearer, Hans Skibinski, Jack Bastrom, V. H. Dent, Fred Sandstrom, Oscar Weyman, F. Eichelau and A. W. Stanchfield.

The twenty-first anniversary banquet and smoker of the exchange, at the Multnomah Hotel, proved a big success, more than 200 members attending the affair.

MOUNTAIN PACIFIC CHAPTER ELECTS

H. W. McCurdy, of Tacoma, was elected president of the Mountain Pacific Chapter, A.G.C., at the annual meeting of that body in Spokane. McCurdy succeeds J. M. Clifton, of Spokane. Other officers are: Mr. Clifton, vice-president, and Lee Johnson, Tacoma, secretary-treasurer. These officers with the following constitute the board of trustees: C. W. Joslin, Spokane; George D. Lyon, Spokane; M. E. Norris, Burlington, and John A. Rumsey, Seattle.

INTERMOUNTAIN BRANCH ELECTS

G. H. Malan was elected president of the Intermountain Branch, A.G.C., at the annual election of officers held last month. H. T. Reynolds, Jr., was elected vice-president, and T. C. Sorensen re-elected secretary and treasurer. B. D. Palfreyman and H. D. Christensen were elected members of the Executive Committee.

PACIFIC N. W. BRANCH ELECTS

James Murdock, of Seattle, was elected president of the Pacific Northwest Branch, A.G.C. Just before departure from Seattle for the Spokane meeting, Mr. Murdock was elected president of the Seattle Chapter, A.G.C., for a fourth consecutive term.

J. B. Warrack, of the Warrack Construction Co., Seattle, was elected treasurer of the Pacific Northwest Branch, and P. L. Crooks, of Portland, secretary. H. V. Bogert will continue as recording secretary for the ensuing year.

Union Tank and Pipe Co., Ltd.

STEEL PLATE AND SHEET METAL
PRODUCTS

Phone JEfferson 2251

2801 Santa Fe Avenue

Los Angeles, Calif.

United Commercial Company, Inc.

All Our Used Machinery, Second-hand
Shovels at Less Than Cost

234 Steuart Street

San Francisco

Carey Elastite Expansion Joint

Name Reg. U. S. Patent Office

For Pavements, Sidewalks, Curbs,
Reservoirs and all Classes of
Concrete Work

Elastite is a preformed expansion joint, easy to install, and insures a smooth-riding pavement. Regular Elastite Asphalt Expansion Joint and Improved Elastite Rubber Expansion Joint carried in Los Angeles stock. Immediate delivery in small quantities or carloads.

Warren & Bailey Co.

Office and Warehouse: 350 So. Anderson St.
ANgelus 2151 Los Angeles, Calif.

LIMIT STAKES AND LEVELS

(Continued from Page 4)

contract. The successful bidder would be required to use this list in carrying on the work, stopping bid-shopping at its source.

Successful contractors on the Golden Gate Bridge project have agreed to extend their contract agreements for another six months.

The agreements, covering the eight major phases of the project, were to lapse January 16. They are to be extended because sale of the bridge bonds is still blocked by litigation.

A \$200,000 county road bond issue for relief of the unemployed was rejected by the voters of Ventura County. Many of the 1,800 registered unemployed in the county were reported to have voted against the bonds, being unsatisfied with the proposed \$2-a-day wages for wheelbarrow and similar work on highways.

An amendment to the Seattle city charter, authorizing the Board of Public Works to specify that all supplies and materials used in public improvement work shall be manufactured or fabricated in the city of Seattle or the state of Washington, will be voted on at the general election to be held March 8. A resolution providing for such submission was adopted by the Seattle City Council by unanimous vote.

The Indiana State Highway Commission has adopted Governor Leslie's views favoring the award of paving contracts in Indiana firms as a means of solving the unemployment situation in the state. According to the governor's views, local contractors should be favored where the difference in prices is slight, but where Indiana firms are more than second or third from the low bid, they must meet the out-of-state price to get the business.

Through the offices of the Construction League of the United States an informal movement has been set on foot to put a stop to bid shopping by general contractors. An offer has been made by E. J. Harding, managing director of the Associated General Contractors of America, to have the complaints sifted by a special committee of six, three to be appointed by the general contractors and three by the American Institute of Steel Construction. Anticipating that this committee will be ready to begin discussions before very long, the Steel Institute has appointed H. B. Hirsh, of the Belmont Iron Works; R. T. Brooks, of The Geo. A. Just Co., and A. J. Post, of Post & McCord, Inc., to represent the steel constructors.

It cost the state of California \$12,923,979 last year to buy supplies, equipment, etc., for its institutions and highway maintenance, according to J. F. Misphey, state purchasing agent. In order to adhere to the policy of "Buy California Products," Misphey explained that a five per cent differential is given to California products over supplies and materials manufactured in other states.

With about \$45,000,000 available for road construction in Texas during 1932, the state highway commission is already making plans for carrying out an improvement program. Employment will be given to about 75,000 men. Of the \$45,000,000 available, \$24,000,000 will be derived from the state tax on gasoline, \$4,000,000 from motor vehicle registration fees, \$6,500,000 from federal aid and the remainder from county bond issues.

Pacific Northwest Branch, A.G.C., at its annual meeting in Spokane, voted in favor of the action of the Washington State Highway Department in the establishment of a minimum daily wage on all state highway construction.

No deviation from a contract can affect the lien rights of materialmen unless they are parties to the arrangement, it was held by Judge Myron H. Westover, of the Los Angeles County Superior Court, in a decision which awarded \$110,000 to Hammond Lumber Company and other claimants against the sureties for Arthur Bard & Co., builders of the Breakers Club, now known as the Hollywood Beach Club, on the ocean front at Santa Monica.

The decision, according to Southwest Builder and Contractor, is said to be the first one by a California court on the question in dispute. Under the contract the builder was to be paid \$400,000 in cash, but instead received notes secured by a lien on the property. When the unpaid claims were passed on to the sureties they refused to pay, replying on the theory that a deviation from a contract released them from their obligations. The court held, however, that lien rights of materialmen and subcontractors could not be affected by such a deviation unless they were parties to the agreement.

TRADE NOTES

(Continued from Page 12)

Tom Scott, formerly connected with the sales organization of the Kaiser Paving Company, has joined the sales department of the Ready-Mix Concrete Company of San Francisco. He will operate in the San Francisco district.

A. J. Herbert, until recently connected with the Dyer Co., Cleveland, Ohio, has resigned to accept a position with the Alexander and Baldwin Co., Honolulu, T. H.

E. H. Moore and James E. Roberts, formerly connected with the offices of Jas. L. McLaughlin, general contractor, have entered the general contracting business for themselves and will operate under the firm name of Moore and Roberts, with headquarters at 512 Sheldon Building, San Francisco.

E. H. Moore was connected with the McLaughlin offices since the war and Roberts for the past eight years.

SMITH BROS. TRUCK CO.

"TRANSPORTATION SPECIALISTS"

Portable Crane Service—Rigging

1704 E. 16th St. Los Angeles WEstmore 3271

FOR SALE

No. 28-S Koehring 1-yard stationary concrete mixer mounted on structural steel frame. 30-hp. General Electric 3-phase motor enclosed, water tank and gated batch hopper.

ATKINSON CONSTRUCTION COMPANY
9135 Russet Avenue Oakland, California

SUCONEM

Super Concrete Emulsions

Limited

—for Better Concrete

3710 E. ALAMEDA ST., Los Angeles

District Offices

215 Richfield Bldg.,
Oakland, Calif.308 Stock Ex. Bldg.,
Portland, Ore.216 Walker Bldg.,
Seattle, Wash.

ALONG THE LINE

F. H. Sibley, dean of the College of Engineering of the University of Nevada, has received a year's leave of absence. He is now at the University of Vermont.

R. H. Stalnak, equipment engineer for the California State Highway Commission, represented that body at the annual conference of the American Road Builders' Association in Detroit, January 11 to 15.

W. R. Schofield, engineer for the Humboldt County Planning Commission at Eureka for the past two years has been appointed a member of the newly organized state tax research bureau.

David P. Barrows, professor of political science at the University of California and former president of that institution, has been elected to be directorate of the East Bay Municipal Utilities District, succeeding the late Frank Stringham, former mayor of Berkeley.

Chas. Gilman Hyde, professor of sanitary engineering at the University of California, has been appointed consulting engineer of the San Francisco Department of Public Health. Professor Hyde will head a newly organized division to study sewage disposal, water supply and industrial hygiene. One of the first problems to be undertaken will be garbage disposal.

San Diego County Supervisors have authorized J. W. Cole, deputy county surveyor, to organize a new department to be known as the Highway Department. It is proposed to do away with the present plan in which the county is organized into five road districts each under the supervision of a member of the county board of supervisors. Cole will report upon the plan to the Board at the meeting of May 1.

TRADE LITERATURE

Engineering data pertaining to steel liner plates for permanent underground work such as railroad, sewer, water and mine tunnels, caissons, shafts and mine entries are presented in a 16-page bulletin of the Truscon Steel Co., Youngstown, Ohio.

Recent publications of the Pennsylvania Pump & Compressor Co., Easton, Pa., include bulletin 216, covering sleeve and ball-bearing multi-stage centrifugal pumps, and bulletin 217, on single-stage centrifugal pumps.

Illustrated information on the methods used in reclaiming rail steel is given in a 49-page booklet prepared by the Republic Steel Corp., Youngstown, Ohio. Product forms, including structural shapes, fence posts, and tubing, are shown in cross-section, together with weights and information in extras.

Facilities of the New York Central Iron Works Co., Inc., Hagerstown, Md., for the fabrication of apparatus and machinery of every description, with particular emphasis upon asphalt plants, are described in a new catalog recently issued.

\$5,000,000 VANCOUVER, B. C., BRIDGE

First Narrows Bridge Co. plans to construct a suspension bridge across the Lions' Gate to cost \$5,000,000. Tentative plans, drawn by Monsarrat & Pratley, consulting engineers, Montreal, and W. G. Swan, consulting engineer, Vancouver, provide for a 1,400-foot channel and a clearance of 200 feet above high water.

Important Contract Awards

A resume of the more important contract awards during the month of Jan. for public works construction—complete particulars of which were published in the daily news service of Pacific Constructor.

BUILDING CONSTRUCTION

YOUNTVILLE, Cal.—R. W. Littlefield, Oakland, at \$407,245, exclusive of electric work, heating, ventilating, plumbing and refrigeration, awarded contract by State Division of Architecture to erect group of buildings for Veterans' Home. Construction of reinforced concrete.

SAN JOSE, Cal.—J. F. Shepherd, Stockton, at \$139,356 awarded contract by State Division of Architecture to erect two-story reinforced concrete Natural Sciences Building at State Teachers' College. Includes all work except plumbing, heating, ventilating and electric.

NAPA, Cal.—Barrett & Hilp, San Francisco, at \$52,550 awarded contract by State Division of Architecture for brick and reinforced concrete additions at the Napa State Hospital. Contract does not include heating, plumbing nor electric work.

LOS ANGELES, Cal.—Herbert M. Baruch Corp., Los Angeles, at \$74,163, exclusive of electric work, heating and ventilating, awarded contract by State Division of Architecture to erect three one-story reinforced concrete dormitories at the Pacific Colony.

BUTTE, Mont.—A. M. Lundberg, St. Louis, Mo., at \$241,000 awarded contract to erect postoffice extension at Butte, Mont., including remodeling of the present building.

MARE ISLAND, Cal.—Barrett & Hilp, San Francisco, at \$145,400 awarded contract by Bureau of Yards and Docks to erect battery overhaul building, sub-station and acid mixing plant at Mare Island Navy Yard.

WALLA WALLA, Wash.—A. F. Mowat, Seattle, Wash., at \$113,043 awarded contract to erect reinforced concrete subsistence building for U. S. Veterans' Bureau at Walla Walla.

LOS ANGELES, Cal.—Wm. P. McNeil Co., Inc., at approximately \$2,000,000 awarded contract by Chrysler Corp. to erect assembly plant. Masonry construction.

SACRAMENTO, Cal.—Harry Schuster Co., Oakland, at \$93,246 awarded contract by Sacramento County to erect home for indigents.

LONG BEACH, Cal.—Sully-Miller Contracting Co., Long Beach, at \$65,185 awarded contract by City Harbor Commission to construct Berths Nos. 1 and 2 on Pier A, Long Beach Outer Harbor.

ENGINEERING CONSTRUCTION

CALIFORNIA STATE—Mattich Bros., Elsinore, at \$289,865 awarded contract by State Highway Commission to grade and pave with cement concrete 14.6 miles between Tecata Divide and Mt. Springs grade in San Diego and Imperial counties.

LOS ANGELES, Cal.—John Papac, Los Angeles, at \$154,487 awarded contract by city to improve streets in Venice Boulevard and West Boulevard Improvement District, involving grading, concrete pavement, etc.

ARIZONA STATE—Skousen Bros., Sorocco, N. M., at \$149,890 awarded contract by State Highway Commission to construct Blythe-Wickenburg Highway, grading, draining, etc.

NYSSA, Ore.—J. A. Terteling, Ellensburg, Wash., at \$133,430 awarded contract by U. S. Reclamation Service for earthwork and structures in connection with the North Canal, Owyhee Project. General Construction Co. at \$151,050 awarded contract for tunnels in connection with same project.

LOS ANGELES, Cal.—Southern California Roads Co., Los Angeles, at \$115,454 awarded contract by city to improve portion of La Brea Avenue, involving grading, Willite pavement, etc.

SACRAMENTO, Cal.—Franks Contracting Co., San Francisco, at \$48,997 awarded contract by U. S. Engineer to raise and strengthen levee on west side of Yolo By-Pass and east side of Cache Slough.

NEW MEXICO STATE—Col-Tex Co., Oklahoma City, at \$36,385 awarded contract by State Highway Commission to furnish 17,500 barrels 70-80 road oil.

CALIFORNIA STATE—Helwig Construction Co., Sebastopol, at \$52,360 awarded contract by State Highway Commission to construct bridge over Russian River near Ukiah.

SACRAMENTO, Cal.—R. P. Easley, Antioch, at \$32,080 awarded contract by U. S. Engineer Office to raise and strengthen levee on west side of Yolo By-Pass, along Reclamation District No. 2068.

NORTHERN CALIFORNIA CHAPTER PROTESTS CONTRACT AWARDS ON STOCKTON BELT LINE RAILROAD

In calling for bids for construction of the Stockton Port Belt Line Railroad, the director of the port requested that proposals be submitted on two separate forms; one providing for the general contracting, including the furnishing of all materials such as steel rails, tie plates and ties required for the construction of the railroad, and the other proposal form permitting the submitting of bids for materials only.

The notice to bidders set forth that the general contractor bidding on the work proposed under the general contract must submit bids on all items, including the materials, or such bid would not be valid. It was also provided that a bidder could bid only on one proposal form.

In the notice to bidders the right was also reserved to award separately the items of materials required in the construction, and a special clause covering this feature also appeared in the specifications.

The reason given by the port authorities for calling the bids in this manner was that they believed the local dealers should have an opportunity to bid for the furnishing of the materials, hence the separate proposal form for that purpose.

As is usual in cases where alternates are received, the port authorities found themselves in a quandary as to the award of the contract. Owing to the large number of contractors taking out plans on the work and requesting material quotations, all the material firms decided not to bid separately on the materials, and in order that they might control the job as fully as possible, every contractor bid actual cost for the materials in the general contract proposal.

After receipt of the bids the port authorities developed the idea that because they had reserved the right to separately award the materials through a separate call for proposals in this manner, they could likewise separately award the materials in the general contractor's bid.

Such a procedure, of course, is contrary to the intent of the call, violates the terms and conditions of the notice to bidders, and is also contrary to established procedure in fair competitive bidding.

On behalf of all general contractors, the Northern California Chapter entered a most vigorous protest to action of this sort and filed with the City Council of Stockton a letter protesting such action, a copy of which follows:

To the Honorable City Council,
City of Stockton,
Stockton, California.
Gentlemen:

Prior to award of contracts for the construction of the Stockton Port Belt Line Railroad, may we call your attention to the following specific matters in connection with the notice to bidders, and the terms and conditions of the specifications for said work.

The notice to bidders calls particular attention to the fact that two forms of proposal are provided for bidders, one covering the general contract as a whole, including all materials, and the other covering materials only. On these forms it is also provided that certified checks shall be separately submitted and in every respect each form of proposal is separate, distinct and complete. Bidders on the proposal for the general contract are required to bid on every item in such proposal; otherwise their bid will be invalid, and they are prohibited from separately bidding for material in the material proposal form.

These conditions are fully set forth in the notices to bidders in the following words:

"In other words, bidders may bid on any one or part of these three items without bidding on the balance of the work. Bidders making proposals covering the general contract will,

however, bid on these items together with all other items included in the general contract."

"All bids shall be made upon the blank proposal forms attached to these specifications. One form is for the general contract; the other is for the furnishing of the above mentioned materials. A bidder may fill out only one of the two forms attached."

In the specifications Section (4) on Page 22 there appears the following relating to award of contract for the item of materials.

"City Reserves the Right to Furnish:

The City reserves the right to award separately from the general contract all or any one of the following materials, rail, angle bars or continuous joints, tie plates, and to be used in the track contemplated in this contract."

We respectfully call your attention to the fact that under the notice to bidders and the terms and conditions therein imposed on all bidders who bid only in the general contract, your honorable body is in duty bound to award the contract to the lowest responsible duly qualified bidder who submitted a proper and complete bid on the general contract for the reason that no complete bids were separately submitted for materials on the material proposal form. For the Council to select material items from the general contract bid and award them separately is entirely contrary to the intent and spirit of the original call and is unfair and discriminatory to all bidders who submitted full and complete bids on the entire project.

We maintain that the clause in the specifications on page 22 already quoted can apply and is intended to apply only on the basis of materials when bid on the separate material proposal form, therefore in view of the fact that no bids were so submitted on this form, such a reservation clause is perforce null and void, and the Council is therefore restricted to an award of the full contract in accordance with the terms of the proposal for the general contract.

It is obvious that it was never intended that the material items in the general contract should be selected and taken from this proposal and separate awards made thereof. Such a procedure is contrary to all principles of fair competitive bidding, is not authorized either in notice to bidders, in the proposal, or in the specifications in any manner. Just as logically the Council could make a separate award for each item in the entire general contract proposal, but no one would contend that such a procedure would be either fair or good business.

We, therefore, respectfully request that your honorable body make a full review of the terms and conditions of the call for bids and award the contract to the lowest responsible and duly qualified bidder on an exactly comparable basis and for the whole general contract including all materials.

Respectfully submitted,
ASSOCIATED GENERAL CONTRACTORS OF AMERICA
Northern California Chapter.

By FLOYD O. BOOE,
Secretary-Manager.

In addition, attorneys representing some of the general contractors appeared before the council and argued the points involved, protesting such action by the council.

Resulting from this protest, the council deferred final action until a later date.

OPENS PORTLAND BRANCH

L. D. LeTourneau, Northwest field representative of the LeTourneau Equipment Co., of Stockton, Calif., dealers in heavy grading equipment, has opened offices in the Porter Building, Portland, Ore., where the Loggers' and Contractors' Machinery Co. will act as distributors for the Le Tourneau line in that territory. The factory of the Le Tourneau interests is located at Stockton. The company manufactures a complete line of dump carts, scrapers, bulldozers, roters, rollers and other heavy road equipment.

San Carlos Feed & Fuel Company

SAND, ROCK AND GRAVEL
ROAD AND BUILDING MATERIALS

PHONE SAN CARLOS 250

Old Highway

San Carlos, Calif.

UNIT BID SUMMARY

Compiled from the Daily News Service of Pacific Constructor

BLYTHE-WICKENBURG ROAD—ARIZONA STATE

ARIZONA STATE.—Skousen Bros., Socorro, N. M., awarded contract by State Highway Commission at \$149,-889.33 for highway construction in the Blythe-Wickenburg Highway, F. A. P. No. 98-A. The work, which begins at a point approximately 19 miles west of Wickenburg and extends east to Wickenburg, consists of grading, draining and placing subgrade stabilizer, and is to be completed before Oct. 31, 1932. A complete list of the unit and total bids received on this project follows:

- (1) 98,852 cu. yds. roadway excavation (unclass.);
- (2) 9,426 cu. yds. drainage excavation (unclass.);
- (3) 2,400 cu. yds. slides and over-breakage;
- (4) 1,469 cu. yds. struc. excav. (unclass.);
- (5) \$1,142 cu. yds. borrow excavation (unclass.);
- (6) 95,593 sta. yds. earthwork overhaul;
- (7) 43,192 cu. yds. subgrade stabilizer
- (8) 143,406 cu. yds. ml. subgrade stabilizer haul;
- (9) 310 cu. yds. Class A conc. (C.F.C.)
- (10) 357 cu. yds. Class B do;
- (11) 25,740 lbs. reinf. steel (C.I.P.);
- (12) 1,464 lin. ft. 24-in. C.M.P. (C.I.P. except exc.);
- (13) 212 lin. ft. 30-in. do;
- (14) 1,818 lin. ft. 36-in. do;
- (15) 15 cu. yds. plan rip ray (C.I.P.);
- (16) 1 each cattle guard (C.I.P.);
- (17) 1,840 lin. ft. standard line fence (C.I.P.);
- (18) 2,004 cu. yds. drainage excavation (unclass.);
- (19) 2,699 cu. yds. struc. excav. (unclass.);
- (20) 22 cu. yds. subgrade stabilizer;
- (21) 100 cu. yds. ml. subgrade stabilizer haul;
- (22) 10 cu. yds. Class "A-A" concrete (C.F.C.);
- (23) 1,942 cu. yds. Class "A" do;
- (24) 119 cu. yds. Class "B" do;
- (25) 200,285 lbs. reinf. steel (C.I.P.);
- (26) 8 each fixed plate bridge seats (C.I.P.);
- (27) 8 each expansion rocker bridge seats (C.I.P.);
- (28) 5310 cu. yds. roadway excavation (unclass.);
- (29) 10 cu. yds. struc. excav. (unclass.)
- (30) 259 cu. yds. borrow excav. (unclass.);
- (31) 3 cu. yds. Class "B" concrete (C.F.C.);
- (32) 24 lbs. reinf. steel (C.I.P.);
- (33) 48 lin. ft. 24-in. C.M.P. (C.I.P. except excavation).

Complete bids follow:
 (A) Skousen Bros., Mesa, \$149,889.33.
 (B) Everly & Allison, Albuquerque, N. M., \$159,640.76.
 (C) Packard & Tanner, Phoenix, \$164,064.57.
 (D) Oswald Bros., Los Angeles, \$168-198.65.
 (E) Skeels & Graham, Tucson, Ariz. \$169,949.30.
 (F) Hodgman & MacVicar, \$172,496-25.
 (G) N. G. Hill & Co., Phoenix, \$175-859.05.
 (H) Ralph Pleasant, Phoenix, \$178-622.99.
 (I) Morrison-Knudsen Co., Los Angeles, \$178,965.52.
 (J) Pearson-Dickerson & Morse, Riverside, Calif., \$182,326.89.
 (K) Lee Moor Contracting Co., El Paso, Texas, \$193,079.03.
 Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| (1) | .32 | .42 | .42 | .42 | .37 | .47 | .40 | .51 | .45 | .50 | .55 |
| (2) | .25 | .20 | .24 | .30 | .27 | .20 | .30 | .25 | .20 | .38 | .21 |
| (3) | .24 | .315 | .315 | .315 | .2275 | .3525 | .30 | .8825 | .3375 | .375 | .4125 |
| (4) | .60 | .85 | .80 | .80 | .85 | 1.00 | 1.00 | 1.00 | 1.50 | 1.00 | 1.10 |
| (5) | .14 | .16 | .17 | .13 | .20 | .22 | .20 | .18 | .21 | .275 | .17 |
| (6) | .02 | .01 | .02 | .015 | .01 | .02 | .02 | .025 | .015 | .02 | .03 |
| (7) | .42 | .40 | .40 | .42 | .45 | .35 | .50 | .50 | .47 | .49 | .54 |
| (8) | .085 | .085 | .09 | .08 | .095 | .07 | .09 | .085 | .10 | .09 | .08 |
| (9) | 17.50 | 18.00 | 18.00 | 19.00 | 20.00 | 18.50 | 22.00 | 18.00 | 18.25 | 19.00 | 21.00 |
| (10) | 17.50 | 18.00 | 18.00 | 19.00 | 20.00 | 18.50 | 22.00 | 18.00 | 18.25 | 18.50 | 21.00 |
| (11) | .037 | .0375 | .04 | .04 | .04 | .045 | .05 | .04 | .045 | .05 | .05 |
| (12) | 2.00 | 1.77 | 2.00 | 2.00 | 2.25 | 2.00 | 2.50 | 1.80 | 2.15 | 2.00 | 1.80 |
| (13) | 3.00 | 2.14 | 2.50 | 2.65 | 2.75 | 3.00 | 3.00 | 2.30 | 2.60 | 2.50 | 2.30 |
| (14) | 4.00 | 3.32 | 4.00 | 4.00 | 4.25 | 5.00 | 4.70 | 3.75 | 4.35 | 4.00 | 3.70 |
| (15) | 5.00 | 4.00 | 4.00 | 2.00 | 3.50 | 3.00 | 2.00 | 1.50 | 4.00 | 5.00 | 3.00 |
| (16) | 400.00 | 340.00 | 363.00 | 480.00 | 410.00 | 300.00 | 450.00 | 350.00 | 350.00 | 400.00 | 450.00 |
| (17) | .10 | .06 | .08 | .10 | .10 | .10 | .06 | .08 | .07 | .10 | .05 |
| (18) | .25 | .30 | .24 | .30 | .27 | .20 | .30 | .25 | .20 | .38 | .21 |
| (19) | .60 | .85 | .80 | .80 | .85 | 1.00 | 1.00 | 1.00 | 1.50 | 1.00 | 1.10 |
| (20) | .42 | .40 | .40 | .42 | .45 | .35 | .50 | .50 | .47 | .49 | .54 |
| (21) | .085 | .085 | .09 | .08 | .095 | .07 | .09 | .085 | .10 | .09 | .08 |
| (22) | 70.00 | 70.00 | 65.00 | 70.00 | 60.00 | 65.00 | 60.00 | 60.00 | 80.00 | 65.00 | 60.00 |
| (23) | 17.50 | 18.00 | 18.00 | 19.00 | 20.00 | 18.50 | 22.00 | 18.00 | 18.25 | 19.00 | 21.00 |
| (24) | 17.50 | 18.00 | 18.00 | 19.00 | 20.00 | 18.50 | 21.00 | 18.00 | 18.25 | 18.50 | 21.00 |
| (25) | .035 | .0375 | .04 | .04 | .04 | .045 | .05 | .04 | .0425 | .05 | .045 |
| (26) | 20.00 | 6.00 | 3.20 | 35.00 | 6.00 | 5.00 | 5.00 | 2.00 | 5.50 | 5.00 | 3.50 |
| (27) | 25.00 | 26.00 | 39.00 | 2.50 | 50.00 | 35.00 | 40.00 | 30.00 | 27.50 | 50.00 | 55.00 |
| (28) | .22 | .42 | .42 | .42 | .37 | .47 | .40 | .51 | .45 | .50 | .55 |
| (29) | .60 | .85 | .80 | .80 | .85 | 1.00 | 1.00 | 1.00 | 1.50 | 1.00 | 1.10 |
| (30) | .14 | .16 | .17 | .19 | .20 | .22 | .20 | .18 | .21 | .275 | .17 |
| (31) | 17.50 | 18.00 | 18.00 | 19.00 | 20.00 | 18.50 | 21.00 | 18.00 | 19.25 | 18.50 | 21.00 |
| (32) | .037 | .0375 | .04 | .04 | .04 | .045 | .05 | .04 | .045 | .05 | .05 |
| (33) | 2.00 | 1.77 | 2.00 | 2.00 | 2.25 | 2.00 | 2.50 | 1.80 | 2.15 | 2.00 | 1.80 |

CONCRETE SLAB—STORM DRAIN—GLENDALE

GLENDALE, Los Angeles Co., Cal.—Davis & Davis, Inc., 317 North Ave. 21, Los Angeles, submitted low bid to city council at \$2678 to construct concrete slab across the Verdugo Wash, at Glorietta Ave., Cash Contract, in-

- volving:
 (1) slab complete (about 95 cu. yds. concrete);
 (2) storm drain complete (about 225 ft. 30-in. 14-ga. corr. iron pipe and one catchbasin);

- (3) excavation;
 (4) class F concrete;
 (5) reinforcing steel;
 (6) class B curb.

The unit prices follow:

| | (1) | (2) | Total | (3) | (4) | (5) | (6) |
|-------------------------------------|-----------|-----------|-----------|--------|---------|---------|--------|
| Davis & Davis, Inc. | \$1747.00 | \$ 831.00 | \$2678.00 | \$1.06 | \$ 9.85 | \$ 0.35 | \$.55 |
| William Hess | 1600.00 | 989.00 | 2679.00 | .95 | 11.00 | .05 | .60 |
| Franklin B. Gridley | 1923.00 | 900.00 | 2833.00 | .60 | 15.00 | .04 | .80 |
| E. A. Tafzer | 1971.00 | 903.00 | 2874.00 | 1.50 | 18.00 | .06 | .23 |
| Robert Metcalf | 2344.40 | 606.80 | 2931.20 | 1.50 | 16.00 | .06 | 1.00 |
| J. B. Gill Corp., Ltd. | 2029.00 | 1110.00 | 3139.00 | .28 | 12.50 | .041 | .39 |
| California Granite Construction Co. | 2800.00 | 1000.00 | 3800.00 | .50 | 18.00 | .06 | .60 |
| H. E. Cox & Sons | 3000.00 | 925.00 | 3925.00 | 1.00 | 25.00 | .05 | 1.00 |

Chas. U. Heuser—bid irregular; not declared.

6.45 MILES ROADWAY—RIVERSIDE COUNTY

RIVERSIDE COUNTY, Cal.—Martin Bros. Trucking Co., 1389 Gladys Ave., Long Beach, at \$13,955.16 submitted low bid to Metropolitan Water District of Southern California to construct 6.45 miles of the Entrance Hill Road of the Colorado River Aqueduct. Project involves:

- (7) 560 cu. yds. load and place gravel wearing surface;
- (8) 1120 cu. yd. mi. haul gravel surf.;
- (9) 6.27 mi. road, finish gravel surf.;
- (10) 70 cu. yds. Class B concrete;
- (11) 2400 lbs. reinf. steel;
- (12) 172 lin. ft. corr. metal pipe culverts, 24-in. dia.;
- (13) 48 lin. ft. do 30-in. dia.;
- (14) 124 lin. ft. do 36-in. dia.;
- (15) 15 cu. yds. rock rip-rap;

- (C) Macco Const. Co., Clearwater, \$20,029.92.
- (D) Dinmitt & Taylor, Los Angeles, \$20,193.80.
- (E) Pearson & Dickerson, Riverside, \$21,142.70.
- (F) Geo. Herz & Co., San Bernardino, \$22,292.46.
- (G) J. H. Dudley, Long Beach, \$22,336.30.
- (H) Edwin G. Bowen, Los Angeles, \$25,564.80.
- (I) Yglesias Bros., San Diego, \$29,475.00.
- (J) C. G. Willis & Sons, Los Angeles, \$29,877.96.
- (K) H. E. Cox & Sons, Pasadena, \$41,433.40.

- (1) 43,700 cu. yds. rdwy. borrow and channel change excav.;
- (2) 34,600 sta. yds. rdwy. borrow and channel change overhaul;
- (3) 200 cu. yds. struc. excav.;
- (4) 0.62 mi. excav. of No. 1 Ditch;
- (5) 1.44 mi. of excav. of No. 2 Ditch;
- (6) 6.18 mi. finish road surface using natural material;

Complete bids follow:

- (A) Martin Bros. Trucking Co., Long Beach, \$13,955.16.
- (B) Belyea Truck Co., Los Angeles, \$17,988.95.

| | (A) | (B) | (C) | (D) | (E) | (F) | (G)* | (H) | (I) | (J) | (K) |
|------|--------|---------|--------|--------|--------|--------|--------|---------|--------|---------|---------|
| (1) | \$.21 | \$.2675 | \$.29 | \$.28 | \$.32 | \$.30 | \$.35 | \$.37 | \$.45 | \$.45 | \$.65 |
| (2) | .01 | .01 | .03 | .01 | .02 | .01 | .02 | .02 | .02 | .03 | .02 |
| (3) | .75 | .75 | 1.53 | 1.00 | 2.00 | 1.42 | 1.50 | 1.00 | 1.50 | 1.25 | 1.00 |
| (4) | 100.00 | 100.00 | 200.00 | 100.00 | 100.00 | 100.00 | 250.00 | 610.00 | 200.00 | 528.00 | 300.00 |
| (5) | 175.00 | 200.00 | 528.00 | 300.00 | 250.00 | 200.00 | 460.00 | 1210.00 | 350.00 | 1000.00 | 850.00 |
| (6) | 100.00 | 300.00 | 300.00 | 500.00 | 350.00 | 360.00 | 350.00 | 400.00 | 400.00 | 500.00 | 850.00 |
| (7) | 1.40 | 2.30 | 1.00 | 1.00 | 1.50 | .84 | 1.50 | 1.75 | 2.00 | .60 | 2.70 |
| (8) | .15 | .40 | .20 | .30 | .15 | .13 | .30 | .12 | .20 | .20 | .15 |
| (9) | 100.00 | 200.00 | 300.00 | 500.00 | 350.00 | 263.00 | 200.00 | 500.00 | 400.00 | 300.00 | 1700.00 |
| (10) | 15.00 | 20.00 | 18.00 | 22.00 | 14.00 | 16.50 | 17.00 | 17.00 | 26.00 | 30.00 | 27.00 |
| (11) | .045 | .04 | .06 | .06 | .05 | .06 | .04 | .07 | .06 | .08 | .08 |
| (12) | 1.79 | 1.75 | 1.80 | 2.50 | 2.65 | 2.61 | 1.95 | 2.65 | 2.50 | 2.35 | 2.50 |
| (13) | 2.34 | 2.10 | 2.23 | 2.75 | 3.30 | 3.30 | 2.85 | 3.50 | 4.00 | 2.90 | 3.30 |
| (14) | 3.25 | 3.10 | 3.63 | 4.20 | 5.00 | 4.86 | 4.20 | 5.00 | 5.00 | 3.80 | 4.75 |
| (15) | 3.00 | 5.60 | 10.00 | 2.00 | 3.00 | 7.35 | 4.00 | 4.00 | 4.00 | 8.00 | 5.00 |

Alternate for corrugated metal pipe on items 12, 13, and 14 respectively, \$2.91, \$4.13 and \$6.22.

WATER SYSTEM—GOVERNMENT ISLAND—ALAMEDA

AL/MPDA, Alameda Co., Cal.—Hutchinson Co., 1450 Harrison St., Oakland, at \$5,033.34 submitted low bid to U. S. Bureau of Public Roads to construct Unit No. 5, Government Island Project, involving the construction of a fresh water distributing system and a salt water fire protection system, and involves in the main:

- (4) 7 6-in. hydrant ells;
- (5) 20 recondition and install fire hydrants and furnish and install necessary appurtenances;
- (6) 210 lin. ft. 2½-in. gal. wrought iron pipe;
- (7) 400 lin. ft. 3-in. do;
- (8) 2½-in. hose gate valves;
- (9) 8 3-in. gate valves;
- (10) 4 3-in. water meters and appurtenances;
- (11) 520 lin. ft. 2½-in. and 3-in. services and appurtenances to be laid.

- (B) Lindgren & Swinerton, San Francisco, \$5,338.93.
- (C) Pacific Pipe Co., San Francisco, \$5,976.11.
- (D) Scott Co., Oakland, \$6,216.40.
- (E) Oakland Sewer Co., Oakland, \$6,460.00.
- (F) J. A. Fazio, Oakland, \$6,908.00.
- (G) H. E. Conner, Redwood City, \$7,527.00.
- (H) E. W. Redman, Fresno, \$7,554.00.
- (I) E. J. Treacy, San Francisco, \$7,945.00.
- (J) George A. Schuster, Oakland, \$9,170.00.
- (K) Engineer's estimate, \$6,350.30.

- (1) 8000 lin. ft. dip and wrap new 6-in. steel pipe;
- (2) 13 6-in. gate valves and appurtenances;
- (3) 8000 lin. ft. laying 6-in. pipe line and appurtenances;

Complete list of bids follows:
(A) Hutchinson Co., Oakland, \$5,033.34

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) |
|------|--------|--------|--------|--------|--------|--------|---------|--------|--------|--------|--------|
| (1) | \$.32 | \$.115 | \$.12 | \$.16 | \$.12 | \$.195 | \$.1442 | \$.21 | \$.125 | \$.18 | \$.18 |
| (2) | 37.00 | 21.40 | 40.00 | 30.00 | 38.00 | 35.11 | 37.00 | 38.00 | 25.00 | 42.00 | 30.00 |
| (3) | .17 | .257 | .2565 | .315 | .33 | .38125 | .46 | .35 | .55 | .61 | .30 |
| (4) | 15.68 | 16.40 | 17.50 | 17.00 | 17.50 | 18.41 | 20.00 | 16.00 | 20.00 | 19.00 | 18.00 |
| (5) | 30.00 | 20.70 | 40.40 | 19.20 | 38.00 | 22.76 | 29.00 | 45.00 | 40.00 | 36.00 | 30.00 |
| (6) | .594 | .725 | .629 | .74 | .63 | .63 | .6944 | .77 | .40 | .40 | .43 |
| (7) | .908 | .95 | .822 | .96 | .82 | .80 | .9081 | .90 | .50 | .47 | .83 |
| (8) | 7.50 | 7.06 | 9.00 | 8.25 | 9.00 | 9.00 | 90.50 | 19.00 | 15.00 | 10.50 | 15.00 |
| (9) | 20.00 | 12.60 | 9.50 | 12.25 | 9.50 | 8.93 | 17.00 | 16.00 | 15.00 | 13.00 | 15.00 |
| (10) | 168.51 | 149.00 | 148.18 | 153.00 | 180.00 | 151.94 | 154.03 | 153.00 | 150.00 | 188.00 | 170.00 |
| (11) | .23 | .52 | .60 | .40 | .30 | .1633 | .30 | .26 | .30 | .46 | .10 |

ASPHALT CONCRETE PAVEMENT—GLENDALE

GLENDALE, Los Angeles Co., Cal.—Southwest Paving Co. 712 Lanker-shim Bldg., Los Angeles, submitted the low bid to city council at \$20,887.17 for widening and paving Glendale Avenue bet. Monterey and Verdugo

- Avenues, about 1400 lin. ft. center line. The work will be paid for in cash. The items are:
- (1) grading;
- (2) 6288 ft. class B curb;
- (3) 11,388 sq. ft. 8-in. gutter;

- (4) 2600 tons asphalt concrete base;
- (5) 173,000 sq. ft. 2-in. asphalt concrete base;
- (6) 10,750 sq. ft. asphalt concrete surface (variable thickness);
- (7) storm drain.

| The bids were: | (1) | (2) | (3) | (4) | (5) | (6) | (7) | Total |
|-----------------------------|-----------|-------|-------|--------|-------|---------|----------|-------------|
| Southwest Paving Company | \$2300.00 | \$.36 | \$.22 | \$2.90 | \$.03 | \$0.175 | \$750.00 | \$20,887.17 |
| George H. Oswald | 1700.00 | .38 | .225 | 2.75 | .04 | .04 | 500.00 | 21,851.74 |
| George R. Curtis Paving Co. | 2300.00 | .36 | .22 | 2.90 | .037 | .053 | 700.00 | 22,518.54 |
| Griffith Company | 1455.00 | .39 | .21 | 3.25 | .045 | .04 | 350.00 | 23,538.80 |
| P. J. Akmadzich | 1900.00 | .40 | .19 | 3.85 | .04 | .04 | 700.00 | 23,538.92 |
| Gibbons & Reed Company | 2605.68 | .35 | .242 | 2.86 | .036 | .045 | 668.31 | 23,558.44 |
| Ed. Johnson & Sons | 2350.00 | .40 | .215 | 3.20 | .04 | .04 | 485.00 | 23,568.62 |
| Charles U. Heuser | 1423.87 | .35 | .25 | 3.25 | .045 | .03 | 750.00 | 24,004.17 |
| Henderson & Zalch | 2916.00 | .42 | .24 | 3.20 | .04 | .03 | 772.00 | 24,824.58 |

13.9-MILES GRADING—SONOMA-MENDOCINO COUNTIES

SONOMA-MENDOCINO COUNTIES:
 Call-Framfield, Farrar & Carlin, 67
 North St., San Francisco at \$463,264.20;
 J. H. S. Co., 1000 Broadway
 Commission to grade 13.9 miles highway
 between Cloverdale and Hopland, in-
 volving:
 (1) 55.5 acres clear and grub right of
 way;

- (2) 837 remove trees (size 1);
 (3) 233 remove trees (size 2);
 (4) 193 remove trees (size 3);
 (5) 25 remove trees (size 4);
 (6) 26 remove trees (size 5);
 (7) 1,266 without class, yds., excav.
 (8) 5,200,000 sta. yds., overhaul;
 (9) 17,000 cu. yds., imported borrow;
 (10) 4,600 cu. yds., wall trench excav.;
 (11) 21,500 cu. yds., struc. excav.;
 (12) 3,450 cu. yds., Class A Port. cem.
 conc. (struc.);

- (13) 140 cu. yds. Class A Port. cem.
 conc. (placed by tremie);
 (14) 420,000 lbs. bar reinforcing steel
 (8-ft. sec.);
 (15) 7,812 lin. ft. 8-in. corr. metal
 pipe;
 (16) 130 lin. ft. 12-in. do;
 (17) 8,600 lin. ft. 18-in. do;
 (18) 3,626 lin. ft. 24-in. do;
 (19) 296 lin. ft. 30-in. do;
 (20) 1,234 lin. ft. 36-in. do;
 (21) 70 lin. ft. 48-in. do;
 (22) 1,600 lin. ft. 6-in. reinf. concrete
 pipes;
 (23) 100 pipes, ft. 8-in. do;
 (24) 100 lin. ft. 12-in. do;
 (25) 430 lin. ft. 4-in. galy. from pipe;
 (26) 26,265 lin. ft. 8-in. perf. metal pipe
 underdrains;
 (27) 3,200 lbs. cast steel rollers and
 bearings;
 (28) 500 lbs. bronze expansion plates;

- (E) Von der Hellen & Pier-
 son, Medford, Ore. 541,005.70
 (F) Merritt-Chapman-Scott,
 San Pedro 554,555.20
 (G) McDonald & Kahn, S. F. 591,299.80
 (H) Geo. Pollock Co., Sacra-
 mento 596,023.10
 (I) Morrison & Knudsen,
 Boise, Ida. 640,565.90
 (J) T. E. Connolly, S. F. 645,023.50
 (K) Contonies Const. Co., S.
 D., and Schuler & Mc-
 Donald, Oakland 653,946.25
 (L) Utah Const. Co., S. F. 661,611.70
 (M) S. J. Scherbert & Sons,
 Sacramento 672,282.00
 (N) A. Guthrie & Co., Inc.,
 Portland, Ore. 745,698.60
 (O) Kern-Klabe, Portland,
 Ore.

| (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) |
|------|---------|---------|---------|---------|---------|---------|---------|----------|----------|---------|---------|----------|---------|---------|
| (1) | \$20.00 | \$80.00 | \$15.00 | \$75.00 | \$70.00 | \$96.00 | \$35.00 | \$120.00 | \$200.00 | \$50.00 | \$80.00 | \$235.00 | \$75.00 | \$60.00 |
| (2) | 1.00 | 1.50 | 3.15 | 1.50 | 3.00 | 3.00 | 2.00 | 2.00 | 2.00 | 3.00 | 3.00 | 2.50 | 1.00 | 1.00 |
| (3) | 2.00 | 2.00 | 2.30 | 3.00 | 1.00 | 1.00 | 2.00 | 7.00 | 18.00 | 18.00 | 8.00 | 1.80 | 2.50 | 3.50 |
| (4) | 3.00 | 14.00 | 2.30 | 6.00 | 2.00 | 1.60 | 10.00 | 8.00 | 22.00 | 10.00 | 18.00 | 15.00 | 10.00 | 5.00 |
| (5) | 4.00 | 30.00 | 4.00 | 8.00 | 5.00 | 4.00 | 10.00 | 15.00 | 30.00 | 15.00 | 32.00 | 25.00 | 10.00 | 5.00 |
| (6) | 5.00 | 35.00 | 11.50 | 12.00 | 10.00 | 6.40 | 10.00 | 20.00 | 40.00 | 20.00 | 50.00 | 35.00 | 15.00 | 8.00 |
| (7) | .26 | .27 | .305 | .26 | .27 | .335 | .335 | .36 | .345 | .33 | .35 | .34 | .45 | .31 |
| (8) | .005 | .005 | .005 | .0075 | .0075 | .005 | .044 | .003 | .0025 | .005 | .005 | .0075 | .0075 | .005 |
| (9) | .30 | .40 | .28 | .30 | .45 | .40 | .50 | .30 | .40 | .35 | .42 | .40 | .35 | .47 |
| (10) | .50 | .50 | .75 | .50 | 1.00 | 1.40 | 1.00 | 1.00 | .70 | 1.25 | .80 | 1.25 | .60 | .60 |
| (11) | .30 | 1.20 | .90 | .80 | .80 | .80 | 1.70 | 1.25 | 1.00 | 1.20 | 1.20 | 1.50 | .90 | .80 |
| (12) | 13.40 | 17.00 | 14.00 | 17.00 | 18.00 | 13.00 | 16.00 | 16.00 | 15.85 | 17.00 | 17.00 | 17.50 | 19.50 | 18.00 |
| (13) | 13.00 | 14.00 | 14.00 | 17.00 | 16.00 | 17.50 | 20.00 | 20.00 | 16.00 | 16.00 | 10.00 | 15.00 | 11.00 | 16.00 |
| (14) | .035 | .04 | .04 | .04 | .04 | .04 | .04 | .035 | .04 | .05 | .045 | .04 | .045 | .04 |
| (15) | .20 | .15 | .25 | .15 | .15 | .25 | .25 | .25 | .30 | .30 | .30 | .25 | .20 | .20 |
| (16) | .30 | .30 | .35 | .30 | .30 | .30 | .40 | .30 | .40 | .40 | .40 | .35 | .30 | .35 |
| (17) | .30 | .40 | .35 | .30 | .20 | .40 | .50 | .30 | .50 | .40 | .45 | .60 | .45 | .40 |
| (18) | .40 | .50 | .45 | .35 | .40 | .20 | .40 | .50 | .35 | .50 | .55 | .90 | .55 | .50 |
| (19) | .40 | .70 | .60 | .50 | .50 | .25 | .60 | .50 | .60 | .75 | .55 | .90 | .55 | .50 |
| (20) | .50 | .90 | .75 | .50 | .60 | .30 | .80 | .70 | .70 | .70 | .70 | 1.00 | .65 | .60 |
| (21) | .50 | 1.20 | 1.00 | 1.00 | 1.00 | 1.10 | 1.10 | .80 | 1.00 | 1.25 | 1.00 | 2.00 | 1.20 | 2.00 |
| (22) | 1.00 | 1.30 | .90 | 1.30 | 1.00 | 1.25 | 1.30 | 1.00 | .80 | 1.40 | 1.00 | 2.00 | 1.00 | 1.30 |
| (23) | 1.30 | 1.50 | 1.10 | 1.55 | 1.25 | 1.40 | 1.65 | 2.00 | 1.00 | 1.85 | 1.30 | 1.50 | 1.20 | 1.75 |
| (24) | 1.80 | 1.90 | 1.30 | 2.40 | 1.60 | 2.00 | 2.25 | 2.00 | 1.50 | 2.40 | 2.00 | 2.00 | 1.65 | 2.60 |
| (25) | 1.80 | 2.00 | 1.30 | 2.80 | .90 | 1.00 | 1.00 | 1.50 | 1.00 | 1.65 | .90 | 1.50 | 1.00 | .80 |
| (26) | .60 | 1.10 | 1.00 | 1.30 | .90 | .90 | 1.00 | .70 | 1.00 | 1.05 | 1.10 | 1.10 | 1.00 | 1.10 |
| (27) | .15 | .12 | .18 | .20 | .20 | .12 | .20 | .20 | .25 | .20 | .15 | .15 | .20 | .13 |
| (28) | .30 | .25 | .40 | .25 | .30 | .30 | .25 | .30 | .50 | .30 | .35 | .35 | .30 | .33 |
| (29) | 1.00 | 1.50 | 2.00 | 3.00 | 2.00 | 3.00 | 2.00 | 3.00 | 3.00 | 3.00 | 2.50 | 3.00 | 3.00 | 3.00 |
| (30) | 350.00 | 500.00 | 480.00 | 500.00 | 500.00 | 425.00 | 615.00 | 375.00 | 450.00 | 500.00 | 580.00 | 550.00 | 490.00 | 400.00 |
| (31) | 8.00 | 10.00 | 8.00 | 10.00 | 10.00 | 8.00 | 15.00 | 10.00 | 15.00 | 20.00 | 10.00 | 10.00 | 11.00 | 12.00 |
| (32) | 9.00 | 12.00 | 14.00 | 15.00 | 12.00 | 10.00 | 20.00 | 15.00 | 20.00 | 30.00 | 15.00 | 12.50 | 14.00 | 14.00 |
| (33) | .80 | .80 | .75 | .50 | .70 | .80 | .80 | .80 | .80 | 1.00 | .90 | 1.00 | .70 | .90 |
| (34) | 2.80 | 2.50 | 2.50 | 2.50 | 2.50 | 2.50 | 1.25 | 2.50 | 2.50 | 2.40 | 2.50 | 3.00 | 2.50 | 1.50 |
| (35) | 1.00 | 1.00 | 1.00 | 1.50 | 2.00 | 1.40 | .75 | 2.00 | 2.00 | 2.15 | 2.00 | 2.00 | 1.70 | 2.00 |
| (36) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.75 | 2.50 | 2.35 | 1.75 | 1.50 | 1.50 |
| (37) | 4.00 | 5.00 | 4.50 | 5.00 | 3.00 | 4.00 | 2.00 | 4.00 | 3.00 | 6.00 | 5.00 | 6.00 | 5.00 | 5.00 |
| (38) | 4.00 | 5.00 | 4.00 | 4.50 | 3.00 | 4.00 | 2.00 | 4.00 | 3.00 | 6.00 | 5.00 | 6.00 | 5.00 | 5.00 |
| (39) | 2.50 | 3.00 | 2.50 | 3.00 | 3.00 | 2.00 | 4.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 |

Unit bids follow:

WATER PUMPING—U. S. ENGINEER OFFICE

STOCKTON, San Joaquin Co., Cal.—California Delta Farms Co., Belding Bldg., Stockton, at \$15,200 submitted lowest regular bid to U. S. Engineer Office, Sacramento, for pumping water from areas in Venice and Mandeville Islands, in the San Joaquin river, accumulated therein from the operations of a 20-inch suction dredge in building levees across these islands. Will involve the furnishing, installation and operation for a period of

about 200 working days a pumping plant of not less than 17,000 gallons per minute normal operating capacity under a total head of about 12 feet, involving:

- (1) pumping at guaranteed capacity, per hour;
 - (2) standing by, available for pumping per hour;
 - (3) pumping at an average rate of 17,000 gal. per min. capacity, 200 days
- Complete list of bids follows:

| | (1) | (2) | (3) | Total |
|---|---------|--------|----------|-------------|
| *C. A. Lauritzen, Pittsburg..... | \$2,326 | \$1.14 | \$ 56.64 | \$11,328.00 |
| California Delta Farms Co., Stockton..... | 4,235 | 1.00 | 75.00 | 15,200.00 |
| Bundeser & Lauritzen, Pittsburg..... | 4,000 | 3.00 | 92.00 | 18,450.00 |
| M. E. McGowan, San Francisco..... | 4,000 | .60 | 96.00 | 19,200.00 |
| San Francisco Bridge Co., S. F..... | 4,500 | 3.50 | 108.00 | 21,600.00 |
| Delta Dredging Co., Pittsburg..... | 5,400 | 3.00 | 120.96 | 24,192.00 |
| Dutton Dredging Co., San Francisco..... | 6,500 | 4.50 | 150.00 | 30,000.00 |
| Youldall Const. Co., San Francisco..... | 6,500 | 4.60 | 156.00 | 31,200.00 |
| P. E. Anderson, Sacramento..... | 5,200 | 5.00 | 124.80 | |

*Pumping plant calling for 12,000 gallons per minute capacity Engineer's estimate, \$24,955.00.

C. I. PIPE AWARD—BURBANK

BURBANK, Los Angeles Co., Cal.—The American Cast Iron Pipe Co., 412 W 6th St., Los Angeles, which submitted the low bid at \$14,499.33 was awarded contract by city council for furnishing cast iron pipe 1 o. b. trenchside as follows: (1) 2,080 ft. 1-in. cast iron pipe, Class C, AWWA

specifications, or Class 250, with a minimum wall thickness of 0.83 inch; (2) alternate for (1); (3) 872 ft. 18-in. C. I. pipe, or Class 200, with a minimum wall thickness of 0.74 inch; (4) alternate for (3); (5) total. The complete bids were as follows:

| | (1) | (2) | (3) | (4) | (5) |
|-----------------------------------|---------|---------|---------|---------|-------------|
| American C. I. Pipe Co..... | \$2,747 | \$2,558 | \$2,349 | \$2,269 | \$14,499.33 |
| United States Pipe & Fdy. Co..... | 3,061 | 2.87 | 2.65 | 2.55 | 16,025.60 |
| National Cast Iron Pipe Co..... | 3,111 | 2.92 | 2.70 | 2.60 | 16,923.20 |
| C. G. Claussen..... | 3,24 | ..... | 2.77 | ..... | 17,464.84 |

PUMPING UNIT—EUGENE, OREGON

EUEGE, Ore.—Byron-Jackson Co. at \$2,134 for Westinghouse Pump, awarded contract by Municipal Water Board

to furnish one 4,200-g.p.m., 231-foot head pumping unit, f.o.b. cars, Eugene. Complete list of bids follows:

| Bidder | Pump Motor Make Make | Eff. Motor Pp. | Weight Pp. Motor | Del. Unit | Price f.o.b. Eugene |
|-----------------------------------|----------------------|----------------|------------------|-----------|---------------------|
| Zimmerman-Wells-Brown Gould West. | B-J G.E. | 93 81 | 3000 3900 | 6900 | \$2126 |
| Byron-Jackson Co. | Or west | ..... | 3660 | | 2134 |
| Allis-Chalmers | A-C Allis Ch. | 92½ 87 | 3035 4850 | 7850 | 2175 |
| Worthington Co. | Worth. G. E. | 93 84 | 4500 3900 | 8400 | 2180 |
| | Or west | ..... | 3660 | | |
| United Iron Works | U.I.W. G.E. | 93 86 | 3500 3900 | 7400 | 2190 |
| Warren Sm. Pp. Co. | Warren West | 93 85 | 4600 3660 | 8260 | 2240 |
| Moore Sm. Tur. Co. | Moore West | 93 82 | 3300 3700 | 7000 | 2250 |
| Nat'l Machy. Co. | F'r'rb'ks F-M | 92½ 82 | 2205 4000 | 6205 | 2300 |
| Fairbanks Morse | F-M F-M | 92½ 82 | 2205 4000 | 6205 | 2350 |
| Holt & O'Donnell | DeLaval G.E. | 93 85 | 3000 3900 | 6900 | 2427 |
| Power Equip. Co. | Dayton Dowd G.E. | 93 82 | 4300 3700 | 8000 | 2500 |
| Gordon & Finkbe'r | Cameron G.E. | 93 82 | 4400 3900 | 8300 | 2558 |

BIDS OPENED

SANTA CLARA COUNTY, Calif.—Union Paving Co., Call Building, San Francisco, at 62,637 submitted low bid to State Highway Commission to grade and pave with asphalt concrete and Portland cement concrete, 3.4 mi. bet. Union Ave. and Stevens Creek Road, involving:

- (1) remove 360 trees (size 1);
- (2) remove 7 trees (size 2);
- (3) remove 5 trees (size 3);
- (4) 1,700 cu. yds. rdwy. excav. without class;
- (5) 715 cu. yds. struc. excav.;
- (6) 13,400 cu. yds. imp. borrow;
- (7) 109 cu. yds. Class A Port. cem conc. (struc.);
- (8) 1,930 cu. yds. Class A Port. cem. conc. (pave.);
- (9) 36,700 lbs. bar reinf. steel (pave. and struc.);
- (10) 40,000 sq. yds. asph. paint binder;
- (11) 5,500 sq. yds. subgrade for pave.;
- (12) 7,600 tons asph. concrete;
- (13) 250 lin. ft. 18-in. corr. metal pipe
- (14) 360 lin. ft. 24-in. do;
- (15) 5 30-in. reinf. conc. siphon inlet assemblies;
- (16) 3 12-in. reinf. conc. pipe sections;
- (17) 500 lin. ft. 12-in. extra strength reinf. conc. pipe;
- (18) 6,000 sq. yds. asph. skin coat removed from existing pave.;
- (19) 200 cu. yds. Port. cem. concrete removed from existing pavement and structures;
- (20) 1,650 tons crusher run base (st. intersections and road approaches);
- (21) 1,210 barrels fuel oil;
- (22) 62 tons screenings (street intersections and road approaches)
- (23) 180 sta. mix fuel oil and shoulder material;
- (24) 20 guide posts;
- (25) 10 culvert markers;
- (26) 180 sta. finish roadway;
- (27) 10 monuments.

State will furnish corrugated metal Pipe.

Complete list of bids follows:

- (A) Union Paving Co., San Francisco, \$62,637.
- (B) A. J. Raisch, San Jose, \$65,277.10.
- (C) Heafey-Moore, Oakland, \$66,192.25
- (D) Valley Paving & Const. Co., Fresno, \$68,078.10.
- (E) Clark & Henery, San Francisco, \$84,368.00.

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) |
|------|----------|---------|---------|---------|---------|
| (1) | .. 75 | \$ 1.00 | \$ 2.50 | \$ 2.00 | \$ 5.00 |
| (2) | .. 5.00 | 3.00 | 20.00 | 10.00 | 10.00 |
| (3) | .. 5.00 | 25.00 | 40.00 | 35.00 | 15.00 |
| (4) | .. .32 | .25 | .25 | .28 | .50 |
| (5) | .. 1.00 | 1.00 | .75 | .80 | .80 |
| (6) | .. .35 | .40 | .70 | .42 | .45 |
| (7) | .. 25.00 | 20.60 | 15.00 | 17.50 | 20.00 |
| (8) | .. 8.70 | 9.15 | 7.00 | 11.20 | 12.00 |
| (9) | .. .05 | .045 | .04 | .059 | .045 |
| (10) | .. .01 | .01 | .015 | .014 | .015 |
| (11) | .. .01 | .10 | .09 | .06 | .12 |
| (12) | .. 3.70 | 3.57 | 3.70 | 3.45 | 4.85 |
| (13) | .. .50 | .50 | .50 | .40 | .40 |
| (14) | .. .50 | 1.00 | .60 | .50 | .50 |
| (15) | .. 20.00 | 25.00 | 30.00 | 30.00 | 25.00 |
| (16) | .. 5.00 | 10.00 | 10.00 | 6.00 | 10.00 |
| (17) | .. 1.00 | 1.75 | 1.10 | 1.25 | 1.50 |
| (18) | .. .03 | .15 | .05 | .06 | .08 |
| (19) | .. 2.00 | 2.00 | 1.50 | 2.00 | 2.50 |
| (20) | .. 1.00 | 1.00 | 1.00 | 1.55 | 1.30 |
| (21) | .. 2.00 | 2.00 | 1.80 | 1.60 | 1.75 |
| (22) | .. 1.00 | 3.00 | 2.00 | 1.40 | 2.00 |
| (23) | .. 1.00 | 5.00 | 12.00 | 2.50 | 10.00 |
| (24) | .. 2.00 | 3.00 | 2.50 | 1.00 | 3.00 |
| (25) | .. 2.00 | 2.00 | 2.00 | 1.00 | 2.00 |
| (26) | .. 3.00 | 5.00 | 5.00 | 4.00 | 7.00 |
| (27) | .. 2.00 | 3.00 | 3.00 | 2.50 | 3.00 |

C. I. PIPE AND FITTINGS—ORANGE COUNTY

SANTA ANA, Orange Co., Calif.—Bids for furnishing cast iron pipe and fittings for use at Westminster, for Orange County Water Works District No. 5, opened by F. W. Slabaugh, Orange county purchasing agent, follow:

- (1) 70 ft. 8-in. cast iron pipe, class 150
- (2) 2987 ft. 6-in. do;
- (3) 14,281 ft. 4-in. do;
- (4) 13 6-in. double gate valves;
- (5) 54 4-in. do;

The bids follow:

| | (1) | (2) | (3) | (4) | (5) |
|---------------------------------------|---------|-----------|-----------|----------|-----------|
| National C. I. Pipe Co..... | \$50.16 | \$1374.02 | \$5426.78 | \$190.06 | \$4617.00 |
| American C. I. Pipe Co..... | 49.02 | 1320.25 | 5141.16 | 221.00 | 486.00 |
| Pacific States C. I. Pipe Co..... | 47.12 | 1224.67 | 4712.23 | 221.00 | 486.00 |
| Crimell Company..... | 48.41 | 1314.28 | 4141.49 | 211.25 | 513.00 |
| Smith, Booth, Usher Co..... | ..... | ..... | ..... | 188.50 | 456.30 |
| Rensselaer Valve Co..... | ..... | ..... | ..... | 221.00 | 486.00 |
| Ducommun Corp..... | ..... | ..... | ..... | 209.30 | 491.40 |
| R. D. Wood Co..... | 45.60 | 1293.37 | 4855.54* | 190.06 | 4617.00 |
| U. S. Pipe & Foundry Co..... | 49.40 | 1336.68 | 5176.86 | ..... | ..... |
| Southwest Foundry & Machinery Co..... | ..... | ..... | ..... | ..... | ..... |

* Class "B."

ENGINEERING NEWS

BRIDGES

SANTA BARBARA, Cal.—J. Munne-man, 1306 Laguna St., Santa Barbara, at \$4494 awarded contract by county supervisors to construct a concrete bridge over Loma Baja Creek on the Goleta Foothill Blvd.

Complete bids follow:

| | | |
|-----------------------------------|---------|---------|
| (1) 250 cu. yds. excavation; | | |
| (2) 191 cu. yds. reinf. concrete; | | |
| (3) 153 lin. ft. hand rail. | | |
| (A) J. J. Munneman, Santa Bar- | \$4494 | |
| bara | | |
| (B) Johnson & Hanson, Ventura | 4,988 | |
| (C) Santa Maria Const. Co., San- | | |
| ta Maria | 5,240 | |
| (D) Nels Oakeson, Santa Bar- | | |
| bara | \$5,660 | |
| (E) C. D. Reiner & Sons, Santa | | |
| Maria | \$7,325 | |
| (1) | (2) | (3) |
| (A) .....\$1.25 | \$18.55 | \$..... |
| (B) .....1.10 | 18.00 | 2.25 |
| (C) .....1.25 | 23.75 | |
| (D) .....2.25 | 23.55 | 2.10 |
| (E) .....2.00 | 33.60 | 2.60 |

CLARK COUNTY, Nev.—Until Mar. 2, bids will be received by S. C. Durkee, state highway engineer, Carson City, for

(1) placing culverts on Boulder City Highway from Las Vegas to point ten miles southeast.

(2) construct small concrete bridge over Las Vegas Wash two miles north of Las Vegas.

Plans obtainable from the engineer. Quantities of materials involved in the above projects will be published shortly.

SPOKANE, Wash.—City Engineer A. D. Butler is completing plans for reinforced concrete bridge on Boone Ave. across Great Northern Railway. Estimated cost, \$100,000; will be 600 ft. in length, with a 30-ft. roadway and two 7½-ft. walks. It will have four concrete arches or from 87- to 114-ft. span, the longest to cross the railway tracks. The work will involve:

- (1) 5000 cu. yds. concrete;
- (2) 400,000 lbs. reinf. steel.

PORTLAND, Oregon—Gilpin Const. Co., Worcester Bldg., Portland, at \$22,324 submitted low bid to Multnomah County Commissioners to construct pile bent trestle. A Guthrie & Co. second low at \$22,619.

LOS ANGELES, Cal.—Call for bids to construct reinforced concrete grade separation on Vermont Ave. over the Santa Fe Railway tracks, near San Pedro, issued by the Los Angeles board of supervisors for Feb. 1, has been withdrawn and revised plans ordered for a timber structure. W. B. Armstrong, Chief Bridge Engineer, is preparing preliminary sketches which will be submitted to the railroad commission for approval. Previous plans called for a structure 136 ft. in length and 70 ft. wide.

VANCOUVER, B. C.—First Narrows Bridge Co., Vancouver, plans construction of a suspension bridge across Lions' Gate; estimated cost \$5,000,000. Tentative plans prepared by Monsarrat & Pradley, consulting engineers, Montreal, and W. G. Swan, consulting engineer, Vancouver, provide for a 1400 ft. channel and a clearance of 200 ft. above high water.

SAN DIEGO, Calif.—R. E. Hazard Contracting Co. 2538 Kettner Ave. San Diego, at \$40,421.30 submitted low bid to County Supervisors for the construction of a concrete pile bridge across Sorrento Canyon on the State Highway. Complete list of bids follows:

| | |
|---|-------------|
| R. E. Hazard Contracting Co., San Diego | \$40,421.30 |
| Walter Trepte, San Diego | 41,296.40 |
| Nead Const. Co., Wilmington | 41,429.00 |
| V. R. Dennis Const. Co., San Diego | 41,634.75 |
| Merritt-Chapman-Scott, San Pedro | 41,911.90 |
| B. O. Larsen, San Diego | 42,110.35 |
| Oberg Bros., Los Angeles | 42,355.90 |
| M. H. Golden, San Diego | 42,401.95 |
| Chas. and F. W. Steffgen, San Diego | 43,430.25 |
| Gist & Bell, Arcadia | 43,481.90 |
| Frank Moran, San Diego | 44,532.00 |
| W. M. Ledbetter & Co., Los Angeles | 45,760.00 |
| Robinson-Roberts Co., L. A. | 46,475.00 |
| Houghton & Anderson, L. A. | 46,717.00 |

Bids under advisement.

SAN FRANCISCO.—Following informal bids were received by S. J. Hester, secretary of the Department of Public Works, for inspection of structural steel in connection with the Third Street Bridge Project, involving:

- (1) inspection at Bethlehem Steel plant at Seattle, per ton;
 - (2) do at Bethlehem, Pa., per ton;
 - (3) do at South San Francisco, per ton
- (A) Hersey Inspection Bureau.
 (B) Smith, Emery & Co.
 (C) Abbot A. Hanks, Inc.
 (D) Robert W. Hunt Co.
- | | | | | |
|-----|-------|-------|-------|-------|
| | (A) | (B) | (C) | (D) |
| (1) | \$.30 | \$.30 | \$.50 | \$.40 |
| (2) | .25 | .25 | .35 | .30 |
| (3) | .25 | .25 | .50 | .40 |

MONTEREY COUNTY, Cal.—State Highway Commission has provided \$50,000 for the contingency reserve to finance construction of bridges at Wildcat and San Jose creeks on the Carmel-San Simeon highway. San Jose creek is located about five miles south of Carmel and Wildcat creek about three miles south of Carmel Highlands, just beyond San Remo.

DAILY NEWS SERVICE

If you are interested in a daily construction news service featuring all types of building and engineering construction, send for free sample copies of Daily Pacific Builder. Subscription price, \$150 per month or \$15.00 per year when paid in advance.

Daily Pacific Builder features in each issue, timely reports on work contemplated, bids wanted, bids opened and contracts awarded for all types of building and engineering construction, machinery and equipment, Government work, supplies and equipment, business opportunities, etc.

Daily Pacific Builder is the only publication publishing listings of building permits, building contracts, mechanics liens, etc., in Northern and Central California.

Send for sample copies today or phone GA 8744.

Daily Pacific Builder

345 Mission St.
 San Francisco, Calif.

SAN FRANCISCO.—U. S. War Department has approved plans for the San Francisco Bay bridge, eliminating the greatest obstacle to the \$75,000,000 project. The plan approved is that of a span from Rincon Hill to Oakland, via Yerbu Buena Island. Permission has already been given by the Secretaries of War, Navy and Commerce to cross the Island.

MISSOULA, Mont.—U. S. Bureau of Public Roads, Missoula, Mont., is preparing plans for a 400-ft. bridge on the Yellowstone Trail, near Cyr; will be steel and concrete; estimated cost \$65,000.

BOISE, Idaho.—City of Boise has adopted an enabling act to permit the city to join with the county, state and federal government in the construction of a new bridge on Fairview Avenue. The estimated cost is between \$150,000 and \$175,000. Plans will be started at once. J. P. Pope is mayor of Boise.

PLACER COUNTY, Calif.—As previously reported, until Feb. 10, 2 P. M. bids will be received by State Highway Commission to construct an under-grade crossing under the tracks of the Southern Pacific Railroad near Towle, consisting of two concrete abutments with wing walls, involving:

- (1) 3900 cu. yds. rdwy. excav. without class;
 - (2) 620 cu. yds. struc. excav.;
 - (3) 960 cu. yds. Class B Port. cement concrete;
 - (4) 5500 lbs. reinf. steel, placing only;
 - (5) 1 lot misc. items of work.
- State will furnish reinforcing steel.

PETALUMA, Sonoma Co., Cal.—Preliminary plans submitted by the city council to the U. S. War Department for a bridge over the Petaluma River in D St. have been approved. This permits the city to take steps to call an election to vote bonds to finance construction. Preliminary plans for the bridge were prepared by L. H. Nishkan, consulting engineer, 525 Market St., San Francisco.

FRESNO, Fresno Co., Calif.—Until February 13, 10:30 A. M., bids will be received by H. S. Foster, city clerk, to construct the Belmont Ave. Subway, involving:

- (1) 22,000 cu. yds. excavation;
- (2) 1,600 cu. yds. mass concrete;
- (3) 740 cu. yds. reinf. concrete;
- (4) 140 cu. yds. handrail concrete;
- (5) 112,000 lbs. reinforcing steel;
- (6) 32,000 sq. ft. concrete pavement;
- (7) 1,500 lin. ft. curb;
- (8) 9,400 lin. ft. planks.

Lighting and drainage structures are also included. In addition to the above the Southern Pacific Railroad Company will furnish and place the structural steel and false work and handle the waterproofing of the deck. Deposit of \$10 required for plans obtainable from Jean L. Vincenz, city engineer.

SAN LUIS OBISPO COUNTY, Cal.—Until February 5, 2 P. M., bids will be received by L. H. Gibson, district engineer, State Highway Commission, Highway Bldg., San Luis Obispo, for widening a reinforced concrete bridge at Station 764 plus 46.5, south city limits of San Luis Obispo. Certified check, 10%. Plans obtainable from engineer.

UKIAH, Mendocino County, Cal.—County supervisors authorize construction of wooden bridge on Fish Rock Road near Orinbaum Valley; estimated cost \$1000. Work by county forces, under emergency act.

PALO ALTO, Santa Clara Co., Cal.—City council has appropriated \$5,000 as city's share of cost in widening Middlefield Road bridge. County of Santa Clara and County of San Mateo will contribute like amounts.

SANTA BARBARA COUNTY, Cal.—As previously reported, until Feb. 17, 2 P. M., bids will be received by State Highway Commission to construct a bridge across San Antonio Creek about 1 mile north of Los Alamos, consisting of eight 40-ft. steel beam spans with concrete deck on concrete pile bents and concrete abutments with wing walls on pile foundations, involving:

- (1) 360 cu. yds. struc. excav.;
- (2) 2900 lin. ft. reinf. conc. piles incl. test piles;
- (3) 80 cu. yds. Class "A" Port. cem. conc. (placed by tremie);
- (4) 610 cu. yds. Class "A" Port. cem. conc. (struc.);
- (5) 82,000 lbs. bar reinf. steel;
- (6) 230,000 lbs. struc. steel;
- (7) 650 lin. ft. timber railing;
- (8) 1 lot misc. items of work.

SAN DIEGO, Cal.—R. E. Hazard Contracting Co., 2523 Kettner Ave., San Diego, at \$40,421.30 awarded contract by County Supervisors for construction of a concrete pile bridge across Sorrento Canyon on the State Highway.

DREDGING, HARBOR WORKS & EXCAVATIONS

LOS ANGELES, Cal.—Ray Schweitzer & Co., 2475 E. 9th St., awarded contract by county supervisors at \$42,365 to construct levee and gunite protection work on Pacoima Wash, bet. Arleta St. and San Fernando Road, involving:

- 66,500 cu. yds. excav.;
- 156,000 sq. ft. gunite facing slab;
- 207,000 sq. ft. manufacturing and placing pre-cast mattress;
- 9900 sq. ft. concrete paving slab, Laurel Canyon Blvd.;
- 100 cu. yds. rockfill Laurel Canyon Blvd.;
- 10,900 lbs. placing metal drainage culverts and gate complete, etc.;

SAN DIEGO, Cal.—Bids will be asked at by U. S. Engineer Office, Central Bldg., Los Angeles, for dredging 569,000 cu. yds. from the south side of the Bay Channel and Chula Vista Channel at San Diego.

RIVERSIDE, Riverside Co., Calif.—A. L. Sonderegger, Central Bldg., Los Angeles, consulting engineer, has been selected Chief Engineer of the Tri-Counties Water Conservation Assn. which plans water conservation and flood control work on the Santa Ana River to cost \$200,000. The selection was made by the advisory engineering board, the members of which are: R. D. Skelley of Riverside; Geo. S. Hinckley of Redlands; and W. W. Hoy of Santa Ana. Francis Cuttle of Riverside is president of the association.

SANTA ANA, Orange Co., Calif.—Orange County Associated Chambers of Commerce, represented by Ross Sgafer of Tustin, is preparing to start negotiations to consolidate divergent

interests in the Prado Dam Project. A county flood control bond issue for approximately \$10,000,000 is under consideration. The project is now advanced as an unemployment relief measure.

SACRAMENTO, Calif.—Franks Contracting Co., 260 California Street, San Francisco, at \$48,996.30 awarded contract by U. S. Engineer Office, Sacramento, to raise and strengthen existing levee on westerly side of Yolo By-pass and easterly side of Cache Slough around Liberty Island, a distance of approx. 30,130 ft. Total quantity of material to be moved is approximately 621,000 cu. yds. Complete list of bids published in issue of Dec. 23.

SAN FRANCISCO.—Constructing Quartermaster, Fort Mason, is preparing plans for a 125-ft. extension to the seawall at Fort Baker. Construction will be of reinforced concrete.

IRRIGATION PROJECTS

RANDOLPH, Ariz.—See "Waterworks," this issue. Pumping plant installation and miscellaneous irrigation works in connection with Randolph Irrigation District.

COLUSA, Colusa Co., Cal.—Princeton Farm Center contemplates replacement of motors used by Princeton-Cordova Irrigation District with Diesel engines with a view to reducing operating costs.

STREET LIGHTING SYSTEMS

BERKELEY, Alameda Co., Calif.—City Improvement Co., 2655 Center St., Berkeley, at \$3,338 submitted low bid to the Regents of the University of California to construct street lighting system in Fulton and Oxford Streets between Bancroft and Berkeley Ways. Following is a complete list of bids:

| | |
|---------------------------------------|---------|
| City Imp. Co., Berkeley..... | \$3,337 |
| Scott-Buttner Elec. Co., Oakland..... | 3,753 |
| NePage-McKenney Co., S. F..... | 3,887 |
| H. C. Reid & Co., S. F..... | 3,930 |

Bids held under advisement.

MODESTO, Stanislaus Co., Calif.—O'Connell & Taggard, 1602 J Street, Modesto, at \$3300 awarded contract by city council to install ornamental street lighting system in 11th Street bet. K and Needham Sts., involving cement concrete electroliters with underground system. Complete list of bids submitted follows:

| | |
|-----------------------------------|--------|
| O'Connell & Taggard, Modesto..... | \$3300 |
| H. H. Walker Co., Inc. L. A..... | 3331 |
| Eddy Electric Co., Stockton..... | 3356 |
| Robinson Elec. Co., Fresno..... | 3652 |
| City Imp. Co., Berkeley..... | 3764 |
| R. Flatland..... | 3940 |

MACHINERY AND EQUIPMENT

SAN JOSE, Santa Clara Co., Cal.—Until Feb. 15, 11 A. M., bids will be received by Henry Pfister, county clerk, for the sale of a 1927 Dodge Roadster, no longer required by the county.

UKIAH, Mendocino Co., Cal.—Until Feb. 10, 7:30 P. M., bids will be received by Fred L. Bosworth, city clerk to furnish one ½-ton truck chassis minimum, standard first grade balloon tires, f.o.b. Ukiah. Certified check payable to city of Ukiah for 10% required with bid.

LAS VEGAS, Nev.—Austin-Western Road Machinery Co., Los Angeles, at \$3,622.50 awarded contract by Clark county commissioners to furnish motor road grader, tractor type motor, 4- or 6-cylinder, rear wheels solid rubber, dual drive or rubber track; front wheels to be pneumatic 6-in. tires. Front type scarifier with blade not less than 12 ft. Complete list of bids follows:

| | |
|--|---------|
| Brown-Bevis Co., Los Angeles..... | \$2,990 |
| *Smith Booth Usher, L. A..... | 3,345 |
| Jas. Cashman, Las Vegas..... | 3,400 |
| Austin-Western Rd. Mach. Co..... | 3,622 |
| Lund & Co., Salt Lake City..... | 3,740 |
| *Conc. Mach. & Supply Co., L. A. 3,799 | |
| C. H. Jones Co., Salt Lake City..... | 3,820 |

*With various alternates.

SAN DIEGO, Calif.—Chicago Pneumatic Tool Co., New York City, at \$17,445 awarded contract by Bureau of Yards and Docks, Navy Department, Washington, D. C., under Spec. No. 6650, to furnish three 560 c.f.b., horizontal, motor-driven air compressors with intercoolers, automatic starting compensators, oil circuit breaker, disconnecting switches and electric wiring at the Naval Operating Base (Destroyer Base), San Diego. Complete list of bids published in issue of Jan. 12.

VALEJO, Solano Co., Cal.—Board of Education rejects bids received to furnish motor school bus for transportation of pupils. It is probable that another call for bids will be issued upon completion of the new junior high school. Elmer L. Cave is city superintendent of schools.

LOS ANGELES, Cal.—Until 12, M., February 8th, bids will be received by county purchasing agent H. E. Russell, 524 N. Spring St., for furnishing shoe machinery, stitchee, finisher, etc., under specification No. 2531.

PACIFIC COAST—See "Government Work and Supplies," this issue. Bids wanted by various Navy Yards and Stations for miscellaneous supplies and equipment, to be opened by Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.

SACRAMENTO, Cal.—Bids for furnishing one 6-wheel solid rubber tired low flat bed trailer, with carrying capacity of approximately 25 tons, Quotation No. 26,538, Requisition No. 10,508, opened by State Purchasing Agent, Jan. 20, follow:

| | |
|---|------------|
| Mellance Trailer Co., 32404. | |
| Pager Hydraulic Hoist & Body Co., | \$2,650. |
| Utility Trailer Mfg. Co., 32756; alterna- | te, 26536. |
| Dinuba Steel Products, 29552; alterna- | te, 27377. |
| Kratz & McClelland, 33367 | |

RAILROADS

COLORADO-CALIFORNIA.—Denver and Pacific R. Co. (C. Crenshaw, president), Salt Lake City, recently incorporated in Wilmington, Del., has filed application with the Interstate Commerce Commission for permission to construct an 800-mile railroad from Denver, Colo., to San Pedro Harbor, Calif.

FIRE ALARM SYSTEMS

LOS ANGELES, Calif.—Until 11 A. M., Feb. 17, bids will be received by city purchasing agent, Thomas Ough-ton, for furnishing and installing a selective fire alarm system under Spec. No. 2705.

RESERVOIRS AND DAMS

LOS ANGELES, Calif.—Construction of San Gabriel Dams Nos. 1 and 2 was assured by the action of the Los Angeles Board of Supervisors Jan. 13 in purchasing the mining claims in the lower San Gabriel Valley.

Plans for Dam No. 1, which is estimated to cost \$10,000,000, are under way in the office of E. C. Eaton, Flood Control Engineer.

Plans for San Gabriel Dam No. 2, estimated to cost between \$2,000,000 and \$3,000,000, have been completed and final approval of the State Engineer will probably be given within the next few days. Chief Engineer Eaton proposes to present plans to the board of supervisors Monday, Jan. 18. If this is done and the board approves the plans, advertising for bids will be started immediately thereafter, in which case plans and specifications may be obtained within three days from the date of the board's order. This dam will be a rock fill type structure, 290 ft. in height.

SAN DIEGO, Calif.—A. V. Goeddel, city purchasing agent, has announced that a delay of perhaps two to four weeks in advertising for bids on El Capitan Dam and pipe line will be necessitated by action of city officials January 13. Robt. M. Gregory, manager of operations, previously announced that bids on the dam would be taken either on February 8 or 15, these dates, however, being tentative only. Mayor Walter W. Austin, City Attorney C. L. Byers and City Hydraulic Engineer H. N. Savage have left for Washington to arrange for the securing of additional fowage lands at the El Capitan site. Until these officials return the state engineer's final approval is withheld with a consequent delay in the call for bids.

LOS ANGELES, Cal.—Until February 8, 2 P. M., bids will be received by the County Board of Supervisors for the construction of San Gabriel Dam No. 2. Project involves:

- (1) 250,000 cu. yds. A excavation, open cut for dam foundation;
- (2) 7,200 cu. yds. B excavation, cutoff trenches;
- (3) 180,000 cu. yds. C excavation;
- (4) 1,000 cu. yds. driving inlet tunnels;
- (5) 970,000 cu. yds. A rockfill, dumped rockfill in body of dam;
- (6) 95,000 cu. yds. B rockfill, large selected rock on downstream face;
- (7) 52,500 cu. yds. C rockfill, packed rock on upstream face of dam;
- (8) 8,000 cu. yds. concrete, A in upstream cutoff wall;
- (9) 6,500 cu. yds. concrete, B all plain concrete except in upstream cutoff wall;
- (10) 8,000 cu. yds. concrete, C, all reinforced concrete;
- (11) 2,000 cu. yds. concrete, D tunnel lining;
- (12) 440,000 sq. ft. placing 6-in. reinforced gunite facing slabs;
- (13) 3,000 lin. ft. drilling A grout holes, less than 10 ft. deep;
- (14) 7,500 lin. ft. drilling B grout hole less than 50 ft. deep, more than 10 ft.
- (15) 20,000 lin. ft. drilling grout holes, less than 150 ft. deep, more than 50 ft.;
- (16) 7,500 lin. ft. drilling D grout holes, re-drill through grout;
- (17) 12,000 lin. ft. drilling E grout holes, less than 20 ft. deep;
- (18) 1,700 holes, placing fittings in grout holes;
- (19) 1,300 lin. ft. placing grout pipe;
- (20) 500 cu. yds. pressure grouting;
- (21) 14,000 lin. ft. placing water seals;
- (22) 275,000 lbs. placing gates and valves;
- (23) 50,000 lbs. placing operating pipes and steel vent pipes;
- (24) 100,000 lbs. placing steel trash rock and structural steel and operating tank;
- (25) 200,000 lbs. placing reinforcing steel in plain concrete;
- (26) 6,000 lbs. placing iron pipe hand rail;
- (27) 150 lin. ft. placing tile drains;
- (28) 4,500 lin. ft. placing steel dowels;
- (29) 500 cu. yds. backfill, all types;
- (30) 15,000 men to be furnished lodging;
- (31) 15,000 men to be fed.

Plans obtainable from E. C. Eaton, Chief Engineer, County Flood Control Department, 202 N Broadway, on deposit of \$25. Certified or cashier's check payable to Chairman of County Board of Supervisors or bidder's bond payable to Los Angeles County Flood Control District for 10% required with bid.

COLUMBIA RIVER DAM, Wash.—Plans for a dam to be built in the Columbia River basin in Washington state and costing \$400,000,000 have been prepared by engineers of the U. S. Bureau of Reclamation, Denver, and have been forwarded to Washington, D. C. where congressional authorization has been requested in a joint bill presented by Senator Jones and Senator Bill of the State of Washington. The project proposed would be for the development of power and for irrigation on approximately 1,500,000 acres. The site of the dam is about 150 miles below the Canadian border. The dam will be 4100 lin. ft. in length and require approximately 11,000,000 cu. yds. of concrete.

SAN JOSE, Santa Clara Co., Cal.—City Engineer Wm. Popp is completing plans and bids will be asked within thirty days to construct Cherry Flat Reservoir in the vicinity of Alum Rock Park. Will be of the earth fill type with concrete core, involving in the main:

- (1) 30,000 cu. yds. earth fill;
- (2) 4,500 cu. yds. concrete (rough estimate);

Estimated cost \$50,000. John J. Lynch is city clerk.

UTAH.—Plans for the construction of an earth fill dam and appurtenant works in the Moon Lake Reservoir Project on Lake Fork River, Utah, have been approved by the U. S. Bureau of Reclamation. The dam will cost \$1,177,953.

Construction, however, will be held in abeyance because of the limited reclamation funds for construction purposes.

The project plan includes the construction of the Moon Lake reservoir,

with a capacity of 30,000 acre-feet, for furnishing a supplemental water supply of about 23,000 acre-feet for 26,145 acres of land tributary to the Lake Fork River and 7000 acre-feet for a maximum of 14,000 acres on the Uintah River.

The participation of the Uintah River lands necessitates the construction by the benefited water users of a 12-mile diversion canal with a capacity of 60-80 second-feet from the east fork of Lake Fork River easterly to Cottonwood Creek and thence southeasterly toward the Uintah River along one of two alternate locations 6 and 12 miles long.

The estimated cost of Moon Lake reservoir for a capacity of 30,000 acre-feet, based on an earth-fill type of dam with a raise of 55 feet in the lake water level, is \$1,177,953, or \$39.27 per acre-foot. Surveys and estimates have not been made of the diversion canal.

Reports indicate that a 40-year period will be required for the return of construction costs and that the project, if adopted, should contract with the United States through a water-users' association.

The investigation of the project has been conducted under the cooperative contracts with the State of Utah, dated June 24, 1927, and July 22, 1930, in conjunction with the investigations in Salt Lake Basin.

PIPE LINES, WELLS, ETC.

YREKA, Siskiyou Co., Cal.—As previously reported, Western Pipe and Steel Co., 444 Market St., San Francisco, awarded contract by city council to furnish:

- (1) 3600 ft. 8-in. No. 14 gauge double riveted and double dipped soil proof wrapped sheet steel pipe in 30-ft. lengths;
- (2) 127 eight-in. Dayton couplings with bolts and gaskets.

Complete list of bids follows:

| | | |
|-------------------------------|-------|------------|
| (A) *Crane Company | ..... | \$2,356.60 |
| (B) Western Pipe & Steel Co. | ..... | 2,430.02 |
| (C) Sacramento Pipe W'ks. | ..... | 2,480.23 |
| (D) Montague Pipe & Steel Co. | ..... | 2,526.23 |

| | | | |
|-----------|------|-------|--------|
| (A) | (B) | (C) | (D) |
| (1) | .60 | \$.56 | \$.587 |
| (2) | 2.75 | 2.26 | 2.89 |

*Crane bid covered pipe 38- to 40-ft. lengths.

BAKERSFIELD, Kern Co., Calif.—Carl Larsen, 1510 Flower St., Bakersfield, awarded contract by State Highway Commission at \$1220 for drilling water well in Kern County, 21 miles south of Bakersfield.

PALO ALTO, Santa Clara Co., Cal.—Board of Public Works plans to replace leaking gas mains in various sections of the city. The city council will be requested to authorize the transfer of \$15,000 into a fund to finance the work during the present fiscal year. J. F. Byxbee, Jr., is city engineer.

LOS ANGELES, Cal.—Until 11 A. M. February 18, bids will be received by city purchasing agent, Thomas Ough-ton, to furnish Department of Water and Power penstock and appurtenances under specifications No. 2574 as follows:

- (1) riveted penstock and appurtenances;
- (2) electric welded penstock and appurtenances;
- (3) hammer welded penstock and appurtenances;

SEWERS AND SEWAGE DISPOSAL PLANTS

SIGNAL HILL, Los Angeles Co., Cal.—Bids will be called probably shortly by the city council to furnish three pumping stations in connection with the sewage disposal plant now being constructed and for which J. D. Sherer Company, 1865 Anahelm Street, Long Beach, has the general contract.

SIGNAL HILL, Los Angeles Co., Cal.—City council will ask bids shortly to furnish materials required in the construction of 2½ miles of sewer mains, the work to be done by force account. Material will be purchased to build a line from Temple Ave. to Twentieth and Alameda Sts., a distance of a mile and a quarter, and for a similar line from Twentieth and Alameda Sts. to Orange Ave. Geo. H. Cooper is city clerk.

SOUTH SAN FRANCISCO, San Mateo Co., Cal.—City council contemplates bond issue to finance sewer construction with a view to relieving the unemployment situation. Geo. A. Kneese, city engineer, Stafford Bldg., Redwood City, is making surveys for extensions to the present system.

DENVER, Colo.—Bids will be asked shortly by Walter B. Lowry, city manager of Parks and Improvements, to construct main sewer with necessary manholes, inlets and appurtenances for storm drainage and reconstruction, re-construction and extension of sub-main sewers with necessary manholes, inlets and appurtenances for storm drainage. Engineer's estimate \$1,324,177. A. K. Vickery, engineer.

CAPISTRANO BEACH, Orange Co., Cal.—Capistrano Beach Sanitary District will ask bids about February 15 to construct vitrified and c. i. sanitary sewage-collection system in Victoria Blvd. and other streets. Work under 1911 Act. Estimated cost \$50,000. Project involves 22,000 ft. 6-in. and 22,300 ft. 8-in. pipe. Burns-McDonnell-Smith Engineering Corp., 1031 South Broadway, Los Angeles, engineer. A sewage disposal plant will be built under \$40,000 worth of bonds voted recently.

BURBANK, Los Angeles Co., Cal.—American Cast Iron Pipe Co., Los Angeles, awarded contract by city manager to furnish 2080 ft. 18-in. Class 250 cast iron, cement lined pipe, in 16-ft. lengths, at \$2.558 ft., and 2872 ft. 18-in. Class 200 cast iron pipe, in 16-ft. lengths, at \$2.269 ft.

MIAMI, Ariz.—The Driscoll Const. Co., Pueblo, Colo., awarded contract by city council at \$31,003.50 to construct storm sewer system in Adonis Ave., Gibson and other streets, under a \$50,000 bond issue. The contractor will take the bonds at par and accrued interest. The work involves:

- (1) 15,550 sq. yds. bottom slab (concrete construction);
- (2) 6300 lin. ft. side walls;
- (3) 3600 sq. ft. sidewalks;
- (4) 1800 sq. ft. sidewalk drains;
- (5) 1650 cu. yds. reinf. conc. crossovers
- (6) 32 cu. yds. concrete in check dams.

LOS ANGELES, Cal.—Plans for proposed sewer line bet. Van Nuys and Owensmouth have been ordered by the city council. This line will involve about 9.5 miles of sewer, the largest sizes being 21-in. and 24-in. Approximately \$243,000 from sewer bond funds has been allocated by the city council to cover the cost of this work.

PASADENA, Cal.—Until March 1, 11 A. M., bids will be received by Bessie Chamberlain, city clerk, to construct the Pine Canyone Dam and appurtenant works in San Gabriel Canyon, about 4 miles north of Azusa, plans for which were prepared by Samuel B. Morris, chief engineer of the Municipal Water Department. Plans provide for a concrete gravity section dam, approximately 245 ft. high above stream bed, with a crest length of approximately 750 ft. The principal quantities are as follows:

98,000 cu. yds. unclass. excav. for dam foundation;
 83,000 cu. yds. excav. of gravel and loose material in stream bed for dam foundation;
 27,000 yds. excav. of rock below stream bed for dam foundation;
 142,600 cu. yds. excav. (spillway);
 193,400 cu. yds. excav. (lining abutment);
 39,000 cu. yds. excav. (rdwys. at end of dam);
 10,000 cu. yds. excav. (level top of hill);
 436,000 cu. yds. mass concrete in dam;
 17,630 cu. yds. concrete in spillway;
 14,860 cu. yds. concrete (lining of west abutment);
 12,320 cu. yds. other concrete;
 3,020,000 lbs. place reinforcement steel;
 1,859,000 lbs. place metal in outlet pipes, gates, valves, trash racks, hoists, etc.;
 1,210,000 lbs. place metal in spillway drum gates and operating mechanism.

The work also includes the installation of electrical conduits, water seals, drains, and other work required.

The City of Pasadena will furnish rock and sand. Separate contracts, estimated to cost \$1,300,000, will be let for cement, reinforcing steel, hydraulic valves, and other materials other than rock and gravel.

The estimated cost of this contract is about \$4,000,000.

Complete specifications may be obtained from the Chief Engineer, 319 City Hall, upon deposit of \$15 and blueprints may be obtained upon deposit of \$25. A certified check or draft or cashier's check or draft for 10% of the total amount bid must accompany each proposal.

Seventy-five per cent of workmen employed must be residents of Pasadena.

The specifications contain a provision that if the contract is not awarded within thirty days, the bidder may at his option withdraw his bid.

The time for completion has been set for Nov. 15, 1932. For failure to complete the contract in this time, the contractor will be required to pay to the city as liquidated damages the sum of \$2000 per day.

A list of the items upon which bids will be taken are shown in the schedule attached. No bid will be considered for only a part of the schedule. The items are:

- (1) 436,000 cu. yds. mass concrete in dam;
- (2) 8600 cu. yds. mass concrete in spillway;
- (3) 100 cu. yds. mass conc. in misc. locations;
- (4) 1440 cu. yds. conc. in parapets and pilasters;
- (5) 610 cu. yds. reinf. conc. in trash rack struct.;
- (6) 650 cu. yds. reinf. conc. in outlet tower;
- (7) 5000 cu. yds. reinf. conc. in spillway floor and sidewalks laid against rock;
- (8) 680 cu. yds. reinf. conc. in spillway bridge;
- (9) 12,150 cu. yds. reinf. conc. in lining on upstream side of west abutment spur;
- (10) 2710 cu. yds. conc. in cut-off trench of lining on upstream side of west abutment spur;
- (11) 3020 cu. yds. conc. in shafts, drifts, and tunnels;
- (12) 110 cu. yds. class A reinf. conc. in dam;
- (13) 2320 cu. yds. class B reinf. conc. in dam;
- (14) 1350 cu. yds. class C reinf. conc. in dam;
- (15) 210 cu. yds. class D reinf. conc. in dam;
- (16) 1260 cu. yds. class E reinf. conc. in spillway;
- (17) 10 cu. yds. class A reinf. conc. in spillway;
- (18) 140 cu. yds. class B reinf. conc. in spillway;
- (19) 750 cu. yds. class C reinf. conc. in spillway;
- (20) 900 cu. yds. class D reinf. conc. in spillway;
- (21) 1600 cu. yds. class E reinf. conc. in spillway;
- (22) 1220 cu. yds. reinf. conc. in tunnel linings;
- (23) 20 cu. yds. reinf. conc. in high pressure water supply system;
- (24) 7000 sq. ft. conc. in rdwy. pavements;
- (25) 1000 sq. ft. conc. in sidewalks;
- (26) 1000 sq. yds. conc. in stairway finishing;
- (27) 250 sk. cmt. place Gunite in water tanks;
- (28) 600 sq. ft. place Gunite in water tank roof domes;
- (29) 500 sk. cmt. Gunite lining against rock or conc.;
- (30) 98,000 cu. yds. unclass. excav. for dam above elev. 935;
- (31) 27,000 cu. yds. rock excav. for dam below elev. 935;
- (32) 83,000 cu. yds. excav. of gravel and loose material for dam in stream-bed;
- (33) 12,000 cu. yds. excav. for rd. at east end of dam;
- (34) 10,000 cu. yds. excav. of top of hill between dam and spillway;
- (35) 27,000 cu. yds. excav. for rd. at west end of dam;
- (36) 142,000 cu. yds. uncl. ss. excav. for spillway above elev. 925;
- (37) 400 cu. yds. rock excav. for spillway below elev. 925;

- (33) 200 cu. yds. excav. for gravel and loose material for spillway below elev. 925;
- (39) 190,000 cu. yds. excav. for lining in upstream side of west abutment spur;
- (40) 3400 cu. yds. excav. for toe walls for lining of west abutment spur;
- (41) 1100 cu. yds. excav. for shafts;
- (42) 820 cu. yds. exca v. for small tunnels;
- (43) 250 cu. yds. excav. for high-pressure tanks and pump house;
- (44) 2400 lin. ft. trench for pipe and conduit;
- (45) 10,500 cu. yds. selected backfill;
- (46) 5000 cu. yds. unselected backfill;
- (47) 2800 lin. ft. drill 4-in. min. dia. special drainage wells in rock;
- (48) 6110 lin. ft. drill stand. drain holes from 0 to 30 ft. deep;
- (49) 740 lin. ft. drill stand. drain holes greater than 30 ft. deep;
- (50) 8730 lin. ft. drill grout holes from 0 to 30 ft. deep;
- (51) 5300 lin. ft. drill grout holes greater than 30 ft. deep;
- (52) 600 lin. ft. drill grout holes in tunnel linings;
- (53) 20,000 lbs. placing 2-in. grout pipes;
- (54) 10,000 lbs. install pipe and fittings for grouting shafts, drifts, and tunnels;
- (55) 15,800 cu. ft. pressure grouting foundations;
- (56) 7600 cu. ft. pressure grouting in shafts, drifts, and tunnels;
- (57) 17,000 lin. ft. forming 18-in. vertical drains;
- (58) 1880 lin. ft. place 12-in. half round drains;
- (59) 10,400 lin. ft. place 4-in. round pipe drains in dam;
- (60) 13,300 lin. ft. place 4-in. round pipe drains under west abutment lining;
- (61) 710 lin. ft. place 8-in. to 16-in. round drain pipes;
- (62) 3150 lin. ft. install copper water seals;
- (63) 7320 lin. ft. drill 2-in. dowel holes;
- (64) 3300 lin. ft. drill 1½-in. weep holes;
- (65) 27,000 lbs. install and painting pipe railing;
- (66) 309,000 lbs. install and paint metal work in trash rack and caterpillar gate guides;
- (67) 16,000 lbs. install and paint metal in Edison conduit outlet structure;
- (68) 552,000 lbs. install and paint flood release outlet pipe and Venturi metres in dam;
- (69) 277,000 lbs. install and paint needle valves at down-stream face of dam;
- (70) 221,000 lbs. install and paint. emergency valves and specials for flood release outlets in dam;
- (71) 111,000 lbs. install and paint valves and special in outlet tower;
- (72) 103,000 lbs. install and paint pipes, Venturi metres, wyes, and connections for water supply outlet at elevation 1000;
- (73) 61,000 lbs. install and paint valves and special for water supply outlet at elevation 1000;
- (74) 101,000 lbs. install and paint misc. small piping, valves, and fittings;
- (75) 41,000 lbs. install and paint derrick and hoist at needle valves;
- (76) 67,000 lbs. install and paint caterpillar gate and hoist and hoists in outlet tower;
- (77) 1,100,000 lbs. install and paint spillway drum gates;
- (78) 110,000 lbs. install and paint operating mechanism, piping, valves, and misc. metal for spillway gates;
- (79) 68,000 lbs. install and paint steel floors, platforms, and stairs;
- (80) 97,000 lbs. install and paint misc. metal work;
- (81) 5000 lbs. placing corrugated culverts;
- (82) 3,020,000 lbs. placing reinforcement steel;
- (83) 18, construct and install lamp posts;
- (84) 16, construct and install lamp brackets;
- (85) 90 lin. ft. construct and install cone. spiral stairs;
- (86) 2, construct and install Pasadena emblems;
- (87) 2880 sq. ft. install roof waterproofing;
- (88) 8300 f. b. m. construct and install woodwork;
- (89) 16,400 lin. ft. install electrical conduits;
- (90) 11,000 lin. ft. install lead-covered cable;
- (91) 37,000 lin. ft. install rubber-covered and bare wire;
- (92) 480 install conduit outlets;
- (93) 35, install motor switches, panel boards feeder switches, etc.;
- (94) Extra payment im workmen's compensation insurance (if not placed with state), faithful performance bond, and labor and material-men's bond are required by the city to be obtained through bona fide Pasadena agencies, lump sum;
- (95) Purchasing from the city the construction buildings and equipment now at the dam site, lump sum.

LOS ANGELES, Cal.—City Engineer J. J. Jessup has completed plans for Civic Center Storm Drain; estimated cost \$56,000. Project involves in the main:

54 ft. special structure;
184 ft. 48-in. R.C.P. (medium);
385 ft. 42-in. do;
314 ft. 36-in. R.C.P. (heavy);
480 ft. 30-in. do;
385 ft. 27-in. do;
780 ft. 27-in. R.C.P. (double medium)
436 ft. 24-in. R.C.P. (heavy);
420 ft. 24-in. R.C.P. (double demium)
467 ft. 21-in. cement pipe;
657 ft. 18-in. do;
218 ft. 15-in. do;
1079 ft. 12-in. do;

(Total length, 5859 lin. ft.)

75 ft. conc. reinf. for 48-in. pipe;
44 ft. conc. reinf. for 42-in. pipe;
21 ft. conc. reinf. for 30-in. pipe;
73 ft. conc. reinf. for 27-in. pipe;
45 ft. conc. reinf. for 15-in. pipe;
245 ft. conc. reinf. for 12-in. pipe;
467 ft. conc. backfill for 21-in. pipe;
153 ft. conc. backfill for 18-in. pipe;
21 manholes;
33 catchbasins.

MIAMI, Ariz.—The Driscoll Const. Co., Pueblo, Colo., submitted to the Miami common council a bid for the construction of the proposed storm sewer project, together with a bid for the \$95,000 bond issue at par and accrued interest. The bid on the construction was \$81,023.50 with 90 days set for completion of the work. The council took the matter under advisement until Jan. 11. Julius Milton, city engineer of Globe, prepared the plans.

MISCELLANEOUS CONSTRUCTION

PORTLAND, Ore.—D-N Incinerator Corp., Winston-Salem, North Carolina, at \$121,422 awarded contract by city commissioners to construct garbage incinerator at the St. Johns site. Complete list of bids received on this project published in issue of January 18.

WATERWORKS

FORT BRAGG, Mendocino Co., Cal.—Pacific Tank and Pipe Co., 230 California St., San Francisco, at \$15.5c ft. awarded contract by city trustees to furnish 500 ft. of redwood pipe in connection with the water system. It is expected that the contract will be increased to 1000 ft.

SACRAMENTO, Cal.—Pacific States C. I. Pipe Co., 111 Sutter Street, San Francisco, at \$31 ft. awarded contract by city council to furnish 3,000 ft. 4-in. c. i. pipe.

American C. I. Pipe Co., Balboa Bldg., San Francisco at \$4.8 ft. awarded contract to furnish 1,500 ft. 6-in. c. i. pipe.

PALO ALTO, Santa Clara Co., Cal.—Until February 8, 4 P. M., bids will be received by E. L. Beach, city clerk, to construct a gravel envelope well. Specifications obtainable from office of J. F. Byxbee, Jr., city engineer.

WOODLAND, Yolo Co., Cal.—City council has abandoned proposal to extend water system in Cross street and into the Beamer Park district, due to lack of funds. The work, however, will be undertaken at a later date.

LOS ANGELES, Cal.—Santa Fe Pipe & Supply Co., 2451 E 15th St., awarded contract by city purchasing agent at \$26,963 for furnishing steel water pipe under Spec. No. 2865.

Member Insurance Brokers' Exchange

FRED H. BOGGS INSURANCE

490 GEARY STREET

Phone FRanklin 9400

San Francisco

SIGNAL HILL, Los Angeles Co., Cal.—An analysis of the bids submitted for constructing a municipal water pipe line involving 17,572 ft. of 20-in. and 12,271 ft. 18-in. pipe, opened January 25, has been made by W. W. Thompson, water superintendent. The analysis shows the low bidders and combinations as follows:

USING STEEL PIPE

L. A. Mfg. Co., 12-gauge pipe, delivered on ground, material only, \$32-, \$46.93; Geo. A. Shepard, labor only, using driven joints, \$356.04; total, \$41,202.97.

L. A. Mfg. Co., using 3-16-in., \$58-, \$37.76 for labor and material complete.

USING CONCRETE PIPE

American Concrete & Steel Pipe Co. all labor and material complete, \$53-, \$23.48.

USING CAST IRON PIPE

American Cast Iron Pipe Co., Class 50, \$48,447.94 for material only; Lee R. Weber, labor only, \$11,638.77; total \$60,086.71.

PHOENIX, Ariz.—Until Feb. 5, bids will be received by Superintendent, Phoenix Indian Sanatorium, Phoenix, to furnish duplex electric pump set and two fuel oil burners. Specifications obtainable from above.

ALAMEDA, Alameda Co., Cal.—Until February 23, 11 A. M., bids will be received by Constructing Quartermaster, Benton Field Air Depot, 33 Pacific Ave., Alameda, under Specification No. 3, to furnish and install one deep well turbine pump complete with electric motor, power connections, control panel with automatic and manual control, pipe connections to mains, etc., also cleaning of well and testing pump, at Benton Field Air Depot. Prospective bidders desiring to inspect site can arrange with the Constructing Quartermaster at the Field between the hours of 9 A. M. and 4 P. M. up to Feb. 22, Saturday afternoons excepted. Specifications obtainable from Constructing Quartermaster on deposit of \$5, checks for same to be made payable to the Treasurer of the U. S.

FRESNO, Fresno Co., Calif.—Bids for seven new turbine pumps to replace those in use in connection with the municipal water system will be asked within fifteen days by Claude Weekes, manager of the city water department.

SUNNYVALE, Santa Clara Co., Cal.—McClintic Marshall Corp., 2050 Bryant St., San Francisco, at \$9,970, under Spec. No. 6758, submitted low bid Jan. 27 to the Bureau of Yards and Docks, Navy Department, Washington, D. C., for one 200,000-gallon steel water tank on 100-ft. steel tower at the Naval Air Station, Sunnyvale.

Pittsburgh-Des Moines Co., second low at \$10,360. Huber Co., Los Angeles, third low at \$10,620.

SUNNYVALE, Santa Clara Co., Cal.—Until February 3, 11 A. M., under Specification No. 6705, bids will be received by Bureau of Yards and Docks, Navy Department, Washington, D. C., to construct water distributing and sewage systems at the Naval Air Station, Sunnyvale. Plans obtainable from Commandant, Twelfth Naval District, 100 Harrison St., San Francisco, on deposit of \$10, returnable, checks for same to be made payable to the Chief of the Bureau of Yards and Docks.

SUNNYVALE, Santa Clara Co., Cal.—Stacey Mfg. Co., Cincinnati O., at \$14,487 submitted low bid Jan. 27, under Spec. No. 6768, to the Bureau

of Yards and Docks, Navy Department, Washington, D. C., for 2,000-, 000-foot capacity, four-lift telescopic type, gas holder at the Naval Air Station, Sunnyvale.

Western Pipe and Steel Co., San Francisco, second low at \$117,832. Steel Tank and Pipe Co., of California, 1100 4th St., Berkeley, third low at \$118,900.

FALLON, Nev.—Nevada Contracting Co., Fallon, at \$6,100 awarded contract by city council to construct pipe line in connection with water system. Byron-Jackson Co., at \$2,364 awarded contract for deep well turbine pump. Complete list of bids will be published shortly. Project involves:

- (1) 5400 ft. 12-in. pipe (c. i. or steel);
 - (2) one 10-in. cushioned check valve;
 - (3) two 10-in. gate valves;
 - (4) one 10-in. tee;
 - (5) one 12-in. gate valves;
 - (6) one deep well turbine pump of 500 G.P.M. against 314 ft. head;
 - (7) motor and starter.
- Work will be paid for in cash.

WATSONVILLE, Santa Cruz Co., Cal.—John Mello, Green Valley Road, Watsonville, is in the market for one or more second-hand automatic pumps to be used in connection with farm lands.

ALAMEDA, Alameda Co., Calif.—Huber Company, 3317 S Alameda St., Los Angeles, awarded contract at \$167,750 by Constructing Quartermaster, for 200,000-gallon, 6-leg steel water tank to be constructed at the new Benton Field Air Depot, Alameda. Complete list of bids received published in issue of January 5.

SANTA ANA, Orange Co., Calif.—Pacific States Cast Iron Pipe Co., Los Angeles, awarded contract by county purchasing agent to furnish cast iron pipe for Orange County Water Works District No. 5 at Westminster. The items are:

- 76 ft. 8-in. pipe, at \$47.12;
- 2987 ft. 6-in. pipe at \$1224.67;
- 14,281 ft. 4-in. pipe at \$4712.73.

LOS ANGELES, Cal.—E. C. Eaton, County Flood Control Engineer, will request supervisors to include an item of \$20,000 in the next budget, to be used in the extension of the new wa-

ter basin at Sierra Madre. The basin is located between Grand View and Central Sts.

PHOENIX, Ariz.—City commission has authorized city manager, Geo. H. Todd, to advertise for bids to construct water system in the West Encanto Subdivision. Estimated cost \$10,000.

YAKIMA, Wash.—Hardie Tynes Mfg. Co., 800 North 28th St., Birmingham, Ala., at \$13,850 awarded contract by U. S. Bureau of Reclamation, Denver, to furnish two 132-inch butterfly valves with operating mechanism, delivered at Yakima.

SAN BERNARDINO, Calif.—San Bernardino County Water Works District No. 10 in the Harlem Springs District, was organized at a recent election and bids for the sale of \$11,000 in bonds to finance water work improvements will be sold at once. Contemplated improvements consist of:

- (1) drilling of a water well, 280 ft. in depth, of 12-in., 14-in. gauge diameter with 12 gauge casing, \$1680
- (2) steel tank, hemispherical bottom, 40,000-gal. capacity, with 4-column steel tower, elevated 50 to 60 ft., \$4600.
- (3) steel pipe line, 4-in. dia., approx. 3150 lin. ft., \$2100.
- (4) fire hydrants, 105.
- (5) three-quarter inch taps, \$120.
- (6) deep well pump of 300 miner's inches capacity, Byron-Jackson or Pomona Deep Well Pump, or equal \$1500.
- (7) plant site, \$200.

Howard L. Way is county surveyor.

FELTON, Santa Cruz Co., Calif.—Felton Water Company instructed by State Railroad Commission to construct 10,000 gallon storage tank and install booster pumping plant and necessary pipe lines to provide adequate water supply for the Felton district.

STREETS AND HIGHWAYS

SEATTLE, King Co., Wash.—Until Feb. 15, 10 A. M., bids will be received by George A. Grant, county clerk, to pave First Avenue South, Donohue Road No. 25, for a distance of 6½ mi., involving:

- (1) 30,000 cu. yds. excav;
- (2) 73,232 sq. yds. concrete paving;
- (3) 9,840 lin. ft. concrete gutter;
- (4) 10,000 lbs. reinf. steel;
- (5) 2,832 lin. ft. 12-in. culv. pipe;
- (6) 1,299 lin. ft. 18-in. culv. pipe;
- (7) 242 lin. ft. 24-in. culv. pipe.

Certified check 5% required with bids. Specifications obtainable from County Engineer's Office.

LOS ANGELES, Calif.—Peck Contracting Co., 2918 Denby Ave., Los Angeles, at \$184,915.75 submitted low bid to the county supervisors to improve Vermont Ave. and Elby Ave. from Ocean Ave. to Normandie Ave., etc., involving in the main:

- 107,016 cu. yds. excavation;
- 127,291 cu. yds. fill;
- 226,563 sq. ft. 4-in. disintegrated rock pave. with rock and oil surf.;
- curbs, walks, drainage structures, etc.

MONTANA STATE.—R. D. Rader, State Highway Engineer, Helena, reports that about 300 miles of new grading, drainage, gravel surfacing and oiling is scheduled for completion during 1932. This will cost about \$2,000,000. The bridge program lists projects amounting to approximately \$1,000,000. The largest individual project in the bridge program is the Missouri

PETROL

ROAD OILS & ASPHALTS

"The largest independent producers of Asphalts and Road Oils in the Pacific Southwest"

The **PETROL CORPORATION**
Los Angeles

402 G SAN FRANCISCO, CALIF. PHONE AN 3141

river bridge near Culbertson, estimated to cost between \$400,000 and \$500,000. Plans for this bridge will be ready about July 1.

OLYMPIA, Wash.—Until February 23, 10 A. M., bids will be received by Samuel J. Humes, State Director of Highways, Olympia, for highway work as follows:

(1) Grading, surfacing with crushed stone and draining about 0.4 mile of State Road No. 1, Section 1, Chuckanut Creek Bridge fill in the City of Bellingham and Section 2, Clayton Bay fill, both in Whatcom County, involving about:

75,310 cu. yds. excavation;
330 cu. yds. concrete;
1,090 cu. yds. crushed stone;
1,724 lin. ft. guard rail;
222 lin. ft. pipe culverts, etc.

(2) Paving with Portland cement concrete about 11.8 miles of State Rd. No. 3, Umpatnum to Hillside in Kittitas County.

(3) Paving with Portland cement concrete about 11.5 miles of State Rd. No. 3, Ellensburg to Umpatnum, Federal Aid Project No. 125-A in Kittitas County.

Certified check 10% payable to State Treasurer required with bid. Plans obtainable from engineer on deposit of \$2, returnable.

SISKIYOU COUNTY, Cal.—As previously reported, until Feb. 17, 2 P. M., bids will be received by State Highway Commission to grade and surface with untreated crushed gravel or stone about 0.4 mile near Beaver Creek, about 3/4 miles west of Gottsville, involving:

(1) 17,400 cu. yds. rdwv. excav. with conc. class;
(2) 36,700 sta. yds. overhaul;
(3) 350 cu. yds. struc. excav.;
(4) 1230 cu. yds. untr. cru. gravel or stone surf.;
(5) 83 M gal. water applied to surf.;
(6) 8 cu. yds. Class "A" Port. conc. (struc.);
(7) 700 lbs. bar reinf. steel (struc.);
(8) 324 lin. ft. 18" corr. metal pipe;
(9) 10 lin. ft. 30" corr. metal pipe;
(10) 24 lin. ft. corr. metal pipe, clean and relay;
(11) 23 sta. finish rdwy;
(12) 12 monuments complete in place
State will furnish corrugated metal pipe.

SAN BERNARDINO CO., Calif.—State Highway Commission is preparing plans to grade and surface three miles of the Barstow-Mojave Road and construction of a new bridge across the Mojave River at Barstow. The cost is estimated at \$176,000.

LOS ANGELES, Cal.—Until 10 A. M., Feb. 3, bids will be received by board of public works for improving streets in Holly Drive and Deep Dell Lane Improvement District, involving in the main: Grading; 180,582 sq. ft. 4-in. Bitumulus paving; curbs; gutters; storm drain; sanitary sewer; water system, etc. Boundary line act. No bid received Nov. 25 when job was previously advertised.

NEW MEXICO STATE.—Col. Tex Co., 711 Colcord Bldg., Oklahoma City, awarded contract by State Highway Department at \$36,355 to furnish 17,500 barrels of 70-80 road oil. The price includes freight to point of delivery.

ARIZONA STATE.—Skonsen Bros., Socorro, N. M., submitted low bid to State Highway Commission, January 13 at \$149,889.33 for highway construction in the Blythe-Wickenburg Highway, Federal Aid Project No. 98-A. The work, which begins at a point approximately 19 miles west of Wickenburg and extends east to Wickenburg, consists of grading, draining, and placing subgrade stabilizer and involves in the main 104,000 cu. yds. rdwy. excavation; 143,500 cu. yds. mi. subgrade stabilizer, haul; corr. metal pipe, etc.

SAN FRANCISCO.—Eaton & Smith, 715 Ocean Ave., at \$17,889.45 awarded contract by Board of Public Works to improve Dewey Blvd. from Laguna Honda Blvd. to Taraval and Montalvo Streets, involving:

(1) 406 cu. yds. excavation, \$79;
(2) 3297 ft. unarmored conc. curb, \$50
(3) 4 brick catchbasins, \$75;
(4) 240 ft. 10-in. V.C.P. culvert, \$1;
(5) 350 ft. 6-in. V.C.P. sewers, \$75;
(6) 85,923 sq. ft. asph. conc. pavement \$176.

ARIZONA STATE.—Skonsen Bros., Socorro, N. M., awarded contract by State Highway Commission at \$149,889.33 for highway construction in the Blythe-Wickenburg Highway, F. A. P. No. 98-A. The work, which begins at a point approximately 19 miles west of Wickenburg and extends east to Wickenburg, consists of grading, draining and placing subgrade stabilizer, and is to be completed before Oct. 31, 1932. The approximate quantities are:

ROADWAY

104,000 C. Y. roadway excavation;
9,400 C. Y. drainage excavation;
2,400 C. Y. slides and overbreakage;
1,500 C. Y. structural excavation;
81,400 C. Y. borrow excavation;
95,600 sta. yds. earthwork overhaul;
43,200 C. Y. subgrade stabilizer;
143,500 C. Y. mi. subgrade stabilizer, haul
670 C. Y. concrete;
25,800 lbs. reinforcing steel;
1,512 lin. ft. 24-in. C.M.P.;
212 lin. ft. 30-in. do;
1,188 lin. ft. 36-in. do;
15 C. Y. cattle guard;
1,840 lin. ft. line fence;
BRIDGES
2,000 C. Y. drainage excavation;
2,700 C. Y. structural excavation;
10 C. Y. Class A-A concrete;
1,912 C. Y. Class A concrete;
119 C. Y. Class B concrete;
200,300 lbs. reinforcing steel;
8 fixed plate bridge seats;
8 expansion rocker bridge seats.

DAILY NEWS SERVICE

If you are interested in a daily construction news service featuring all types of building and engineering construction, send for free sample copies of Daily Pacific Builder. Subscription price, \$150 per month or \$15.00 per year when paid in advance.

Daily Pacific Builder features in each issue, timely reports on work contemplated, bids wanted, bids opened and contracts awarded for all types of building and engineering construction, machinery and equipment, Government work, supplies and equipment, business opportunities, etc.

Daily Pacific Builder is the only publication publishing listings of building permits, building contracts, mechanics liens, etc., in Northern and Central California.

Send for sample copies today or phone Garfield 8744.

Daily Pacific Builder

545 Mission St.
San Francisco, Calif.

CALIFORNIA.—State Highway Commission has voted allocations amounting to \$375,000 for state Highway projects in eight counties. These funds will be derived from a savings fund created by the surplus created by contract work and represents the saving over the engineer's estimates. The projects to be built are as follows:

Los Angeles County—Widening and realigning highway in Mint canyon between Williams ranch and Seely's ranch, \$60,000. Grading and paving 3.2 miles on Ridge route between Gorman and northern county boundary, \$210,000.

Santa Barbara County—Overhead grade crossing 10 miles north of Santa Barbara.

San Bernardino County—Grading and surfacing three miles on the Barstow-Mojave Road bet. Barstow and a point three miles west, and erection of a bridge across Mojave river, \$176,000.

Shasta County—Grading and surfacing 9.5 miles on Redding-Alturas lateral bet. Canyon creek and Hat creek summit, \$293,000. The project also includes bridges across Pit river, Hat creek and Fall river, \$95,000.

Mariposa County—Grading and surfacing 7.6 miles at Paine Flat and bridge across Mariposa creek, \$303,000.

Mono County—Bridge across Wildcat and San Jose creeks, \$70,000.

VENTURA, Ventura Co., Cal.—The \$200,000 bond issue to provide funds for highway construction as part of an unemployment relief program was defeated at the special election January 12.

GLENDALE, Los Angeles Co., Cal.—Southwest Paving Co., 712 Lankershim Bldg., Los Angeles, awarded contract by city council at \$20,887.17 for widening and paving Glendale Ave. bet. Monterey and Verdugo Aves, involving:
grading;
6288 ft. Class B curb;
11,388 sq. ft. 8-in. gutter;
2600 tons asphalt concrete base;
178,000 sq. ft. 2-in. asph. conc. base;
10,750 sq. ft. asph. conc. surf. (variable thickness);
storm drain.

OLYMPIA, Thurston Co., Wash.—Until Feb. 15, 2 P. M., bids will be received by Anne Deming, county auditor, to grade and surface with crushed gravel and install drains, culverts, etc., 3.98 miles of the Case Road (Lateral Highway No. 9), involving:

(1) 12.77 acres clear;
(2) 6.17 acres grubbing;
(3) 14,250 cu. yds. excav., common;
(4) 185 cu. yds. excav., struc.;
(5) 6,600 cu. yds. gravel surface;
(6) 998 lin. ft. place 12-in. conc. culvert;
(7) 83 lin. ft. 18-in. standard reinf. culvert;
(8) 48 lin. ft. 30-in. standard reinf. concrete culvert;
(9) 152 lin. ft. 48-in. standard reinf. concrete culvert;
(10) 17,720 lin. ft. const. standard 4-wire fence;
(11) 21,000 cu. yds. overhaul x 100.

Certified check 5% required with bid. Specifications obtainable from County Highway Engineer on deposit of \$5.

Boise, Idaho, submitted low bid to Idaho Commissioner of Public Works, at \$73,627 for the construction of road-bed, drainage structures, etc., on 0.350 mile of Fayette Highway, Emmet Branch, S.A.P.

BEVERLY HILLS, Los Angeles Co., Cal.—Southwest Paving Co., 712 Lankershim Bldg., Los Angeles, awarded contract by city council at \$10,529 to improve Santa Monica Blvd. (north roadway), Linden Drive, Roxbury Dr. and other streets, involving in the main:

57,282 sq. ft. grading;
22,199.6 sq. ft. pavement (5-in. asphalt concrete base with 2-in. asphalt concrete (Topeka) wearing surf.);
Concrete curbs, walks, etc.

IMPERIAL COUNTY, Cal.—As previously reported, until Feb. 10, 2 P. M. bids will be received by State Highway Commission to construct about 10.1 miles of oil treated crushed gravel or stone borders between El Centro and Calexico, involving:

- (1) 9400 tons crushed gravel or stone (borders);
- (2) 180 tons screenings (seal coat);
- (3) 8050 bbls. fuel oil (borders and seal coat).

HUMBOLDT COUNTY, Calif.—As previously reported, until Feb. 10, 2 P. M. bids will be received by the State Highway Commission to grade and surface with untreated crushed gravel or stone about 0.4 mile in length, Benbow Bridge approaches, involving:

- (1) 1.9 acres clear and grub right of way;
 - (2) 43,250 cu. yds. rdway. excav. without class;
 - (3) 258,100 sta. yds. overhaul;
 - (4) 260 cu. yds. struc. excav;
 - (5) 2,525 cu. yds. untreated crushed gravel or stone surf.;
 - (6) 400 cu. yds. screenings in stockpiles;
 - (7) 320 M. gals. water applied to sub-grade and surf.;
 - (8) 8 cu. yds. Class A Port. cement concrete (struc.);
 - (9) 680 lbs. bar reinf. steel (struc.);
 - (10) 344 lin. ft. 18-in. corr. metal pipe;
 - (11) 400 cu. yds. salvaged existing surface;
 - (12) 1,214 lin. ft. lam. timber guard rail;
 - (13) 38 sta. finish roadway;
 - (14) 17 monuments complete in place.
- State will furnish corrugated metal pipe.

SEATTLE, Wash.—Until February 15, bids will be received by King County Commissioners to pave extension of 7 miles of First Ave. south to Des Moines; estimated cost \$189,000, involving in the main:

- (1) 79,231 sq. yds. 28-day concrete;
- (2) 4,123 sq. yds. 28-day concrete for gaps over fills that may not be laid until fall but which will be included in this contract;
- (3) 27,481 cu. yds. excavation;
- (4) 67,000 cu. sta. yds. overhaul.

Plans obtainable from T. D. Hunt, King County Engineer, at Seattle.

LOS ANGELES, Cal.—Proceedings have been started by the city council to widen Wilshire Blvd. bet. Alvarado and Figueroa Sts. The proposed street will be 90 ft. in width with a paved roadway of 56 ft., with 17 ft. between curb and property line on each side. The present plans call for asphaltic concrete. Estimated cost \$539,000.

DENVER, Colo.—State Highway Commission is preparing plans to complete the Spanish Fork Canyon highway from Castilla to the mouth of the canyon at Moark, 5.2 miles in length. The project will include the construction of an overhead crossing at the main line of the D. & R. G. W. Railroad. The cost is placed at \$120,000.

DENVER, Colo.—Following work is planned by the U. S. Bureau of Public Roads, Denver, Colo., during the year 1932:

Bituminous top course on 17.28 miles from the east boundary of the Lincoln forest to Mescalero, Indian reservation boundary. Est. cost \$75,000.

Grading and draining 8 miles of the Holman-Taos route extending to the forest construction on State Road 3 from a point near the foot of U. S. Hill. Est. cost \$96,000.

Extending Cedro Canyon forest construction approximately 7 miles south to a junction near Yrisarri, includes grading and drainage struct. Est. cost \$90,000.

LOS ANGELES, Cal.—Until February 10, 10 A. M., bids will be received by Board of Public Works to improve Temple St. bet. North Broadway and Parkview St., involving in the main:

2,510 cu. yds. cut; 3,417 cu. yds. fill; 177,978 sq. ft. 8-in. conc. pave.; sewers, storm drains, etc.

BEVERLY HILLS, Los Angeles Co., Cal.—Until 8 A. M., Feb. 5, bids will be received by city council to improve streets in Civic Center project, involving in the main:

148,667 sq. ft. grading;
6428 ft. curb;
24,590 sq. ft. 8-in. concrete gutter;
25,730 sq. ft. 3½-in. sidewalk;
62,238 sq. ft. 5-in. asphalt concrete pavement with 2-in. asphaltic concrete wearing surface;

52,378 sq. ft. 2-in. Topeka wearing surface;
ornamental lighting system (installation only);

17,275 sq. ft. grading on city hall site;
11,655 sq. ft. 6-in. concrete driveway;
storm drain (culverts and catchbasins) (lump sum).

Est. cost, \$50,000. W. R. Metz, city engineer. This is a cash job.

The list of quantities for the storm drain are:

- 241 ft. 10-in. 14-ga. corr. pipe;
- 66 ft. 12-in. 14-ga. corr. pipe;
- 101 ft. 15-in. 14-ga. corr. pipe;
- 248 ft. 18-in. 14-ga. corr. pipe;
- 66 ft. 4-in. tile drain pipe;
- 185 ft. 8-in. conc. pipe (heavy);
- 487 ft. 12-in. conc. pipe (med.);
- 502 ft. 24-in. conc. pipe (med.);
- 2 spill boxes;
- 7 catchbasins;
- 5 stand brick manholes.

WASHINGTON STATE.—Samuel J. Humes, Director of Highways, Olympia, has announced that the local construction program for 1932, including uncompleted work from 1931, will total about 1135 miles, with a total cost of \$12,000,000. The cost is segregated as follows: Regular maintenance, \$1,500,000; betterments and reconstruction, \$1,000,000; construction oiling and overhead, \$9,500,000. The construction, segregated as to type, follows:

- Grading only, 80 miles.
- Grading and surfacing with crushed rock or gravel, 190 miles.
- Paving, 90 miles.
- Light bituminous treatment (dust palliative), 503 miles.
- Heavy bituminous treatment, 164 miles.
- Bituminous macadam, 48 miles.

MERCED COUNTY, Cal.—Delta Dredging Co., Pittsburgh, at \$1,604,750 awarded contract by State Highway Commission to grade and pave with Portland cement concrete and construct about 3.5 miles east of the San Joaquin River and the easterly boundary.

Complete bids published in issue of January 14.

CLARK COUNTY, Nev.—Until Feb. 10, 2 P. M., bids will be received by S. C. Durkee, State Highway Engineer, Carson City, to reconstruct a portion of the state highway system in Clark County, between Lower Virgin River Bridge and Mesquite, Route 6, Section H-1, 10.58 miles in length. Project involves:

- (1) 499,000 cu. yds. rdwy. excav.;
- (2) 2,890 cu. yds. struc. excav.;
- (3) 22,148 cu. yds. sel. borrow excav. in place;
- (4) 831,304 yd. sta. overhaul;
- (5) 10.58 miles prepare subgrade and shoulders;
- (6) 14 demolish headwalls;
- (7) 7 cu. yds. demolish concrete;
- (8) 31,000 cu. yds. crushed rock or crushed gravel surf. in place;
- (9) furnish water equipment;
- (10) 2,177 M. gals. apply water;
- (11) 1,060 cu. yds. Class A concrete;
- (12) 130 cu. yds. Class B concrete;
- (13) 1,204 lin. ft. 24-in. corr. metal pipe in place;
- (14) 332 lin. ft. 30-in. do;
- (15) 1,794 lin. ft. 36-in. do;
- (16) 572 lin. ft. 48-in. do;
- (17) 932 lin. ft. 60-in. do;
- (18) 202 lin. ft. remove corr. metal pipe;
- (19) 283 lin. ft. remove and reset corrugated metal pipe;
- (20) 36 corr. metal pipe culvert extensions;
- (21) 80 monuments;
- (22) 2 posts for Federal Aid markers;
- (23) 10.58 miles finish roadway;
- (24) 1 remove wooden culvert;
- (25) 1,180 lin. ft. remove and reconstruct fence;
- (26) remove and re-install gasoline pumps.

Plans on file in offices of U. S. Bureau of Public Roads, 461 Market St., San Francisco, and A.G.C. headquarters, 206 Sansome St., San Francisco.

IDAHO STATE.—Quinn Robbins, WASHINGTON STATE.—Until Feb. 9, 10 A. M., bids will be received by Samuel J. Humes, State Highway Engineer, Olympia, for:

- (1) Clearing, grading, surfacing with crushed stone and draining about 3.7 miles of State Road No. 5 (Fairfax branch), Forest Line to Park Entrance in Pierce County, involving:

- 42 acres of clearing;
- 208,320 cu. yds. of excavation;
- 12,150 cu. yds. crushed stone;
- 2265 lin. ft. drain pipe;
- 3039 lin. ft. pipe culverts;
- 1 timber trestle 210 ft. long, and other items.

- (2) Clearing, grading and draining about 6.6 miles of State Road No. 22, Evans North in Stevens County, involving:

- 29 acres of clearing;
- 103,800 cu. yds. excavation;
- 1425 lin. ft. pipe culverts, and other items.

Certified check 5%. Plans obtainable from State Highway Engineer on deposit of \$2 per set.

UTAH STATE.—H. S. Kerr, Chief Engineer of the Utah State Road Commission, Salt Lake City, has announced that Utah will expend approximately \$4,100,000 for road work during 1932. Of this total maintenance and miscellaneous items will cost \$1,350,000 and new construction, including bridges, \$2,750,000.

The road construction program, by mileage, is as follows:

- Grading new roads, 120 miles.
- Gravel surfacing, 50 miles.
- Oiling, 250 miles.
- Paving, 5 miles.

BUILDING NEWS

APARTMENTS

Preparing Working Drawings.
APARTMENTS Cost, \$50,000
SAN FRANCISCO. Richmond Dist.
 Three-story and basement frame and
 stucco apartments (12 2 and 3-
 room apts.); composition roof, steam heating
 system, hardwood floors, colored
 tile baths and kitchens, electric
 refrigeration, etc.
 Owner and Builder—M. P. Storheim,
 475 Euclid Ave., San Francisco.
 Plans by Lawrence Ebbets, 387 35th
 Ave., San Francisco.

More information will be given in
 about thirty days.

Preparing Preliminary Sketches.
APARTMENTS Cost, \$70,000
SAN FRANCISCO. Marina District.
 Three-story and basement frame and
 stucco apts. (Modernistic type; six
 2-room, six 3-room and six 4-room
 apts.); composition roof, steam
 heating system, hardwood floors,
 colored tile baths and kitchens,
 electric refrigerations, etc.)

Owner—Withheld
 Plans by Lawrence Ebbets, 387 35th
 Avenue.
 Bids will not be taken for 60 days.

To Take Segregated Bids In One Week
APARTMENTS Cost, \$60,000
SAN FRANCISCO. NE Webster and
 North Point Streets.

Three-story and basement frame and
 stucco apartments (18 rooms)
 steam heating system, oil burner,
 tile and composition roof, oak
 floors, canvas walls, plaster ex-
 terior, electric refrigeration, etc.
 Owner and Builder—Grace Peregó, 176
 Sutter Street.
 Architect—Not Given.

Preparing Plans.
APARTMENTS Cost, \$—
LOS ANGELES, Los Angeles Co., Cal.
 Marathon St. near Western Ave.
 Five-story Class B concrete apart-
 ments (50x150 feet).
 Owner—Robert H. Orr.
 Architect—Robert H. Orr, Corporation
 Bldg., Los Angeles.

Preparing Working Drawings.
APARTMENTS Cost, \$150,000
SAN FRANCISCO. Twenty-first and
 Bartlett Sts.
 Six-story and basement steel frame
 and concrete apartments (54 2 and
 3-room apts.); composition roof,
 steam heating system, electric re-
 frigeration, hardwood floors, etc.
 Owner—F. W. Hanchett, 34 Highland
 St., San Francisco.
 Architect—William C. Ambrose, 605
 Market St., San Francisco.
 Structural Engineer—H. B. Hammill,
 381 Bush St., San Francisco.
 Mechanical Engrs.—Atkins & Parker,
 Hobart Bldg., San Francisco.

Completing Plans.
APARTMENTS Cost, \$—
LOS ANGELES, Los Angeles Co., Cal.
 Laurel Canyon Road and Selma
 Ave.
 Five-story and basement Class B steel
 frame and concrete apartment
 house (135x69 ft.). (43 apts.)
 Owner—Mrs. Paul J. Guerin, 1615 N.
 Stanley Ave., Los Angeles.
 Architect—Robert H. Orr, Corporation
 Bldg., Los Angeles.

Plans Being Completed.
APARTMENTS Cost, \$30,000
SAN MATEO, San Mateo Co., Cal.
 Two-story and basement frame and
 stucco apartments (12 2 and 3-
 room apts.); (tile roof, steam
 heating system, hardwood floors
 and trim, colored tile baths and
 kitchens, electric refrigeration).
 Owner—Withheld.
 Architect—Edward & Schary, 550
 Montgomery St., San Francisco.
 Bids will be taken about February 1.

BONDS

SAN GABRIEL, Los Angeles Co.,
 Cal.—San Gabriel high school district
 will hold election Feb. 23 to vote
 bonds of \$345,000 for financing and
 construction of new San Gabriel high
 school. Architects Marsh, Smith &
 Powell, 816 W 5th St., Los Angeles,
 and Architect Scott Quintin, 429 Ed-
 ison Bldg., Alhambra, have been com-
 missioned to prepare plans for the
 buildings.

REDWOOD CITY, San Mateo Co.,
 Cal.—Dr. Norris C. Cummings, chair-
 man of the Redwood City Public Li-
 brary Board, has urged city council
 to call an election to vote bonds of
 \$50,000 to finance erection of a new
 library to replace the present quar-
 ters.

SAN MATEO, San Mateo Co., Cal.
 —By a vote of 1,596 against and 1,
 007 in favor, \$240,000 bond election
 held January 26 in the San Mateo
 Union High School District was de-
 feated.

FACTORIES AND WARE- HOUSES

Plans Being Completed.
FACTORY Cost, \$750,000
OAKLAND, Alameda Co., Cal. Foot
 of Adeline St. on the estuary.
 Steel frame and concrete cocoanut
 products factory (650x100-ft.);
 steel frame and reinforced con-
 crete warehouse (40x416-ft.); pile
 foundations, flat slab floor, cor-
 rugated iron roof and siding.

Owner—El Dorado Oil Works, Third
 and University Ave., Berkeley.
 Engineers—Elison & Russell, Pacific
 Bldg., San Francisco.
 Bids will be taken for a general
 contract in about 90 days with sepa-
 rate bids for structural steel.

SKILSAW Portable Electric Hand
 Saws (four models).
SKILSAW Portable Electric
 Sander.
SKILSAW Radial Arm Attach-
 ments.
SYNTRON Portable Electric Ham-
 mers (four models, motor-
 less).
MALL Flexible Shaft Buffers
 (50 models).
 Electric Drills, Grinders, Buffers,
 Routers, Lock Mortisers.

Peter H. Nelson

Labor Saving Portable
 Electric Tools

1246 Mission St., San Francisco
 Underhill 7662
 SALES : SERVICE : RENTALS

As previously reported, pile driving
 awarded to Duncanson Hattelson Co.,
 deYoung Bldg., San Francisco.

Bids Opened.
TRANSIT SHED Cost, \$—
LONG BEACH, Los Angeles Co., Cal.
 Berths 145-146.
 One-story reinforced concrete transit
 shed (10008-x120-feet; steel roof
 trusses, steel sash, etc.)
 Owner—City of Long Beach.
 Plans by Eng. Dept. of Owner.
Low Bidder—Chas. Pettifer, 733 W
 14th St., Long Beach, at \$169,900.

Contract Awarded.
ASSEMBLY PLANT Cost, \$2,000,000
LOS ANGELES, Los Angeles Co., Cal.
 Eastland and Slauson Aves.
 Masonry and steel frame automobile
 assembly plant.
 Owner—Chrysler Corp.
 Designer and Contractor—Wm. P. Neil
 Co., Inc., 4814 Loma Vista Ave.,
 Los Angeles.

The main structure, assembly plant,
 will be 850 by 300 feet. Administra-
 tion building, 60 by 100 feet.

Contracts Awarded.
DAIRY Cost, \$60,000
IONE, Amador Co., Cal.
 Complete dairy unit at Preston School
 of Industry, involving (A) Cream-
 ery Unit; (B) Milking Barn.

Owner—State of California.
 Architect—Russell G. Delapelle, 1710
 Franklin St., Oakland.

The Creamery Unit will be one-story
 with reinforced concrete foundations
 and floor, brick walls, wood roof con-
 struction and asbestos shingle roof.
 The Milking Barn will be one-story
 with reinforced concrete foundations
 and floor, brick walls, wood roof con-
 struction and corrugated iron roof.

General Work
Harry Schuster & Co., Ltd., 354
 Hobart St., Oakland\$23,905
Electrical Work
J. W. Thomas, 3216 I St., Sacra-
 mento\$1,650
Complete Plumbing and Heating
Carl T. Doell, 467 21st St., Oak-
 land\$8,600

Refrigeration
Carrier Eng. Corp. of California
 742 E Washington St., L. A. \$2,636
Insulation
Allyn L. Burr, 11th and R Sts.,
 Sacramento\$1,860
Harry Schuster & Co. are taking
 sub-bids on all portions of the work
 in connection with the general con-
 tract.

Plans Being Figured—Bids Close Feb.
 8, 4:30 P. M.
EXTENSION Cost, \$100,000
OAKLAND, Alameda Co., Cal. Outer
 harbor.
 Reinforced concrete extension to track
 and shed No. 2 (360-ft. in length)
 steel rolling doors, etc.
 Owner—City of Oakland (Port Com-
 mission) Grove St. Pier, Oakland.
 Plans by Eng. Dept. of Owner.

GOVERNMENT WORK AND SUPPLIES

POST OFFICE Cost, \$300,000
SAN JOSE, Santa Clara Co., Cal. First
 and St. John Streets.
 Class A Post Office.
 Owner—United States Government.
 Architect—Ralph Wyckoff, San Jose
 National Bank Bldg., San Jose.

Preliminary Plans Awaiting Approval
POSTOFFICE Cost, \$150,000
MARYSVILLE, Yuba Co., Cal. NE 4th
 and C Sts. (160x160-ft.)
 Class A postoffice building.
 Owner—United States Government.
 Architect—J. J. Donovan, 1916 Broad-
 way, Oakland.

Preliminary plans have been for-
 warder to Washington for approval.

BOULDER, CITY, Nev.—The house
 appropriations committee has allotted
 to the reclamation service for use at
 the Boulder Canyon project \$8,000,-
 000 in the pending bill before the
 house. The department asked \$10,-
 000,000 but the committee pointed out
 that \$1,000,000 is still unexpended
 from 1931 and with \$15,000,000 still
 available from 1932 and \$8,000,000 made
 available in the pending bill there will
 be a total of \$24,000,000 available for
 expenditure between the present and
 June 30, 1933. The committee be-
 lieves this amount will be adequate to
 carry the construction program thru
 to the end of the fiscal year. The
 Boulder Canyon appropriation for the
 1932 fiscal year was \$15,000,000. The
 department will have to trim \$2,000,-
 000 from the following expenditures it
 expected to make from a \$10,000,000
 appropriation for the 1933 fiscal year:
 Boulder City, \$100,000; right of way,
 \$150,000; diversion tunnels, \$5,020,000;
 cofferdams, \$1,400,000; dam excava-
 tion, \$200,000; outlet works, \$1,040,-
 000; spillways, \$2,350,000; power plant
 excavation, \$100,000.

Bids Opened.
POSTOFFICE Cost, \$—
ANACONDA, Montana.
 Fireproof postoffice.

Owner—United States Government.
 Plans by Supervising Architect, Treas-
 ury Dept., Washington, D. C.
Two Low Bidders
John L. Soderberg Const. Co.,
 Kennedy Bldg. Omaha, Ne-
 braska\$121,300
Chas. Weitz Sons, Inc., 713
 Mulberry St., Des Moines,
 Iowa 122,000

SUNNYVALE, Santa Clara Co., Cal.,
 —Stacey Mfg. Co., Cincinnati O., at
 \$114,487 submitted low bid Jan. 27,
 under Spec. No. 6768, to the Bureau
 of Yards and Docks, Navy Depart-
 ment, Washington, D. C., for 2,000,-
 000-foot capacity, four-lift telescopic
 type, gas holder at the Naval Air
 Station, Sunnyvale.

Western Pipe and Steel Co., San
 Francisco, second low at \$117,852.
 Steel Tank and Pipe Co. of Califor-
 nia, 1100 4th St., Berkeley, third low
 at \$118,900.

Complete list of bids received on
 this project will be published shortly.

ALAMEDA, Alameda Co., Calif.—
 Huber Company, 9317 S Alameda St.,
 Los Angeles, awarded contract at \$16,-
 780 by Constructing Quartermaster,
 for 200,000-gallon, 6-leg steel water
 tank to be constructed at the new
 Benton Field Air Depot, Alameda.
 Complete list of bids received pub-
 lished in issue of January 5.

SUNNYVALE, Santa Clara Co., Cal.,
 —McCIntire Marshall Corp, 2050 Bry-
 ant St., San Francisco, at \$9,970, un-
 der Spec. No. 6753, submitted low bid
 Jan. 27 to the Bureau of Yards and
 Docks, Navy Department, Washing-
 ton, D. C., for one 200,000-gallon steel
 water tank on 100-ft. steel tower at
 the Naval Air Station, Sunnyvale.

Pittsburgh-Des Moines Co., second
 low at \$10,360. Huber Co., Los An-
 ges, third low at \$10,620.

Preparing Plans.
POST OFFICE Cost, \$200,000
VENTURA, Ventura Co., Cal. NW
 Fir and Santa Clara Streets.
 Two-story Class A Post Office.
 Owner—United States Government.
 Architect—Harold E. Burkett, 455 E.
 Main St., Ventura.

Preliminary Plans Being Completed.
POST OFFICE Cost, \$—
NAPA, Napa Co., Cal. Randolph and
 Second Sts. (240x120 feet).
 Class A Post Office.
 Owner—United States Government.
 Architect—Reed & Corlett, Oakland
 Bank Bldg., Oakland.

MARE ISLAND, Calif.—Barrett and
 Hilp, 918 Harrison St., San Francisco,
 at \$145,400 awarded contract by the
 Bureau of Yards and Docks, Navy
 Department, Washington, D. C., un-
 der Spec. 6421, for Battery Overhaul
 Bldg., Sub-station and Acid Mixing
 Plant, Submarine Base, Navy Yard,
 Mare Island, Calif. The work includes
 piles, concrete steel work, railroad
 track, built-up roofing, steel sash,
 rolling doors, mastic flooring, stucco
 hold tile work, plumbing, gas, air and
 acid piping, heating, electric light
 and power wiring and electric cranes.

Plans Being Prepared.
EXTEND SEAWALL Cost, \$—
FORT BAKER, Calif.
 Extend seawall 125 feet (reinforced
 concrete construction).
 Owner—United States Government.
 Plans by Constructing Quartermas-
 ter, Fort Mason.

ALAMEDA, Alameda Co., Cal.—Un-
 til February 23, 11 A. M., bids will be
 received by Constructing Quartermas-
 ter, Benton Field Air Depot, 33
 Pacific Ave., Alameda, under Specifi-
 cation No. 3, to furnish and install one
 deep well turbine pump complete with
 electric motor, power connections,
 control panel with automatic and
 manual control, pipe connections to
 mains, etc., also cleaning of well and
 testing pump, at Benton Field Air De-
 pot. Prospective bidders desiring to
 inspect site can arrange with the
 Constructing Quartermaster at the
 Field between the hours of 8 A. M.
 and 4 P. M. up to Feb. 22 Saturday
 afternoons excepted. Specifications
 obtainable from Constructing Quartermas-
 ter on deposit of \$5, checks for
 same to be made payable to the
 Treasurer of the U. S.

DAILY NEWS SERVICE

If you are interested in a daily con-
 struction news service featuring all
 types of building and engineering con-
 struction, send for free sample copies
 of Daily Pacific Builder. Subscription
 price, \$1.50 per month or \$15.00 per
 year when paid in advance.

Daily Pacific Builder features in
 each issue, timely reports on work
 contemplated, bids wanted, bids open-
 ed and contracts awarded for all types
 of building and engineering construc-
 tion, machinery and equipment, Gov-
 ernment work, supplies and equip-
 ment, business opportunities, etc.

Daily Pacific Builder is the only
 publication publishing listings of build-
 ing permits, building contracts, me-
 chanics liens, etc., in Northern and
 Central California.

Send for sample copies today or
 phone GARfield 8744.

Daily Pacific Builder

545 Mission St.
 San Francisco, Calif.

Bids To Be Asked Shortly.
POSTOFFICE Cost, \$210,000
LONGVIEW, Washington.
 Two-story and basement steel and
 concrete postoffice (104x117-ft.)
 Owner—United States Government.
 Architect—John Graham, B e b b and
 Gould, Dexter-Horton Bldg., Seat-
 tle.

Plans for this structure have been
 approved by the Supervising Archi-
 tect, Treasury Department, Washing-
 ton, D. C., and bids for construction
 will be asked shortly.

Plans Being Prepared.
SOLDIERS' HOME \$2,000,000
 (appropriated)
ROSEBURG, Ore. One mile NW of
 city limits.

Group of twenty buildings (six barracks
 buildings, approx. 300x100-ft., each
 3 stories in height, capacity of 1-
 500 beds each; 6 hospital build-
 ings; heating plant; laundry; ad-
 ministration bldg., etc.)
 Owner—United States Government.
 Plans by Construction Division, U. S.
 Veterans' Bureau, Arlington Bldg.,
 Washington, D. C.

BOULDER CITY, Nev.—Until Feb.
 8, 2 P. M. under Specifications No.
 559-D, bids will be received by U. S.
 Bureau of Reclamation, Denver, Colo.,
 to furnish labor and materials and in-
 stall cooling system for the Adminis-
 tration Building at Boulder City, 25
 miles southeast of Las Vegas, which
 is on the main line of the Los Angeles
 and Salt Lake Railroad. Specifications
 obtainable from above office on de-
 posit of \$1, refundable.

WASHINGTON, D. C.—Until Feb.
 17, 10:30 A. M., under Schedule No.
 2721, bids will be received by Pur-
 chasing Officer, Panama Canal Com-
 mission, to furnish and deliver super-
 visory remote control equipment for
 Cristobal, Balboa and Summit Sub-
 stations. Specifications o b t a i n a b l e
 from Assistant Purchasing Officer, Ft.
 Mason, San Francisco.

Plans Being Figured—Bids Close Feb-
 ruary 16.
POST OFFICE Cost, \$—
MONTE VISTA, Colorado.
 Fireproof Post Office.
 Owner—U. S. Government.
 Plans by Supervising Architect, Treas-
 ury Dept., Washington, D. C.
 Plans obtainable from Supervising
 Architect, Treasury Depart., Wash-
 ington, D. C.

AMERICAN LAKE, Wash.—U. S.
 Veterans Bureau, Arlington Building,
 Washington, D. C., rejected low bid
 received by Supervising Superinten-
 dent of Construction, Veterans' Hos-
 pital, Palo Alto, to furnish and in-
 stall stoker equipment at the Veterans'
 Administration Hospital, American
 Lake, for three 250-hp. water tube
 "Birchfield" boilers. Combustion En-
 gineering Co., 324 Monadnock Bldg.,
 San Francisco, \$17,884 submitted only
 bid for this work.

Completing Preliminary Plans.
POSTOFFICE Cost, \$150,000
VALLEJO, Solano Co., Cal. Main and
 Carolina Streets.

Class A postoffice.
 Owner—United States Government.
 Architect—Charles Dean, California
 State Life Bldg., Sacramento.
 Preliminary plans will be forwarded
 to Washington for approval within 1
 week.

Plans Being Figured — Bids Close March 2.
POST OFFICE Cost, \$1,000,000
SACRAMENTO, Sacramento Co., Cal. T St., between 8th and 9th Sts.
 Four-story Class A steel and concrete Post Office and Federal Building (granite base, terra cotta and stone exterior, steel sash, electric elevators, marble and tile work, oil burning steam heating plant).
 Owner—United States Government.
 Architect—Starks & Flanders, Forum Bldg., Sacramento.
 Structural Engineer—Nathaniel Ellery, 2124 E-39th St., Oakland.
 Plans obtainable from the Supervising Architect, Treasury Department, Washington, D. C.

Contract Awarded.
POST OFFICE Cost, \$228,238
OKMULGEE, Oklahoma.
 Class A Post Office.
 Owner—United States Government.
 Plans by Supervising Architect, Treasury Dept., Washington, D. C.
 Contractor—Alcemon Blair, Montgomery, Alabama.
Elevator—Otis Elevator Co., \$8617.

Contract Awarded.
POST OFFICE Cont. Price, \$392,000
LONG BEACH, Los Angeles Co., Cal. Class A Post Office.
 Owner—United States Government.
 Plans by Supervising Architect, Treasury Dept., Washington, D. C.
 Contractor—Lindgren & Swinerton, Inc., 225 Bush St., San Francisco, and 523 W-8th St., Los Angeles.

SAN DIEGO, Cal.—Bids will be asked at once by U. S. Engineer Office, Central Bldg., Los Angeles, for dredging 569,000 cu. yds. from the south side of the Bay Channel and Chula Vista Channel at San Diego.

Contract Awarded.
POSTOFFICE Cost, \$241,000
BUTTE, Montana.
 Class A extension to postoffice, including remodeling present structure.
 Owner—United States Government.
 Plans by Supervising Architect, Treasury Dept., Washington, D. C.
 Contractor—A. M. Lundberg, St. Louis
 Contract for elevator installation awarded to Otis Elevator Co., Washington, D. C., at \$7,472.

Plans Being Completed.
POST OFFICE ADDN. Cost, \$750,000
SAN FRANCISCO. Seventh and Mission Streets.

Four-story Class A reinforced concrete addition to Post Office (granite exterior).
 Owner—United States Government.
 Architect—George W. Kelham, 315 Montgomery St., San Francisco.
 Plans will be completed in about thirty days.

VANCOUVER, Wash.—A. C. Guthrie and Co., Sherlock Bldg., Portland submitted low bid to W. H. Lynch, district engineer, U. S. Bureau of Public Roads, Portland, Ore., to erect equipment depot at Vancouver. Award of contract has been recommended. Three low bidders follow:
 A. C. Guthrie & Co., Portland, (A) \$153,700; (B) \$105,900; (C) \$154,540; (D) \$106,500; (E) \$150,000; (F) \$109,300.
 Henrikson-Alstrom, Seattle (A) \$156,900 (B) \$112,300 (C) \$156,500 (D) \$111,150; (E) \$160,050; (F) \$114,150.
 A. J. Bingham & Son, Portland (A) \$153,900; (B) \$114,000; (C) \$161,000; (D) \$115,000; (E) \$165,000; (F) \$117,000.
 Construction involves three fireproof

buildings with red brick exterior and terra cotta trim. One building "A", 100 by 270 feet, will provide space for a 100x100-ft. repair shop, for offices and for storage of supplies and equipment. The other two buildings "B" and "C," are for storage of various types of road-building equipment; "B" is 45 by 295 ft., and "C" is 80 by 190. The latter will be two stories high, the second floor being used for the storage of automobiles and light equipment. Between the main building and the other two is a paved concrete area which will be used as a working yard. The total area of all buildings is 56,000 square feet.

Contract Awarded.
SUBSISTENCE BLDG. Cost, \$113,043
WALLA WALLA, Washington.
 One-story and basement reinforced concrete subsistence building.
 Owner—United States Government.
 Plans by U. S. Veterans' Bureau, Arlington Bldg., Washington, D. C.
 Contractor—A. F. Mowat, McDowall Bldg., Seattle.

Contract Awarded.
MISC. BLDGS. Cont. price, \$138,000
SAN FRANCISCO. Presidio Reservation.
 Construct four double officers' quarters, residence of Officer in Charge attendants' quarters and storage buildings, recreation building, laboratory and storage building for the U. S. Marine Hospital.
 Owner—United States Government.
 Plans by Supervising Architect, Treasury Dept., Washington, D. C.
 Contractor—Clinton Const. Co., 923 Folsom St.

YAKIMA, Wash.—Hardie - Tynes Mfg. Co., 800 North 28th St., Birmingham, Ala., at \$13,350 awarded contract by U. S. Bureau of Reclamation, Denver, to furnish two 132-inch butterfly valves with operating mechanism, delivered at Yakima.

SAN DIEGO, Calif.—Chicago Pneumatic Tool Co., New York City, at \$174,445 awarded contract by Bureau of Yards and Docks, Navy Department, Washington, D. C., under Spec. No. 6650, to furnish three 560 c.f.b., horizontal, motor-driven air compressors with intercoolers, automatic starting compensators, oil circuit breaker, disconnecting switches and electric wiring at the Naval Operating Base (Destroyer Base), San Diego. Complete list of bids published in issue of Jan. 12.

HOSPITALS

Contract Awarded.
HOME Cont. price, \$93,246
SACRAMENTO, Sacramento Co., Cal. Franklin Blvd.

One-story indigents' Home (brick exterior walls, tile roof, Spanish style, Class C construction).
 Owner—County of Sacramento.
 Architect—Harry Devine, California State Life Bldg., Sacramento.
 Contractor—Harry Schuster Co., Ltd., 354 Hobart St., Oakland.

Contracts Awarded.
HOSPITAL ADDITION Cost, \$—
NAPA, Napa Co., Cal. State Hospital.
 Brick addition to acute quiet hospital building and reinforced concrete addition to female acute disturbed cottage (slate roof, steam heating system from main plant).
 Owner—State of California.
 Architect—George B. McDougall, state architect, Public Works Building, Sacramento.

General Work
Barrett & Hill, 918 Harrison St., San Francisco\$2,550
Heating
Schreiber Bros., 2945 Elwood, Oakland\$2,479

Plumbing
J. A. Fazio, 402 Castro St., Oakland\$4,150
 Electrical contract has not yet been awarded.

Completing Preliminary Plans.
MEDICAL BLDG. Cost, \$600,000
SAN FRANCISCO. Second and Farnassus Avenues.
 Six-story steel frame and concrete masonry building.
 Owner—University of California.
 Architect—Wm. C. Hays, Crocker 1st National Bank Bldg.
 Working drawings will be started in about two weeks.

Contracts Awarded.
DORMITORIES Cost, \$—
PACIFIC COLONY, Los Angeles Co., Calif.
 Three one-story reinforced concrete dormitories (tile roof).
 Owner—State of California.
 Architect—Walker and Eisen, Western Pacific Bldg., Los Angeles.
General Work
Herbert M. Baruch Corp., 1015 Lincoln Bldg., Los Angeles. \$74,163
Electric Work
H. H. Walker, Inc., 1322 Venice Blvd., Los Angeles.....\$2,375
Heating and Ventilating
J. B. Welch, 513 South Granada Ave., Alhambra\$10,400
F. B. Jones, 521 N Hollister Ave. Pasadena\$7,785

HOTELS

Plans To Be Prepared.
HOTEL Cost, \$—
MADERA, Madera Co., Cal. Yosemite and C Streets.
 Three-story fireproof hotel (brick walls stucco finish, elevator, heating and cooling system, 40 rooms, coffee shop and three stores).
 Owner—Mrs. Sarah E. Gross (represented by O. J. Woodward, 2426 Mariposa St., Fresno).
 Architect—Not Selected.

ICE AND COLD STORAGE PLANTS

Plans Being Completed.
ICE MFG. PLANT Cost, \$250,000
SAN FRANCISCO. Illinois, 23rd and 3rd Sts.
 Carbonic ice manufacturing plant.
 Owner—California Carbonic Ice Manufacturing Co. (E. W. Wilson, president), 14th floor, 200 Bush St.
 Engineer—C. A. Winder, 14th floor, 200 Bush Street.

CAPITAL CITY TITLE COMPANY

J. C. PALEN,
 Manager

914 Seventh Street
 Sacramento :: California

It is expected to ask for bids in about 30 days.

The plant will be of the "factory outdoor" type and will manufacture ice from the gasses from substation stacks in the vicinity. The ice manufactured will be used in refrigeration on transpacific ships and transcontinental freight trains carrying perishables.

PUBLIC BUILDINGS, FIRE HOUSES AND JAILS

Bids Opened
WAR MEMORIAL

Total Cost, \$5,000,000
SAN FRANCISCO. Civic Center. Chairs for 4-story and basement concrete Class A Veterans' Bldg. and Opera House (4,350 chairs).

Owner—City and County of San Francisco (S. F. War Memorial).
Architect—G. A. Lansburgh, 140 Montgomery St. and Arthur Brown Jr., 251 Kearny St.

Mgrs. of Const.—Lindgren & Swinerton, Inc., 225 Bush St.

Following is a complete list of the bids received:

(a) Opera House; (b) Veterans' Bldg.; (c) deduct from A if awarded both jobs; (d) deduct from B if awarded both jobs.
Western Theatrical Equipment Co., 146 Leavenworth St. (a), \$24,662
(b) 8,955
(c) 50
(d) 50

American Seating Co. (a).....\$45,558
(b) 7,846
Heywood Wakefield Co. (a).....\$17,619
(b) 7,490

Rucker Fuller Co. (a).....\$48,714
(b) 4,474
(c) 2,455
(d) 223
Bids held under advisement.

The Work Bids Wanted—Bids Close Feb. 9, 2 P. M.
WAR MEMORIAL

Total cost, \$5,000,000
SAN FRANCISCO. Civic Center. Tile work for four-story and basement Class A Veterans' Building and Opera House.

Owner—City and County of San Francisco (S. F. War Memorial).
Architect—G. A. Lansburgh, 140 Montgomery St. and Arthur Brown Jr., 251 Kearny St., S. F.
Mgrs. of Const.—Lindgren & Swinerton, Inc., 225 Bush St., S. F.

Plans Being Completed.
CITY HALL BRANCH Cost, \$275,000
VAN NUYS, Los Angeles Co., Cal. SW Sylvan St. and Sylvan Ave. Two-story and basement Class A steel frame and reinforced concrete branch city hall, 145x225 ft., 48 ft. steel tower.

Owner—City of Los Angeles.
Plans by Los Angeles City Constructing Dept., C. O. Brittan, Supt.
Bids will be asked in about two weeks.

Hardware Bids Wanted — To Close Feb. 9, 2 P. M.

WAR MEMORIAL Cost, \$5,000,000
SAN FRANCISCO. Civic Center. Hardware for four-story and basement concrete Class A Veterans' Bldg.

Owner—City and County of San Francisco (S. F. War Memorial).
Architect—G. A. Lansburgh, 140 Montgomery St. and Arthur Brown Jr., 251 Kearny St., S. F.
Mgrs. of Const.—Lindgren & Swinerton, Inc., 225 Bush St., S. F.

RESIDENCES

Plans Being Figured.
RESIDENCE Cost, \$—
SAN MATEO, San Mateo Co., Cal. Two-story frame and stucco residence (7 rooms, 3 baths) tile and composition roof, hardwood floors, hardwood and pine trim, automatic storage water heater, tile drains, boards, garage.

Owner—D. B. Levin.
Architect—S. Charles Lee, 2404 W. 7th St., Los Angeles.
Jacks & Irvine, Call Bldg., San Francisco, are among the contractors figuring the plans.

Plans Being Completed.
RESIDENCE Cost, \$10,000
SAN FRANCISCO. 1 Villamar Ave. Two-story and basement frame and stucco residence (7 rooms and 2 baths; composition and tile roof, gas heat, colored tile baths and kitchen, hardwood floors and trim, etc.)

Owner—Dr. V. H. Podstata, 450 Sutter Street.
Architect—John Dinwiddie, Balboa Building.
Bids will be taken in about 3 weeks.

Contract To Be Awarded.
RESIDENCE Cost, \$15,000
FRESNO, Fresno Co., Cal. Figarden Tract. Two-story frame and stucco residence. Owner—L. S. Cobb, Fresno.
Architect—Charles E. Butner Cory Bldg., Fresno.
Contractor—Walter T. Harris, 577 McKinley St., Fresno.

Contract Awarded.
RESIDENCE Cost, \$10,000
OAKLAND, Alameda Co., Calif. 844 Northvale Road. Two-story and basement frame and stucco residence (8 rooms). Owner—A. R. Lapham, 947 Hilcroft Blvd., Oakland.
Architect—Not Given.
Contractor—T. H. Lapham, 542 Kenmore Ave., Oakland.

Preparing Plans.
RESIDENCE Cost, \$17,500
SAN RAFAEL, Marin Co., Cal. Two-story and basement frame and stucco residence (9 rooms, 3 baths, tile roof, automatic oil furnace, hardwood floors, colored tile baths and kitchen).
Owner—A. L. Stewart (San Rafael Military Academy, 5th and Cottage Sts., San Rafael).
Architect—S. Heiman, 57 Post Street, San Francisco.

Plans will be completed in about 90 days.

Completing Plans.
RESIDENCE Cost, \$10,000
SAN FRANCISCO. 1 Villamar Ave. Two-story and basement frame and stucco residence (7 rooms and 2 baths; composition and tile roof, gas heat, colored tile baths and kitchen, hardwood floors and trim, etc.)

Owner—Dr. V. H. Podstata, 450 Sutter Street.
Architect—John Dinwiddie, Balboa Building.
Bids will be asked in about 3 weeks.

Preparing Working Drawings.
RESIDENCE Cost, \$15,000
STOCKTON, San Joaquin Co., Cal. Tuxedo Park. Two-story and basement frame and brick veneer residence (9 rooms, 3 baths); tile roof, hot air heating

system, hardwood floors, colored tile baths and kitchen, electric refrigeration, etc.

Owner—Ray Friedberger.
Architect—Jos. Losekann, 1218 West Harding St., Stockton.
Bids will be asked in about thirty days.

SCHOOLS

Low Bidder
SCHOOL Cost, \$119,445
LOS ANGELES, Los Angeles Co., Cal. Seventy-first and Hoover Sts. Brick and concrete school (200x40 ft.) 24 units and gymnasium.
Owner—Roman Catholic Bishop of Los Angeles and San Diego.
Architect—M. L. Barker and G. Lawrence Ott, 264½ S. La Brea Ave., Los Angeles.
Low Bidder—Hart & Petley, 1424 4th St., Santa Monica.

Plans Completed.
TRAINING SCHOOL Cost, \$160,000
ARCATA, Humboldt Co., Calif. State Teachers' College. Three-story reinforced concrete training school (assembly hall, stage, manual training room, dining room, cooking and sewing room, library, art and general science, gymnasium, kindergarten section, 11 classrooms, administration section, boiler room, etc.)
Owner—State of California.
Architect—F. T. Georgeron, Sixth and C Streets, Eureka.

Preliminary Plans Completed.
ADDITION Cost, \$30,000
RICHMOND, Contra Costa Co., Calif. 23rd and Tulare Streets. Two-story Class C brick and frame addition to high school (12 rooms)
Owner—Richmond Union High School District.
Architect—Jas. T. Narbett, 471 31st St., Richmond.

Preparing Plans.
ADDITION Cost, \$—
SANTA MARIA, Santa Barbara Co., Calif. One-story frame and stucco high school addition (70x100 ft.); composition roof, steel sash, metal skylights, waterproofing, gas steam radiators, wood roof trusses.
Owner—Santa Maria High School District.
Architect—Louis N. Crawford, Gibson-Drexler Bldg., Santa Maria.

Preparing Plans.
ADDITION Cost, \$148,000
CLAREMONT, Los Angeles Co., Cal. Addition to high school (auditorium, domestic science and science rooms, library, music rooms & cafeteria).
Owner—Los Angeles School District.
Architect—Marsh, Smith & Powell, Architects Bldg., Los Angeles.
Bonds in the amount of \$148,000 were voted last November to finance construction.

Commissioned To Prepare Plans.
HIGH SCHOOL Cost, \$250,000
SAN GABRIEL, Los Angeles Co., Cal. Fireproof High School.
Owner—San Gabriel High School Dist.
Architect—Marsh, Smith & Powell, Architects Bldg., Los Angeles, and Scott Quintin, Associate, Edison Bldg., Alhambra.

An election will be called in the immediate future to vote bonds to finance erection of this structure.

Plans Being Prepared.

ADDITION Cost, \$125,000
SAN FERNANDO, Los Angeles Co., Cal. Second and Grand Blvd.
 Twenty-four-unit addition to high school.

Owner—Los Angeles School District.
 Architect—A. S. Nibecker, Jr., Los Angeles.

Plans Complete.

ADDITION Cost, \$144,000
LOS ANGELES, Cal. 3925 Tracy St.
 Three-story Class A reinforced concrete and brick high school addition (64x163-ft.; 26 rooms).

Owner—Los Angeles School District.
 Architect—George M. Lindsey and Erwood P. Eiden, Union Insurance Bldg., Los Angeles.

Preparing Preliminary Plans.

ADDITION Cost, \$30,000
RICHMOND, Contra Costa Co., Calif. 23rd and Tulare Streets.

Two-story Class C brick and frame addition to high school (12 rooms)
 Owner—Richmond Union High School District.

Architect—Jas. T. Narbett, 474 31st St., Richmond.

Plans Awaiting Approval.

SCIENCE BLDG. Cost, \$130,000
SAN FRANCISCO. State Teachers' College (124 Buchanan St.)

Three-story reinforced concrete Class B science and chemistry building (classrooms, lecture auditorium to seat 200, chemistry laboratories and supply rooms, tile roof, wood floors, linoleum covered, steam heat).

Owner—State of California.

Architect—S. Heiman, 605 Market St., San Francisco.

Plans have been forwarded to Sacramento for approval and bids will be asked shortly.

To Ask Bids In One Week.

DORMITORY Cost, \$100,000
OAKLAND, Alameda Co., Cal. Mills College Campus.

Two-story reinforced concrete dormitory (sixty rooms) tile roof, steam heating system.

Owner—Mills College.

Architect—W. H. Ratcliff Jr., Chamber of Commerce Bldg., Berkeley.

January 22, 1932

Plans Being Figured—Bids Close Feb. 5, 11 A. M.

ADDITION Cost, \$200,000
LOS ANGELES, Los Angeles Co., Cal. Campus of the University of California.

Three-story and basement Class A reinforced concrete, brick and terra cotta physics building addition (64x130 feet).

Owner—Regents of the University of California.

Architect—Allison & Allison, California Reserve Bldg., Los Angeles.

Separate bids will be received for (1) general contract; (2) heating and ventilating; (3) plumbing; (4) electrical work; (5) refrigeration and air conditioning; (6) laboratory furniture. Specifications obtainable from office of Comptroller, 405 Hillgard Ave., Los Angeles. Deposit of \$100 required for plans all but contract No. 6 for which \$25 is required.

Plans Being Figured—Bids Close Feb. 3rd.

HIGH SCHOOL Cost, \$126,000
LOS ANGELES, Cal. 193th Street and Denker Avenue.
 Brick and concrete high school (sixteen classrooms).

Owner—Los Angeles City School Dist.
 Architect—Wm. Richards, Architects' Bldg., Los Angeles.

BANKS, STORES & OFFICES

Plans To Be Prepared.

STORE Cost, \$35,000
SAN MATEO, San Mateo Co., Cal. Third and San Mateo Sts.

One-story reinforced concrete store.
 Owner—Martin Stelling, 155 Montgomery St., San Francisco.

Architect—Bertz, Winter & Maury, 210 Post St., San Francisco.

Preparing Working Drawings.

MEDICAL BLDG. Cost, \$20,000
SAN FRANCISCO. Location Withheld.
 Two-story frame and stucco medical building and stores (Modernistic type; linoleum floors, flat composition roof, steam heating system, medical equipment, etc.)

Owner—Withheld.

Plans by Lawrence Ebbets, 387 35th Avenue.

Contractor—Selected, Name Withheld
 More definite information will be given in about ten days.

Low Bidder.

MEDICAL BLDG. Cost, \$50,000
PALO ALTO, Santa Clara Co., Calif. Homer Ave. and Bryant St. (150x 150-ft.)

One and two-story reinforced concrete medical building (tile roof, steel sash, steam heating system).

Owner—Drs. Russell Lee, E. Wilbur, E. F. Roth and M. H. Saier, 440 Foothill Ave., Stanford University, Palo Alto.

Architect—Birge M. Clark, 310 University Ave., Palo Alto.

Low Bidder—Wells P. Goodenough, 310 University Ave., Palo Alto.

Second low bid was submitted by William Short, Palo Alto.

Plans Completed.

MARKET Cost, \$10,000
SAN FRANCISCO. NE Jackson and Fillmore Streets.

Two-story frame market.

Owner—L. Trubo, 645 Russ Bldg., San Francisco.

Architect—S. Heiman, 605 Market St., San Francisco.

Bids will be asked about March 1.

THEATRES

Planned.

THEATRES Cost, \$50,000 to \$150,000
CALIFORNIA. Various Cities.
 Motion picture theatres.

Owner—Withheld.

Architect—Douglas D Stone, Howden Bldg., Oakland.

More definite information will be given at a later date.

**SUB-CONTRACTORS
 MATERIALMEN
 Stop Your Losses**

Credit information on general contractors, owners, builders and individuals.

**MATERIALMEN'S
 CREDIT BUREAU**

J. E. Higgins, General Manager

564 Market St.—KEarny 6245-46
 Night Phone DOuglas 5304
 San Francisco

WHARVES AND DOCKS

January 28, 1932

Plans Being Completed.

EXTEND DOCK Cost, \$165,000
SAN FRANCISCO. Fort Mason.
 Extend Dock No. 2 (18x113-ft.; reinforced concrete & steel construction, creosoted and green timber piling, redwood stays).

Owner—United States Government.
 Plans by Constructing Quartermaster, Fort Mason.
 Bids will be asked shortly.

**MISCELLANEOUS
 CONSTRUCTION**

Plans Being Prepared.

GOLF COURSE Cost, \$40,000
PACIFIC GROVE, Monterey Co., Cal. (33 acres).

Nine-hole golf course with appurtenances (clubhouse, etc.)
 Owned by City of Pacific Grove (Elgin C. Hulbert, city clerk).

Architect—H. Chandler Egan, Rita Road, Pebble Beach.

LOS ANGELES, Cal.—Plans for a new union passenger terminal in Los Angeles, to cost between \$8,000,000 and \$10,000,000, presented to the California State Railroad Commission by the Southern Pacific and Los Angeles and Salt Lake (Union Pacific) Railroads, have received approval. The Commission, however, disapproved of the plan submitted by the Santa Fe Railroad. The approved plan calls for the erection of a stub-end station, located in the Plaza area, Los Angeles, at a cost estimated from \$5,708,000 to \$9,517,000. The Santa Fe plan was for a "through" station, costing from \$10,324,000 to \$13,550,000. The Commission set July, 1934, as the date by which the terminal must be completed.

Low Bidder.

MUSEUM Cost, \$54,080
SANTA ANA, Orange Co., Cal. Main and Twentieth Sts.

Two-story reinforced concrete and brick museum (150x60 ft.)

Owner—Charles W. Bowers Memorial Museum Commission.

Architect—W. Horace Austin, First National Bank Bldg., Los Angeles, and Frank Lansdown, 514½ N. Main St., Santa Ana.

Low Bidder—Wm. Rohrbacher, Builders' Exchange Bldg., Santa Ana.

Preparing Preliminary Sketches.

AUTO CABINS, ETC. Cost, \$20,000
PHOENIX, Arizona.
 Group of auto cabins (2 rooms each); service station, offices, etc.

Owner—Withheld.

Architect—E. L. Snyder, 2102 Addison St., Berkeley.

More definite information will be given at a later date.

Plans Being Completed.

BLEACHERS Cost, \$35,000
BERKELEY, Alameda Co., Cal. SW of Camp.

Reinforced concrete bleachers.
 Owner—University of California.

Architect—Geo. W. Kelham, 315 Montgomery St., San Francisco.

Plans will be completed in 1 week.

PORTLAND, Ore.—D-N Incinerator Corp., Winston-Salem, North Carolina, at \$121,422 awarded contract by city commissioners to construct garbage incinerator at the St. Johns site. Complete list of bids received on this project published in issue of January 18.

Plans Being Prepared.
MAUSOLEUM Cost, \$75,000
MONTEREY, Monterey Co., Cal. Four miles out of Monterey.

One - story super-Class A reinforced concrete mausoleum and columbarium (marble and bronze interior; 500 crypts).

Owner and Builder—E. H. Tickle, et al, San Carlos Hotel, Monterey.
 Architect—W. O. Raiguel, Hotel Del Monte, Monterey.

It is expected to start construction in about three weeks.

ENGINEERING SOCIETIES EMPLOYMENT SERVICE

Further information regarding positions listed in this column is obtainable from Newton D. Cook, Room 715, 57 Post St., San Francisco. (Phone SUtter 1684).

W-3105 MAINTENANCE ENGINEER for airport. Graduate aeronautical engineer with air transportation experience. Must be a graduate engineer in aircraft design and engineering from one of the definite schools of aircraft connected with a well-known university. Must be familiar with design, maintenance, operation and repair work on both air planes and engines, and must have practical knowledge of the working of airways. Apply only by letter. Location, South.

W-3266 DESIGNING ENGINEER who has specialized in cofferdam design. Circular cofferdam experience desirable. Apply by letter. Location, New York.

R-3743-S ENGINEERS, experienced on building plans to associate with an experienced contractor who is organizing a building and holding corporation. Will need a licensed structural designer, a mechanical engineer for plumbing, heating, etc. and an electrical engineer for lighting, power, etc. Men under 35 years and residents of Bay District preferred. Represented as a permanent opportunity and no investment required. Apply by letter. Headquarters, San Francisco.

R-3737-S JUNIOR MINING ENGINEER, recent graduate, with two years' underground experience. Must be single and have fair knowledge of Spanish. Salary, \$150 per month less board on three year contract. Apply by letter. Location, South America.

R-3741-S INSPECTOR, licensed, for part time employment on boilers and elevators. May develop into steady employment. Location, San Francisco.

W-3111 DESIGNER for paper converting machinery, folding a n d packing machinery. Only man who is familiar with folding machines such as are used for interfolding towels and other paper products, as well as packaging machines considered. Apply by letter. Location, Middlewest.

R-3739-S SALES ENGINEER, preferably graduate civil engineer, 30-40 years of age, experienced in sales promotion and with good references in this kind of work; for indirect selling of a particular kind of building material. Will have to travel most of the time in order to cover the State of California. Salary, \$300 per month with car and travelling expenses. Apply by letter. Headquarters, San Francisco.

R-3708-S EXECUTIVE, preferably an

engineer who has been accustomed to earning over \$6000 per year, to take charge of all details in connection with the sales and distribution of electrical transcriptions of programs for radio broadcasting and various other outlets for sound reproduction. Must be able to deal with all types of business executives and adapt himself readily to an expanding market which will cover the entire U. S. A. Salary and share in earnings of company. Investment of \$20,000 required. Location, San Francisco.

R-3737-S JUNIOR MINING ENGINEER, recent graduate, with two years' underground experience. Must be single and have fair knowledge of Spanish. Salary, \$150 per month less board on three year contract. Apply by letter. Location, South America.

R-3732-S ENGINEER, experienced on highway location and construction, to go to Central America and work up plans for highway contracts. Would have to share expenses of trip and take profits from contracts secured. Apply by letter. Headquarters, San Francisco.

R-3706-S EXPERIENCED DESIGNER and builder of centrifugal pumps desires to locate one or more men, who can invest a total of \$24,000 to finance a business which can show exceptionally good prospects. Location, Bay Region.

BUSINESS OPPORTUNITIES

James E. Elkington, Elkington Manufacturing Co., 396 Seventh St., San Francisco, manufacturer of dish washing machines seeking agents established in various locations to handle their products.

Howard L. Miller, 1121 West Moreland St., Phoenix, Arizona, desires to represent local manufacturer in the state of Arizona.

M. D. Keller, Keller & Company, Terminal Sales Building, Seattle, Washington, wishes to contact local manufacturers desiring representation in the Northwest and Territory of Hawaii.

W. L. Horton, Y. M. C. A. Hotel, San Francisco, is interested in securing commercial chemical lines or food products to handle in Southern California.

Edward Everhard, 290 1st Ave., San Francisco, wishes to secure additional

DAILY NEWS SERVICE

If you are interested in a daily construction news service featuring all types of building and engineering construction, send for free sample copies of Daily Pacific Builder. Subscription price, \$150 per month or \$15.00 per year when paid in advance.

Daily Pacific Builder features in each issue, timely reports on work contemplated, bids wanted, bids opened and contracts awarded for all types of building and engineering construction, machinery and equipment, Government work, supplies and equipment, business opportunities, etc.

Daily Pacific Builder is the only publication publishing listings of building permits, building contracts, mechanics liens, etc., in Northern and Central California.

Send for sample copies today or phone GA-rfield 8744.

Daily Pacific Builder
 545 Mission St.
 San Francisco, Calif.

line to handle on Coast. Hardware items preferred.

R. H. Leshar, Minnesota Electric Lamp Co., 428 Stinson Blvd., Minneapolis, Minn., manufacturers of incandescent lamps seeking manufacturers agent to handle territory tributary to San Francisco.

Warren C. Graham, Chairman of the Board of Directors, Heat Transfer & Combustion Corp., Inc., 7 East 42nd St., New York City, N. Y., desires to contact individual having contacts with oil refining companies in this territory and capable of handling their equipment.

V. P. McMurdo, Luckenbach S. S. Co., 310 Sansome St., San Francisco, represents firm that desires to contact local firm having facilities to handle the staves and cooperage stock in this territory.

R. P. Lewis, Sales Manager, Security Sales Agency, 2362 University Ave., St., Paul, Minn., is desirous of contacting local manufacturers interested in representation in Minnesota, western Wisconsin and eastern North Dakota.

BIDS OPENED

STOCKTON, San Joaquin Co., Cal.—Clyde W. Wood, P. O. Box 1435, Stockton, submitted low bid to city council to construct Harbor Service Road in the vicinity of the Stockton Deep Water Turning Basin, involving:

- (1) 1589 cu. yds. excavation;
 - (2) 2851 cu. yds. fill embankment;
 - (3) 1563 tons road gravel in place.
- Complete list of unit bids follows:
 (A) Clyde W. Wood, Stockton.
 (B) Pereira & Reed, Tracy.
 (C) D. McDonald, San Francisco.
 (D) Larsen Bros., Galt.
 (E) L. J. Immel, Berkeley.
 (F) Willard & Biasotti, Stockton.
 (G) J. E. Johnston, Stockton.

| | (1) | (2) | (3) |
|-----------|------|------|--------|
| (A) | \$10 | \$20 | \$1.35 |
| (B) | 19 | 19 | 1.37 |
| (C) | 20 | 20 | 1.50 |
| (D) | 25 | 35 | 1.65 |
| (E) | 30 | 29 | 1.59 |
| (F) | 35 | 25 | 1.40 |
| (G) | 40 | 20 | 1.70 |

All bids taken under advisement. Lyle Payton, city engineer.

AWARD

STOCKTON, San Joaquin Co., Cal.—Pereira & Reed, 645 Roosevelt St., Tracy, at \$6,187.50 awarded contract by county supervisors for improving Flood Road from Linden to Flood Bridge, involving:

- (1) 4000 cu. yds. grading;
- (2) 2800 tons base course;
- (3) 250 tons crushed rock;
- (4) 110 tons rock chips;
- (5) 90 tons pea gravel;
- (6) 60 barrels fuel oil;
- (7) 25 tons asphaltic oil;
- (8) 7 pipes 10-in. each.

Complete list of bids follows:

| | (A) | (B) |
|-----------------------------------|---------|---------|
| (A) Pereira & Reed, Tracy. | | |
| (B) Willard & Biasotti, Stockton. | | |
| (1)..... | \$.23 | \$.325 |
| (2)..... | 1.31 | 1.26 |
| (3)..... | 2.36 | 2.30 |
| (4)..... | 2.46 | 2.40 |
| (5)..... | 2.21 | 2.25 |
| (6)..... | 1.75 | 1.60 |
| (7)..... | 16.00 | 16.00 |
| (8)..... | 5.00 | 5.00 |
| Total | 6187.50 | 6400.00 |

PLANNED

LOS ANGELES, Cal.—City Board of Water and Power Commissioners is considering construction of the Bouquet Canyon Dam. It has not been determined whether the work will be undertaken by contract or by force account. The dam, to be constructed at the junction of Spunky Canyon Rd. about ten miles north of Saugus, will be a combination earth roll fill and rock dam, 185 ft. in height above the streambed, with a length at the crest of 1200 ft. and a width of 50 ft. The length across the streambed is about 350 ft. The slopes will be 3 to 1, making a total thickness at the base, between upstream and downstream face, of 1160 ft. The reservoir will impound about 32,000 acre feet.

The dam will have a facing on the downstream consisting of impervious material approx. 25% rock, a total of about 400,000 cu. yds. rock, gravel and sand, with a reinforced concrete upstream face, about 9-in. thick at the base and 6-in. thick at the crest. The upstream face will be poured and will involve, including cutoff wall, about 18,000 cu. yds. concrete. The earth fill will be rolled in 6-in. layers laid with sheep's foot rollers. The earth fill will amount to approx. 2,000,000 cu. yds.

Plans were prepared by H. A. Van Norman, general manager and chief engineer, 207 S Broadway. All field and construction work is under the supervision of Henry L. Jacques, constructing engineer.

BIDS OPENED

SACRAMENTO, Cal.—Olympian Dredging Co., 249 First St., San Francisco, at \$24,402.50 submitted low bid to U. S. Engineer Office, Sacramento, to raise existing levee along the easterly side of Yolo By-Pass in Reclamation District No. 827, about 2.9 mi. south to Elkhorn Station on the Sacramento-Woodland Railway, involving 227,000 cu. yds. embankment in place.

Complete list of bids follows:
Olympian Dredging Co., San Francisco, (unit) \$1075; (total) \$24,402.50.
Thomas S. Atkins, (unit) \$1597 (total) \$36,251.90.

BIDS OPENED

SAN BERNARDINO, Riverside and Imperial Counties, Cal.—B. G. Carroll, 4336 Maryland, San Diego, at \$3,019.53 submitted low bid to State Highway Commission to apply a traffic stripe to about 570.8 miles of pavement.
Complete bids follow:

| | Unit | Total |
|--------------------------|--------|------------|
| B. G. Carroll, San Diego | \$5.29 | \$3,019.53 |
| Edwin Anderson, S. F. | 6.20 | 3,538.96 |
| Essick & Co., L. A. | 6.25 | 3,567.50 |
| Kempper Con. Co., L. A. | 8.25 | 4,709.10 |

AWARD

WHEELER FIELD, T. H. — Henry Freitas, Honolulu, at \$145,600 awarded contract by Department Quartermaster, Fort Shafter, T. H., for construction of Q. M. utilities shop building, Q. M. combined garage and shop, combined fire station and guard house, parachute building, paint, oil and dope house, dispensary building and radio building at Wheeler Field, Schofield Barracks, T. H.

DAMS—LOS ANGELES COUNTY

LOS ANGELES.—Construction of 2 dams in the Big Tujunga Canyon and Wash, and costing a total of \$3,202,000, has been recommended to the Los Angeles county supervisors by Prof. Franklin Thomas, consulting engineer, in a report on conditions in the Big Tujunga watershed filed with the board January 22 by E. C. Eaton, county flood control engineer. The report recommends construction of dams at sites Nos. 2 and 5, to supplement dam No. 1, which was recently completed.

The site of dam No. 2 is at the Hoyt Ranch, where a reservoir of 7170 acre feet is available and where the tributary drainage area is 86.50 square miles. The cost is estimated at \$1,452,000.

Dam No. 5, known as the Balancing North and South Reservoir, is located between Sunland and the mouth of Little Tujunga Canyon. The cost is estimated at \$1,750,000.

The report provides an exhaustive study of flood conditions in the canyon since 1834 and directs attention to the dangers from unusual floods to the

territory adjacent to the Big Tujunga Wash and its successor, the Los Angeles River. The watershed comprises about 106 square miles and provides and unregulated peak flow of 48,300 C. F. S. at the site of dam No. 5, one mile below the Michigan Ave. bridge. The runoff is approximately 388 C. F. S. per square mile. Construction of dams Nos. 2 and 5 is recommended in order to reduce the flood discharge from 48,300 C. F. S. to 14,550 C. F. S. Further regulation may be secured by additional reservoirs or increased channel capacity to reduce the flow from 14,550 to 7000 C. F. S. The method would be determined by an analysis of the respective costs. A control channel to be constructed from the balancing reservoir to a point at the Pacific Electric Railway right of way north of Van Nuys is also recommended.

Prof. Thomas states that "reservoir sites exist in the canyon to an extent which is unusual in this vicinity. Those regarded as capable of development, subject to finding satisfactory foundations, are:

| Site | Capacity | Est. Cost | Trib. Drain. Area |
|-----------------------------|------------------|-------------|---------------------|
| No. 4 (Wickiup)..... | 13,800 acre feet | \$2,210,000 | 33.55 square miles |
| No. 3 (Fox)..... | 10,880 acre feet | 2,128,000 | 70.56 square miles |
| No. 1 (Hansen)..... | 6,240 acre feet | 950,000 | 81.35 square miles |
| No. 2 (Hoyt)..... | 7,170 acre feet | 1,452,000 | 86.50 square miles |
| No. 5 (Bal. N. and S.)..... | 13,950 acre feet | 1,750,000 | 124.50 square miles |

"The sites are listed in order of occurrence below the origin of the Big Tujunga Creek." Recommendation is also made that explorations be started as soon as possible to determine the feasibility of constructing dams at Sites 2 and 5.

CONSTRUCTION PROFIT SHOWN BY INCOME TAXES

Statistics on the income taxes paid in 1930 by corporations engaged in construction have just been made public by the federal Income Tax Bureau. Analysis of these figures shows that

the net profit made by the 19,385 corporations was 1.7 per cent of their gross income. Only 44 per cent of the corporations reporting made a profit during 1930, which is nearly 10 per

cent less than the number reporting a profit in the previous four years.

Below are given the figures revealed by income tax reports as submitted by construction corporations.

| | 1927 | 1928 | 1929 | 1930 |
|--|-----------------|-----------------|-----------------|-----------------|
| Total number of corporations reporting..... | 17,609 | 18,770 | 19,439 | 19,385 |
| Number of corporations reporting a net profit..... | 10,071 | 10,179 | 10,261 | 8,643 |
| Per cent of total which reported a net profit..... | 57% | 54% | 53% | 44.5% |
| Gross income on which a net profit was made..... | \$2,413,183,931 | \$2,317,186,317 | \$3,072,843,804 | \$2,039,248,339 |
| Net income reported..... | 171,159,963 | 170,905,881 | 265,340,156 | 143,241,946 |
| Income tax paid..... | 20,078,238 | 17,175,226 | 26,123,649 | 14,391,065 |
| Net income less income tax, net profit..... | 151,081,725 | 153,730,655 | 239,216,507 | 128,850,881 |
| Per cent of gross income as a net profit for corporations reporting a net income..... | 6.26% | 6.6% | 7.78% | 6.3% |
| Number of corporations having no profit or loss..... | 1,257 | 1,474 | 1,514 | 1,404 |
| Number of corporations reporting deficit or loss..... | 6,281 | 7,117 | 7,724 | 9,338 |
| Per cent of total which reported a loss..... | 36% | 37% | 39% | 48% |
| Gross income of corporations reporting a loss..... | 642,410,274 | 661,088,717 | 777,909,528 | 832,346,257 |
| Total losses reported..... | 59,417,399 | 71,363,103 | 67,607,497 | 79,190,243 |
| Per cent of gross income as a loss for those corporations reporting losses..... | 9.25% | 10.7% | 8.69% | 9.5% |
| Gross income of all corporations reporting..... | 3,055,594,205 | 2,978,275,034 | 3,850,753,332 | 2,871,534,596 |
| Total net incomes less income taxes less total losses reported results in a combined net profit of..... | 91,664,326 | 82,361,547 | 171,609,010 | 49,660,638 |
| Per cent of combined gross incomes of profitable and profitless corporations shows a combined net profit earned by all corporations reporting as engaged in const..... | 3% | 2.7% | 4.4% | 1.7% |

MEMBERS OF THE ASSOCIATED GENERAL CONTRACTORS

PACIFIC COAST AND INTERMOUNTAIN TERRITORY

CALIFORNIA STATE BRANCH

206 Sansome Street—Garfield 7107—San Francisco

O. C. STRUTHERS, President

E. L. KIER, Vice-President

C. G. FITZGERALD, Secretary

MELVILLE DOZIER, JR., Secretary-Manager

SOUTHERN CALIFORNIA CHAPTER

1318 Pershing Square Bldg.—TRinity 9418
Los Angeles, Calif.

C. G. FitzGerald, President

Melville Dozier, Jr., Manager

Karl P. Lowell, Vice-President

The address of the firm is the same city in which is located the Chapter office unless otherwise shown in membership list.

Building Contractors

| | | |
|----------------------------|---|-------|
| Atkinson, J. F. | 1102 Story Bldg., VAndike | 7783 |
| Baruch Corp., Herbert M. | 1015 Lincoln Bldg., TRinity | 5473 |
| Baum Co., H. W. | 815 Central Bldg., VAndike | 2696 |
| Bavin & Burch Co. | 173 E. Jefferson St., ADams | 6175 |
| Bradley Constr. Co., K. R. | 1833 West Pico, WASHINGTON | 2786 |
| Burgin, W. Jay | 1100 Redondo Ave., Long Beach, L. B. | 81103 |
| Byerts & Dunn | 7908 Santa Monica Blvd., CRestview | 9602 |
| Clinton Construction Co. | 1103 Spring Arcade Bldg., MADison | 2597 |
| Crowell, Wm. C. | 495 S. Bdwy., Pasadena, WAKEfield | 6692 |
| Crowell Co., Weymouth | 2104 E. 15th St., WESTmore | 5708 |
| DeCamp-Hudson Co., Ltd. | 531 Douglas Place, MUTual | 3382 |
| Escherich Bros. | 234 W. 37th Place, ADams | 6294 |
| Hall, J. F. | 531 Douglas Place, MUTual | 6722 |
| Houghton & Anderson | 143 Rose St., MUTual | 5430 |
| K. P. Lowell & Co., Ltd. | 606 Union Bank Bldg., VAndike | 4072 |
| Lynch-Cannon Engr. Co. | C. C. Chapman Bldg., VAndike | 2807 |
| Lynch Construction Co. | 730 East Gage Ave., TWinoaks | 1393 |
| Macdonald & Driver | 311 Board of Trade Bldg., TUCKer | 6467 |
| McKee, Robert E. | 1128 Central Bldg., TRinity | 0291 |
| Miller, Geo. E. | 401 N. Canon Dr., B. H., OXFord | 7404 |
| Simpson Construction Co. | 1007 Architects Bldg., MUTual | 7261 |
| Snell, Fred C. | 339 N. Beverly Dr., Beverly Hills, OXFord | 6409 |
| Willard-Brent Co. | 254 E. 27th St., Richmond | 2101 |

Bridges, Foundations

| | | |
|---------------------------|--------------------------------|-------|
| Ledbetter Co., W. M. | Box 1264, Arcade St., CApiitol | 13415 |
| Oberg Brothers | 3470 Hollenbeck Ave., ANgelus | 8759 |
| Raymond Concrete Pile Co. | 1008 Washington Bldg., VAndike | 6536 |

Highways, Paving, Grading

| | | |
|--------------------------|---|--------|
| A. A. Alexander | 1721 E. 20th St., WESTmore | 2553 |
| Basich Bros. | Torrance, Gardena | 446 |
| Bock, Geo. J. | 1007 S. Harvard, EMpire | 7614 |
| Donovan & Sons, J. G. | 4031 Goodwin Ave., OLYmpic | 0423 |
| Ferry, Peter L. | San Fernando Rd. and Bdwy., Glendale, OL. | 0164 |
| Fleming Construction Co. | Pomona | |
| General Engineering Co. | 740 S. Broadway, TRinity | 9381 |
| Griffith Company | L. A. Railway Bldg., WESTmore | 9343 |
| Hall-Johnson Co. | P. O. Box 387, Alhambra, Eliot | 1855 |
| Herz & Co., Geo. | 310 Platte Bldg., San Bernardino, S. B. | 241-42 |
| Heuser, Chas. U. | 316 Allen Ave., Glendale, DOuglas | 3965 |
| Hudson, Chas. H. | 408 Rives-Strong Bldg., VAndike | 3374 |
| Jahn & Bressi | 701 Lane Mortgage Bldg., TRinity | 8674 |
| Lang Transportation Co. | 5501 Santa Fe Ave., JEFFerson | 3104 |
| Lewis Construction Co. | 300 S. Juanita St., WASHINGTON | 1407 |
| Packard & Tanner | 905 W. Latham St., Phoenix, ARIZ. | |
| Pearson & Dickerson | 4485 Cypress, Riverside, 1600 | |
| Ross, M. S. | 4011 Goodwin Ave., CApiitol | 7603 |
| Southwest Paving Co. | 806 Washington Bldg., TUCKer | 9288 |
| Wells & Bressler | P. O. Drawer K, Santa Ana, 227 | |
| Willas, C. G., & Sons | 2119 E. 25th St., LAFayette | 9826 |

Class of Construction: (B) Building; (H) Highway; (P) Public Works; (R) Railroad.

Pipe Lines, Water Works

| | | |
|----------------------------|----------------------------------|------|
| American Concrete Pipe Co. | P. O. Box 1428, Arcade Sta., JE. | 4211 |
| Haverty Co., Thos. | 316 E. 8th St., VAndike | 1171 |

Subways, Conduits

| | | |
|------------------------|------------------------------|------|
| Delta Construction Co. | 12421 Alameda St., LAFayette | 7989 |
| Lake, Frank S. | 1761 N. Indiana St., ANgelus | 1290 |

General Engineering

| | | |
|--------------------------------|------------------------------------|------|
| Atkinson, Lynn S. | 609 S. Grand, TRinity | 7451 |
| Bartmus, Peter | Hollywood Riviera, Redondo | 6404 |
| Bent Bros., Inc. | 418 S. Pecan St., ANgelus | 7510 |
| Campbell-Reichert Co. | 4000 Whiteside Ave., ANgelus | 0598 |
| Cox, R. L. | 1100 Westminister, Alhambra | 1699 |
| Emaco Conc. Cutting Corp. | 1517 Santa Fe Ave., VAndike | 5088 |
| Fitz-Gerald Eng. & Constr. Co. | 216 Rowan Bldg., TRinity | 5088 |
| Kemper, Geo. W. | 3701 Overland, Culver City | 4352 |
| Kemper Const. Co., Ltd. | 3701 Overland, Culver City | 4352 |
| Macco Construction Co. | Hynes, Jefferson | 1148 |
| Merritt-Chapman-Scott Corp. | F. O. Box 507, San Pedro, | 2880 |
| Mittry Bros. Construction Co. | 722 Detwiler Bldg., VAndike | 0210 |
| Robinson-Roberts Co. | 706 Rives-Strong Bldg., TUCKer | 2889 |
| Spicer, C. A. | 818 Financial Center Bldg., TUCKer | 9570 |
| Standard Dredging Co. | 325 Central Bldg., TRinity | 3253 |
| Star House Movers, Inc. | 2230 Silver Lake Ave., OLYmpic | 1976 |
| Wattson, R. A. | 1026 N. McCadden Pl., GRANite | 4121 |

Affiliates

| | | |
|------------------------------|---------------------------------------|-------|
| Brashears & Co., G. | 501 Security Bldg., TRinity | 5091 |
| Consolidated Rock Prod. Co. | 656 S. Los Angeles St., TRinity | 0241 |
| Gilmore Oil Co. | 2423 E. 28th St., JEFFerson | 1211 |
| Graham Brothers | 1215 W. 7th St., Long Beach, L. B. | 65251 |
| Hartford Accident & Ind. Co. | 548 S. Spring St., MADison | 1471 |
| L. A. Brick Co. | 1078 Mission Road, ANgelus | 5684 |
| Sun Lumber Co. | Crescent Drive, Beverly Hills, OXFord | 6191 |
| Union Oil Co. | Union Oil Bldg., TUCKer | 7211 |

ALAMEDA COUNTY CHAPTER

354 Hobart St., Rm. 410—GLEncourt 7400—Oakland, Calif.

S. G. Johnson, President

H. J. Christensen, Treasurer

Geo. J. Maurer, Vice-President

W. E. Hague, Manager

| | | |
|---------------------------|-----------------------------------|------|
| Brennan, J. P. (B) | 2820 Regent, Berkeley, BE. | 0346 |
| Christensen, H. J. (B) | 1924 Broadway, Oakland, LA. | 7164 |
| DeVelbiss, C. Dudley (B) | 369 Pine St., S. F., CA. | 3225 |
| Dyer Construction (B) | 337 17th St., Oakland, GL. | 3203 |
| Furlong, Thos. H. L. (B) | 460 Jerome Ave., Piedmont, HU. | 0620 |
| Jacobs & Pattiani (BP) | 337 17th St., Oakland, GL. | 3203 |
| Johnson, S. C. (B) | 4652 Dolores Ave., Oakland, FR. | 6650 |
| Keating, W. C. (B) | 4209 Mountain Blvd., Oakland, AN. | 1361 |
| Lesure, E. T. (B) | 87 Ross Circle, Oakland, OL. | 0389 |
| Littlefield, R. W. (B) | 337 17th St., Oakland, HI. | 0994 |
| Lyons, W. E. (B) | 354 Hobart St., Oakland, HO. | 5325 |
| Maurer, George J. Co. (B) | 50 York Drive, Oakland, HU. | 3457 |
| Nordstrom, David H. (B) | 354 Hobart St., Oakland, GL. | 7400 |
| Pedgrift, James H. (B) | 4106 Broadway, Oakland, HU. | 1300 |
| Petersen, George (B) | 1841 Bancroft, San Leandro, TR. | 2043 |
| Petersen, James B. (B) | 4021 Agua Vista, Oakland, FR. | 9887 |
| Schultz, Herbert (B) | 811 Mendocino, Berkeley, AS. | 2360 |
| Sullivan & Sullivan (B) | 2653 Best Ave., Oakland, AN. | 4724 |
| Thornally, W. C. (B) | 354 Hobart St., Oakland, GL. | 8476 |
| Westlund, Fred J. (B) | 354 Hobart St., Oakland, GL. | 7400 |

Associate Members

| | | |
|-------------------------------------|---------------------------------|------|
| Berkeley Building Materials Co. |Masonic and Brighton, BE. | 2280 |
| Central Building Material Co. |915 Antonio, TR. | 9326 |
| Contra Costa Building Materials Co. |808 Gilman St., BE. | 3462 |
| Cowell, Henry, Lime & Cement Co. |81 Franklin, HI. | 3398 |
| Davis Co., Jas. A. |517 Fairview, HI. | 3166 |
| Lannon Bros. Mfg. Co. |5th and Magnolia, GL. | 3663 |
| Makin & Kennedy, Inc. |101 Fourth St., HO. | 0626 |
| Melrose Building Materials Co. |Tidewater Ave., FR. | 5787 |
| Oakland Building Material Co. |5000 Broadway, HU. | 6300 |
| Oakland Planting Mill Co. |2nd and Washington, LA. | 5503 |
| Pacific Coast Aggregates, Inc. |Broadway and Water, HI. | 0770 |
| Powell Bros., Inc. |Harrison and Pearl, AL. | 0630 |
| Sunset Lumber Co. |400 High St., AN. | 1000 |
| Tilden Lumber Co. |University Ave., BE. | 0677 |
| Transite Concrete Co. |Foot.....2500 Peralta, TE. | 0720 |

SAN DIEGO CHAPTER

Spreckels Theater Bldg.—Main 4289—San Diego, Calif.

R. E. Hazard, President M. A. Mathias, Manager
Fred Jarboe, Vice-President

| | | |
|--------------------------------|--|--------|
| Carroll, B. C. |4396 Maryland St., Hillcrest | 5274-M |
| Daley Corporation (HP) |4430 Boundary St., Randolph | 1136 |
| Dennis Constr. Co., V. R. (HP) |Box 183, Sta. A, Hillcrest | 8293 |
| Ford, E. Paul (HP) |Box 201, E. San Diego, Randolph | 5103 |
| Golden, M. H. (B) |404 California Bank Bldg., Franklin | 7201 |
| Grove Cecil B. Co. |317 University Ave., BE. | 7474 |
| Hazard Constr. Co., R. E. (HP) |2508 Kettner Blvd., Franklin | 6315 |
| Jarboe Constr. Co. (B) |208 Spreckels Theatre Bldg., Franklin | 3792 |
| Kier Const. Co., W. E. (B) |First National Bank Bldg., Main | 2427 |
| Casson, Jack A. (HP) |Hayward, Calif., Hayward | 4752 |
| Miracle Constr. Co. (HP) |Box 601, E. San Diego, Main | 2295 |
| Penick & Sons, T. B. (HP) |3075 L St., Main | 4582 |
| Stroud Bros. & Seabrook (HP) |P. O. Box 158, La Mesa, | 339 |
| Watson & Sutton (HP) |P. O. Box 396, Hillcrest | 8741 |

NORTHERN CALIFORNIA CHAPTER

206 Sansome St.—Garfield 7107—San Francisco, Calif.

C. W. Wood, President Geo. C. Pollock, Vice-President
Floyd O. Booe, Secretary-Manager

| | | |
|--------------------------------------|---|--------|
| Atkinson, Lynn S. (HPR) |1316-17 Edwards & Wildey Bldg., L. A., | 7451 |
| Atkinson, Guy F. Co., Inc. (BHPR) |601 Russ Bldg., S. F., Sut. | 3629 |
| Ball, N. M. (HP) |1889 Yosemite Rd., Berkeley, AS. | 6722 |
| Basalt Rock Co., Inc. (HP) |900 8th St., Napa, Napa | 105 |
| Bechtel Co., W. A. (BHPR) |155 Sansome St., S. F., CA. | 0780 |
| Bevanda, M. J. (HP) |319 Elks Bldg., Stockton | 7470 |
| Bishop, E. B. (HP) |900 Forum Bldg., Sacramento, Capitol | 2500 |
| Bodenhamer Const. Co. |Box 643, 354 Hobart St., Oakland | |
| Calif. Const. Co. (BHPR) |715 Standard Oil Bldg., S. F., DO. | 4820 |
| Casson, Jack A. (HP) |Hayward, Calif., Hayward | 4752 |
| Clark & Henry Const. Co. (HP) |564 Market St., S. F., DO. | 2903 |
| Colley, W. C. |35 Northampton Ave., Berkeley, Ashbury | 1323 |
| Conner, J. L. (HP) |P. O. Box No. 86, Monterey | 1137-M |
| Connolly, T. E. (BHPR) |461 Market St., S. F., Kearny | 6408 |
| Coyne, R. A. (HP) |1043 38th St., Oakland, Olym. | 9391 |
| Currie, James (HPR) |1100 Peninsula Ave., Burlingame, Burl. | 3497 |
| Delin, C. M. (HPR) |206 Sansome St., San Francisco, Gar. | 7107 |
| Dodge Bros., Inc. (HP) |Fallon, Nevada, Main | 1761 |
| Drumm, A. J., Jr. (HP) |70 Bellevue, Fremont, Calif. | |
| Eaton & Smith (HPR) |715 Ocean Ave., San Francisco, DE. | 6700 |
| Fairbanks, A. J. & J. L., Inc. (HPR) |Linden Ave., So. S. F., | 436 |
| Fitzmaurice, J. H. (HP) |2857 Hannah St., Oakland, Higate | 2490 |
| Force Construction Co. (HP) |461 Market St., S. F., Kearny | 6408 |
| Frederickson Bros. (BHP) |First Natl. Bank Bldg., Stockton | 5974 |
| Frederickson & Watson Const. (BHPR) |Blids. Ex., Oak., CL. | 7517 |
| French, George J., Jr. (HP) |P. O. Box No. 675, Stockton | 6676 |
| Gerwick, Ben C., Inc. (HP) |112 Market St., S. F., SU. | 8454 |
| Grainfield, Farrar & Carlin |67 6th St., HE. | 4760 |
| Granite Construction Co. (BHPR) |Watsonville, California, | 988 |

| | | |
|---------------------------------------|--|--------|
| Hanrahan Co. (HP) |Hobart Bldg., San Francisco, GA. | 1639 |
| Healey-Moore Co. (P) |34 High St., Oakland, AN. | 0466 |
| Hemstreet & Bell (HP) |411 "C" Street, Marysville, | 439 |
| Hodgman & MacVicar (HPR) |714 Plymouth, Pasadena, Mer. | 1503 |
| Holland, J. P., Inc. (HPR) |1834 McKinnon Ave., S. F., MI. | 5400 |
| Isbell Const. Co. (HP) |Carson City, Nev., Ph. 1754 (Also Fresno) | |
| Jenkins, W. A. |3500 Y St., Sacramento, Latvala | 574 |
| Jones & King (HPR) |Hayward, Calif. | |
| Kaiser Paving Co. (BHPR) |Latham Square Bldg., Oak., HI. | 2614 |
| Kern & Kibbe (HPR) |290 E. Salmon St., Portland, Ore., East | 4116 |
| Knapp, J. F. (HPR) |916 Financial Center Bldg., Oak., GL. | 1620 |
| Larsen Bros. (HP) |Galt, Calif. | |
| Lee, U. B. (HP) |10059 Carpenter St., San Leandro, Sweet. | 1717 |
| Le Tourneau, R. (HPR) |12 Moss Ave., Stockton, | 571 |
| Lord & Bishop (HPR) |Native Sons Bldg., Sacramento, Latvala | 3981 |
| Lovelace, Nate (HP) |3433 "N" St., Sacramento, Capitol | 1990 |
| McDonald, D. (HPR) |204 23rd St., Sacramento, Cap. | 1806 |
| McCillivray Const Co. (HPR) |Box 927, Sacramento, Capital | 2170 |
| McMillan, W. K. (HP) |2088 Howard St., San Francisco, MA. | 3876 |
| Merced-Fraser Co. (BHPR) |Eureka, Eureka | 808 |
| Nevada Contracting Co. (HPR) |Fallon, Nevada, Phone | 1851 |
| Nevada Rock & Sand Co. (HP) |Reno, Nevada, Reno | 5291 |
| Nightbert, Fred W. Co. (HP) |No. 10 "H" St., Bakersfield | 3842 |
| Phillips Co., John (HP) |582 Market St., San Francisco, KE. | 4471 |
| Pollock Co., Geo. (HPR) |Forum Bldg., Sacramento, Main | 1457 |
| Rohl, H. W. |4351 Alhambra Ave., Los Angeles | |
| Six Companies, Inc. (BHPR) |Financial Center Bldg., S. F., Gar. | 3842 |
| Skeels & Graham Co. (HPR) |576 E. Roseville, Calif. | |
| Siems-Helmers, Inc. (BHPR) |206 Sansome St., S. F., DA. | 5235 |
| Tedford, J. N. (HP) |Fallon, Nevada, Main | 461 |
| Teichert, A., & Son, Inc. (HP) |1846 37th St., Sacramento, Main | 6586 |
| Trenton Const. Co. (HP) |79 Grove St., Berkeley, BE. | 7091 |
| Ulrich Const. Co., Geo. J. (BHP) |Modesto, Modesto | 921 |
| Valley Paving & Construction Co. (HP) |405 Bank of America Bldg., Fresno, | 3-7418 |
| Van der Hellen & Pierson (HPR) |Castaic, Calif. | |
| Wood Eng'g. Co. (HP) |315 Montgomery St., San Francisco | |
| Wood, C. W. (HP) |P. O. Box 1435, Stockton, | 8743 |
| Young, Clarence (HP) |5250 Broadway Ter., Oakland, OL. | 3743 |
| Young & Son Co., Ltd. (HP) |599 Colusa Ave., Berkeley, Berk | 5551 |

Associate Members

| | | |
|--|--|------|
| American Bitumuls Co. (Bitumuls) |200 Bush St., San Francisco | |
| Anderson Bros. Supply Co. (Commissary) |Bendler City, Nev. | |
| Andrews, F. T. Co. (HP) |1650 Russ Bldg., S. F., KE. | 7712 |
| Associated Oil Co. (Asso. Prod.) |79 N. Mont'g St., S. F., KE. | 4800 |
| Austin Western Road Machinery Co. (Road Machinery) |435 Brannan St., San Francisco, DO. | 2183 |
| Autocar Truck & Service Co. (Autocar Trucks) |326 Howard St., | |
| Bacon, Edward R. Co. (Road Machinery) |Folsom & 17th Sts., S. F. | |
| Blake Bros. Co. (Crushed Rock) |Balboa Bldg., San Francisco | |
| Calaveras Cement Co. |315 Montgomery St., San Francisco | |
| Calif. Corr. Culvert Co. (Corr. Pipe) |5th & Parker, W. Berkeley | |
| Cement Gun Construction Co. (Cement Guns) |98 Stur St., S. F. | |
| Contractors Insurance Agency (Insurance) |206 Sansome St., S. F. | |
| Cowell Lime & Cement Co. (Cement) |2 Market St., San Francisco | |
| Davis, Norris K. (Equipment) |400 7th St., San Francisco | |
| Garfield & Co. (Equipment) |315 Montgomery St., San Francisco | |
| Geiger Iron Works (Equipment) |P. O. Box 423, Stockton | |
| Granite Rock Co. (Crushed Rock) |Watsonville | |
| Harneschrofer Sales Corp. (Equip.) |82 Beale St., San Francisco | |
| Harron, Rickard & McConne Co. (Equip.) |1600 Bryant St., S. F. | |
| Harvey, J. P. (Equip.) |400 Paul Ave., San Francisco | |
| Murray & Ready (Labor Agency) |784 Howard St., S. F. | |
| Northwest Engineering Co. (Northwest Shovels) |23 Main St., S. F. | |
| Pacific Coast Aggregates |700 Wells Fargo Bldg., S. F., DA. | 727 |
| Pacific H. B. A. Steel Co., Inc. |540 Brannan Bldg., San Francisco | |
| Pacific Port. Cement Co. (Golden Gate) |Hunter-Dulin Bldg., S. F. | |
| Pland-Evans (Commissary) |Merchants Ex. Bldg., S. F., GA. | 5923 |
| Robinson Tractor Co. (Caterpillar Tractors) |1705-09 E. 12th, Oak. | |
| Santa Cruz Portland Cement Co. (Santa Cruz) |Crescent Bldg., S. F. | |
| Shell Oil Co. (Shell Products) |100 Bush St., San Francisco | |
| Soule Steel Co. (Reinforcing Steel) |1750 Army St., San Francisco | |
| Spears-Wells Machinery Co. |9th and Cedar Sts., Oakland | |
| Standard Oil Co. of Calif. (Stand. Prod.) |Standard Oil Bldg., S. F. | |
| Union Oil Co. of Calif. (Union Products) |A. and W. | |
| United Commercial Co., Inc. |234 Steuart St., San Francisco | |

PACIFIC NORTHWEST BRANCH

West 515 First Avenue—Main 6822—Spokane, Wash.

JAS. MURDOCK, President H. V. BOGERT, Rec. Secretary J. B. WARRACK, Treasurer
J. C. COMPTON, Vice-President P. L. CROOKS, Vice-Pres. and Secretary

PORTLAND CHAPTER

Multnomah Hotel Lobby—Atwater 7883—Portland, Ore.

Paul L. Crooks, President Philip Hart, 2nd Vice-President
Ross B. Hammond, 1st Vice-President J. A. Lyons, Treasurer
G. B. Herington, Executive Secretary

| | | |
|-------------------------------|--------------------------------|------|
| Anderson Construction Co. |682 E. 69th St., N., Gar. | 0474 |
| Andrews Construction Co. (BH) |102 N. Broadway, Br. | 5521 |
| Atkinson, Guy F. & Co. (BHP) |Yeon Bldg., Atw. | 6161 |
| Badraun, J. J. (HP) |681 E. 42nd St., Gar. | 3945 |
| Baker Construction Co. (B) |202 Multnomah Hotel, Atw. | 7441 |
| Christensen, Fred, Inc. (BHP) |187 E. 34th St., Ea. | 8934 |

| | | |
|-------------------------------------|--------------------------------------|------|
| Cochrane Construction Co. (HP) |65th & Ainsworth, Tr. | 5944 |
| Compton, J. C. (HP) |McMinnville, Ore., McM. | 106 |
| Crooks, P. L., Inc. (HPR) |Henry Bldg., Atw. | 7767 |
| Dann, J. L. (HP) |424 1st St., Atw. | 837 |
| Douglas-Hammon Const. Co. (B) |307-8 Studio Bldg., Be. | 4444 |
| Douglas, A. R. (HPR) |Kalispel, Montana | |
| Edlefsen-Weygandt Co. (HP) |Foot of Jefferson, Atwater | 4090 |
| Endicott, Wm. |Kamela, Oregon | |
| Gates, E. Co. (HPR) |Worcester Bldg., Atw. | 6220 |
| Gilpin Construction Co. (HPR) |Hoquiam, Wash. | |
| Grays Harbor Constr. Co. (BHPR) |500 N. Front St., Br. | 3030 |
| Greenwood, A. C. (HPR) |826 E. Caruthers, Lan. | 2479 |
| Griffin, K. L. (BHP) |552 Sherlock Bldg., Atw. | 8316 |
| Guthrie & Co. (BHPR) |1312 Public Service Bldg., Atw. | 2159 |
| Hammond, Ross B. (B) |1312 Public Service Bldg., Atw. | 2159 |
| Hauser Bros. Construction Co. (PHR) |Multnomah Hotel, Atw. | 7441 |

Class of Construction: (B) Building; (H) Highway; (P) Public Works; (R) Railroad.

| | | |
|-------------------------------------|---|------|
| Hoffman, L. H. (BP) | Public Service Bldg., Atw. | 3181 |
| Jacobsen Construction Co. (BP) | McKay Bldg., Atw. | 5027 |
| Jacobsen-Jensen Co. (PH) | 407 Stanton, Gar. | 3313 |
| Johnson Contract Co. (HPR) | 414 Exchange Bldg., Atw. | 0678 |
| Johnson-Gardner Co. (HPR) | 414 Exchange Bldg., Atw. | 0678 |
| Kern & Kibbe (HPR) | 290 E. Salmon St., Ea. | 1116 |
| Kuckenber & Wittman (BPR) | 226 Board of Trade Bldg., Br. | 1999 |
| La Pointe Constr. Co. | 629 E. 54th St. N., Gar | 8312 |
| Lindstrom & Feigenson (BPHR) | 421 Rlwy. Exch. Bldg., Atw. | 2662 |
| Lyons, J. A. (BPHR) | 1001 Broadway, Boise, | 2841 |
| McNerney Bros. (BPHR) | 201 Worcester Bldg., Atw. | 6444 |
| Midstate Contract Co. (HP) | Box 33, Yakima, Wash. | |
| Milne & Dussault (PH) | 1853 E. Broadway, Tab. | 7277 |
| Morrison & Knudsen (BHR) | 319 Broadway, Boise, | 2662 |
| Morgan, T. M. (H) | 516 Edwards & Wilder Bldg., Los Angeles | |
| Morrison Trucking Co. (BPHR) | 391 E. 6th St., Ea. | 8327 |
| Newport Construction Co. (PHR) | 317 Exchange Bldg., Atw. | 7209 |
| Pacific Bridge Co. (BPHR) | Fl. of E. Salmon St., Ea. | 2164 |
| Parker & Banfield (HPR) | 94 E. 17th St., Sel. | 6182 |
| Parker-Schram Co. (PHR) | Couch Bldg., Atw. | 4375 |
| Peck, E. C. & Co. (PH) | Drain, Oregon | |
| Puckett, W. H. Co. (PHR) | 319 Broadway, Boise, Idaho | 2263 |
| Purdin, Sandebug, Elk & Lind (P) | 1180 Sandy Blvd., Wash. | 7564 |
| Quinn, J. L. (B) | Box 1107, Klamath Falls, Ore. | |
| Rebman, J. (PH) | 343 Vancouver Ave., Tr. | 7825 |
| Robertson, Hay & Wallace (B) | 605 Weatherly Bldg., Ea. | 3613 |
| *Saxton & Looney | Corvallis, Ore. | |
| Seed, John S. (B) | 201 Worcester Bldg., Atw. | 6444 |
| | Honorary Member and Director of Chapter | |
| Silbaugh, C. E. (BPH) | Burns, Ore. | |
| Shea & Co., J. F. (PHR) | 211 Henry Bldg., Atw. | 6444 |
| Stebinger Bros. (B) | Worcester Bldg., Atw. | 6444 |
| Sullivan & Doyle (PHR) | Ft. of Curry St., Atw. | 5297 |
| | Box 104, Portland, Ore. | |
| Traver, L. N. (B) | Corvallis, Ore. | |
| Unquaga Dredging & Constr. Co. (PH) | Rego, Wash. | 5296 |
| United Contracting Co. (BPHR) | 309-10 Stock Ex. Bldg., Ore. | 5296 |
| von der Hellen & Pierson (HR) | Medford, Ore. | |
| White, Ernest & Co. (B) | 309 Broadway Falls, Idaho | |
| Wolfe, O. D. (HPR) | Washington, Wash. | 7562 |
| Wren & Greenough (PHR) | 1037 Ch. of Com. Bldg., At. | 9682 |
| Wright Constr. Co. (BPH) | Aberdeen, Wash. | |
| Young, I. L. (BPH) | 524 Henry Bldg., At. | 0097 |

| | | |
|------------------------------|--------------------------|------|
| Nelson, Herman | 593 Glenn Ave. N., Gar. | 2508 |
| Nilson, Emil | 449 E. 48th N., Tr. | 6433 |
| Quigley, Wm. | 56 E. 52nd, Tab. | 9057 |
| Ryan, Wm. F. | 1211 E. Kelly St., Tab. | 1860 |
| Schenk, A. J. | 1275 Prescott, Tr. | 7432 |
| Schmitt, H. A. | 5830 36th Ave. SE., Sun. | 7865 |
| Seed, J. S., Honorary Member | Worcester Bldg., Atw. | 6444 |
| Stuart, Peter | 755 Irving, Bea. | 3673 |
| Twitchell, P. A. | 567 E. 35th St. N., Tr. | 1579 |
| Winship, T. B. | 461 E. 48th N., Tr. | 7706 |
| Henkel-Shackelford | 1040 Minnesota, Univ. | 0904 |
| V. D. Reverman | 353 E. Burnside | |
| L. L. Hickok | 1111 Sandy Blvd. | |
| Fred Sandstrom | 201 Worcester Bldg. | |
| C. W. Christiansen | 445 Multnomah | |

SPOKANE CHAPTER

West 515 First Avenue—Main 6822—Spokane

| | |
|-----------------------------------|--------------------------------|
| Max J. Kunej, President | I. G. Anderson, Vice-President |
| Nick Norman, Vice-President | Dan Hannah, Secty.-Treas. |
| Alloway & Georg (B) | Hutton Bldg. |
| Applegate, W. E. (H) | 7 Buckingham Apts., Salt Lake |
| Auld & Shinn (B) | 1121 Indiana |
| Boudrye, Sam R. (H) | Seward, Alaska |
| Burnette, C. A. (H) | 1118 Ide Ave. |
| Byers, W. A. (H) | W. 1204 Mansfield |
| Huetter Construction Co. (HPR) | Hutton Bldg. |
| Collins, J. H. & Co. (H) | Colville, Wash. |
| Conical Building Co. (BH) | Hutton Bldg. |
| Crick, James (H) | Realty Bldg. |
| Degerstrom, N. A. (HPR) | Peyton Bldg. |
| Edwards, J. E. (H) | S. 1423 Adams |
| Geist, W. L. (H) | W. 444 23rd Ave. |
| Gumaer, Robt. M. (H) | Copeland, Idaho |
| J. T. Halin | Sun Life Bldg. |
| Hansen Construction Co. | W. 1517 Jackson |
| Harding, Geo. (H) | Walla Walla, Wash. |
| Hargrave Construction Co. (H) | W. 418 Twentieth |
| Hewett, F. R. (H) | W. 420 Twenty-second |
| Huetter Construction Co. | N. 1191 Division |
| Joslin & McAllister (H) | Realty Bldg. |
| Kunej, Max J. (H) | Hutton Bldg. |
| Lafferty, A. B. (H) | Coeur d'Alene, Idaho |
| Larson Bros. (B) | Hyde Bldg. |
| Lohrenz, J. J. (B) | Paulsen Bldg. |
| Long Oliver J. (H) | W. 1924 Mansfield |
| Lyon & Price (H) | W. 503 Fourteenth |
| March Construction Co. | W. 1313 First |
| Martin, F. E. (B) | Galax Hotel |
| McLellan, A. (B) | E. 932 Ermina |
| Medby, M. C. (B) | S. 3614 Arthur |
| Moerdt-Alene Hardware & Foundry | S. 2217 Tekoa St. |
| Morin, S. C. (B) | Paulsen Bldg. |
| Norman, Nick (B) | 231 Waverly Bldg. |
| Nyberg, Carl (H) | Realty Bldg. |
| Orion & Pan (H) | Realty Bldg. |
| Power, G. A. (H) | Realty Bldg. |
| Siems, Spokane Co. (BPHR) | Realty Bldg. |
| Standard Asphalt Paving Co. (HIP) | Chronicle Bldg. |
| Terteling, J. A., & Sons (HP) | 511 Sound Ave. |
| Tobin, James & Son (H) | W. 1901 Adams |
| Triangle Construction Co. (H) | W. 1220 Ide |
| True-House Construction Co. (B) | N. 119 Wall |
| Weber, E. A., & Co. (HPR) | S. 2008 Oneida |
| Young, Peter J. (B) | 703 Cleveland |

Associate Members

| | |
|---|---------------------------------|
| Beall Pipe & Tank Corp. | Realty Bldg. |
| Beardmore Transfer Line | S. 162 Post St. |
| Brandt Bros. | W. 14 Main Ave. |
| Coeur d'Alene Hardware & Foundry | W. 746 Wallace, Idaho |
| Commercial Importing Co. | 617 Western Ave. Seattle, Wash. |
| Consolidated Supply Co. | W. 1310 Ide Ave. |
| Construction Equipment Co. | 1118 Ide Ave. |
| Elmendorf-Anthon Co. | Sherwood Bldg. |
| Feenoughty Machinery Co. | W. 714 Adams St. |
| W. P. Fuller & Co. | N. 229 Post St. |
| General Machinery Co. | E. 3501 Riverside |
| Gladning-McBean & Co. | 524 Old National Bldg. |
| Eight N. Co. | W. 714 Adams St. |
| Hofus-Ferris Equipment Co. | W. 728 Mallon |
| Holley-Mason Hardware Co. | S. 157 Howard |
| International Portland Cement Co. | 1124 Old National Bldg. |
| James H. Jones & Co. | W. 714 Adams St. |
| Jones & Mitchell | Hutton Bldg. |
| Lehigh Portland Cement Co. | 1316 Old National Bldg. |
| Long Lake Lumber Co. | N. 348 Wall St. |
| Havesy Fuel Co. | W. 746 Division St. |
| J. E. McCovern Co. | 550 Peyton Bldg. |
| Nott-Atwater Co. | S. 157 Monroe St. |
| Old National Insurance Agency | Old National Bank Bldg. |
| A. L. Snow & Co. | 134 International Right-of-Way |
| Spokane Concrete Pipe Co. | W. 714 Adams St. |
| Spokane Culvert & Tank Co. | N. End Division Street Bridge |
| Spokane Woodworking Co. | N. 1249 Atlantic |
| Union Iron Works | E. 217 Montgomery Ave. |
| Union Oil Co. | 611 19th Street |
| Washington Brick, Lime & Sewer Pipe Co. | S. 151 Washington St. |

Affiliated Builders Division, Portland Chapter

| | | |
|------------------------------|---|------|
| Alt, Fred W. | 1118 Mallory Ave., Wal. | 2083 |
| Alynn, B. T. | 7 E. 60th St. N., Tab. | 0194 |
| Blackman, D. R. | 1140 Powell Bldg., Atw. | 2400 |
| Carson Construction Co. | 310 Oak St. | |
| Chandler Constr. Co. | Wilson Bldg., E. 42d & Sandy Blvd., Tr. | 8034 |
| Dewitt Building Co., Geo. W. | 585 E. 41st N., Gar. | 3412 |
| A. Duncan, J. A. | 585 E. 41st N., Gar. | 3412 |
| East Side Building Co. | 319 Railway Exchange Bldg., Atw. | 2662 |
| Eklund, N. O. | 1595 Sandy Blvd., Gar. | 5512 |
| Goldenberg, C. C. | Abington Bldg., Atw. | 1675 |
| Goodridge, D. A. | 44 E. 4th N., Tr. | 0945 |
| Greiling, F. H., Director | 908 E. 43rd N., Gar. | 7184 |
| Hurlbert, Russell S. | Weatherly Bldg., Gar. | 2828 |
| Irwin, A. H. | 826 E. Lincoln, Lan. | 1266 |
| Johnson & Neubert | 375 E. 52nd St., Tab. | 7277 |
| Kecher, Wm. J. | 1170 W. 62d St., Tab. | 6223 |
| Knott & Rogers | 75 E. 81st St., Tab. | 7214 |
| Krause, Rudolph K. | 75 E. 20th N., Gar. | 1783 |
| Leistner, C. | 75 E. 14th N., Gar. | 4902 |
| Moore, J. Bryson | 1444 Sandy Blvd., Gar. | 8260 |
| Murphy, John | 353 E. Burnside | |

PACIFIC

SKILL - INTEGRITY



RESPONSIBILITY

25
Years
Cups

CONSTRUCTOR

CONSOLIDATED WITH

Building and Engineering News

IN THIS ISSUE



Topping Dangerous Blossom Rock in
San Francisco Bay

By Spencer B. Lane

Revision of Compensation Insurance Rates

Law of Warranty As It Affects The Contractor

By George N. Crocker

Miscellaneous Articles of General Interest

Unit Bid Prices — Construction News

REINFORCED BRICKWORK

Structural engineers of the major Brick and Clay Products associations have successfully developed REINFORCED BRICKWORK for massive construction as evidenced by the following telegram sent from Chicago to the National Common Brick Manufacturers' Association:

**"Pennsylvania Railroad approved reinforced brickwork trestle design yesterday stop
Opens the way for immediate use of millions of brick here in Chicago for similar jobs now under construction stop"**

In the meantime, Mr. Walter R. Simons—with the assistance of such well known structural engineers as Paul E. Jeffers, Norman W. Kelch and Martin C. Poulsen—perfected Reinforced Brickwork for residences and garden walls, making possible great economy in cost of construction.

Architects, Engineers, Builders, Owners and Financiers are urgently requested to visit our Display Park, 1195 South Boyle Avenue, for a selection of designs.

SIMONS LOW ABSORPTION **BRICK**

SIMONS BRICK COMPANY

Walter R. Simons, Pres. & Gen. Mgr.

1195 S. BOYLE AVE. [8th St.]

Chicago 6121

LOS ANGELES

PACIFIC CONSTRUCTOR

With which is Consolidated Building and Engineering News

Official Publication of the Associated General Contractors of America
for the Eleven Pacific Coast States

J. P. FARRELL, *Editor*

SPENCER B. LANE, *Assoc. Editor, Assoc. M. Am. Soc. C. E.*

VOL. 15

SAN FRANCISCO, CALIF., FEBRUARY 15, 1932

No. 3

A BUILDERS' EXCHANGE— WHY AND WHAT BENEFIT?

Someone has described a Builders' Exchange as an association of business men, promoting harmony and ethical dealings between contractor, sub-contractor, material dealer, architect, engineer and owner—having for its purpose a better understanding between all parties interested, with the creed of Honesty, Skill and Efficiency, with Integrity of Purpose above reproach for the future welfare of the industry and protection of the building public.

"It is all this, and more," says Frederick W. Sanford, secretary of the California State Builders' Exchange. "Any builder who fails to join his local Exchange is making the one great mistake of his business career. Membership in the Exchange means more to the men engaged in the building business than they realize, unless they give the subject proper and thorough consideration.

"In addition to putting them in close contact with their fellow builders, it places them in a position where they may enjoy the absolute confidence of the building public, for it is a most rare occurrence to see a job that is in the hands of a man with sufficient character to enable him to be a member of his local Exchange, fail of satisfactory and prompt completion."

TWO SHIFTS A DAY WITH THE FIVE-DAY WEEK

To double the number of men employed, a working day of two shifts of five hours each in the construction industry is advocated by the California State Chamber of Commerce through the recently organized California Building Congress. Already inaugurated in San Francisco, the plan, its sponsors hope, will spread to other parts of the country, and aid in relieving widespread idleness in the building field.

The Congress has found that labor working five hours a day is actually producing more work per hour than on the eight-hour basis, according to Frederick H. Meyer of San Francisco, director of the American Institute of Architects, and chairman of the northern section of the Congress.

Thus, he points out in an appeal for cooperation sent to all members of the Congress, the decreased labor cost will offset any charges resulting from the changing of shifts. The arrangement contemplates an intermission of half an hour between shifts.

"Employers and employees," Mr. Meyer says, "are agreed that the two five-hour shifts plan can be applied with advantage to all concerned, carpenters, laborers, excavators, truck drivers and bricklayers, with perhaps

a few minor exceptions. The five-hour shift was adopted in preference to the four-hour shift, it being felt that four hours' pay would not provide a living income.

"The plan will provide a fifty-hour week as opposed to a forty-hour week under the universally adopted five-day week. It is obvious that this will effect a saving in overhead to the contractor, and will also deliver the building to the owner in a short period of time, which will be reflected in the return on the investment.

"The Bay District Council of Carpenters, in conjunction with the leading contractors of San Francisco, have officially endorsed the five-hour shift plan, which, on January 18, became effective covering all the carpentry work on the War Memorial Building in the San Francisco Civic Center. Eight of the leading contractors in San Francisco have agreed to put this plan into effect on any jobs they now have under way. With this start it is hoped that other trades will be induced to follow."

VIGOROUS OPPOSITION TO DIVERSION OF GAS TAX FUNDS

Vigorous opposition to the proposed diversion of gasoline tax money from its present use for maintenance and construction of highways to payment of interest and redemption on outstanding bonds was voted last week by the Board of Directors of the San Francisco Chamber of Commerce. This action was taken as an endorsement by the board of a report from the chamber's Bridge and Highway Committee.

The board also approved the committee's report opposing Senate Constitutional Amendment No. 22, which proposed to divert from the highway fund to the general fund the state's share of transportation taxes now paid by buses and trucks operating on fixed termini.

The report of the chamber's highway committee follows:

1. DIVERSION OF GAS TAX FUNDS: It has been proposed by the State Director of Finance that gasoline tax money, now used exclusively for maintenance, reconstruction and construction of highways, be diverted from these purposes for the payment of interest and redemption on outstanding highway bonds. Interest and redemption payments on these bonds, which have approximately thirty years yet to run, are now being paid from the general fund. This would mean that during the next biennium approximately \$8,800,000 would be diverted from present highway purposes, and each biennium thereafter during the life of the bonds, slightly less sums would be paid out, to the detriment of our highway system.

During the past two years the Department of Public Works has completed an engineering and economic study of state highway needs and finance in California for the

(Continued on Page 6)

Limit Stakes and Levels

By THE EDITOR

U. S. War Department has approved plans for the San Francisco Bay Bridge, eliminating the greatest obstacle to the \$75,000,000 project. The department acted only after careful consideration of all objections had been made by its engineers and by the Hoover-Young Bridge Commission, according to United Press dispatches from Washington. The plan approved is that of a span from Rincon Hill to Oakland via Yerba Buena Island. Permission already has been granted by the secretaries of war, navy and commerce to cross the island.

Federal-aid road work in the national forests of California progressed more rapidly in the fiscal year 1931 than in any previous year. A total of approximately \$3,000,000 was available for construction and improvement of roads and trails in national forests in California, the largest amount in any previous fiscal year. For the fiscal year 1931, California received \$1,425,000 for major roads which form part of the State and county highway system, and \$470,000 for minor roads within the national forests. An emergency appropriation for the relief of the unemployed added another \$500,000 for major highways and \$615,000 for minor roads. The total Federal forest road money spent to date in the national forests of this State is approximately \$19,000,000.

In the forest highway system there are now 80 projects with a total length of 2,300 miles. About half of this mileage has been improved to a satisfactory standard. The total mileage of the minor road system in the national forests is 20,000, of which about 15,000 miles has been improved.

General contractors for highway construction for the State of New Jersey are required to have their sub-contractors furnish surety bonds, it has been ruled by the highway commission. This rule was made some time ago and was intended to furnish a guarantee that the sub-contractors' bills would be paid. It was found by the highway commission that the general contractors' bonds would not cover any losses sustained by a default of the sub-contractor. A further ruling on this same subject has just been made by the commission, requiring that the bonds must be drawn in favor of the general contractor and the State of New Jersey as joint obligee. It is further required that the bond shall recite the fact that the original contract has been entered into as well as the sub-contract which the bond immediately covers.

The Supreme Court of Utah held, on January 23, that use of hand labor instead of machines on a public project results in substantial increase in the cost of the project, and therefore is unconstitutional. The court granted a writ of prohibition stopping Salt Lake City from proceeding with the construction of a \$600,000 storm sewer on a minimum-wage, hand-labor basis, holding that the program violates a section of the constitution which specifies that money appropriated for one purpose cannot be diverted to another purpose.

State highway construction in California in 1932 will total more than \$23,000,000, according to a report filed with Governor Rolph by Walter Garrison, State Director of Public Works. Highway expenditures last month totaled \$4,849,000.

BINGHAM-GOSS BILL DRAWS

PROTEST AT NATIONAL MEET

The Bingham-Goss bill, HR 4680 and S 437, now pending in Congress, and providing for the listing of sub-contractors on all government work, is opposed by the Associated General Contractors of America, which body, at its annual convention in Milwaukee, last month, adopted a resolution declaring the proposed measure to be contrary to public interest and that enactment of such laws creates an impractical condition in the execution of the work and would add greatly to the contract administration cost.

The resolution adopted at the Milwaukee convention is published herewith:

BINGHAM-GOSS BILL

1. Proposal has been made to Congress on HR 4680 and S 437, providing that bidders for the construction requirements of the Federal government be required to set forth in such bids a statement of the names of all sub-contractors, material men and supply men whose services are to be used on the project, the purpose being to eliminate the shopping of bids after the principal contract has been let.

2. We hold that everyone doing business within the industry has it entirely within his power to determine in advance of such dealings the business characteristics of the men he proposes to do business with. That in the great majority of cases it is the disregarding of sound business practices that creates trouble. The eagerness to accept work at any price, to gamble on outwitting the other fellow, or performing the impossible, and in many cases just plain ignorance, can be traced as the direct causes of the difficulty.

3. We believe that the relations, as existing between the general contractor, the sub-contractor, and the material-men, must be guided and controlled only by the establishing of proper understanding and the use of higher ethics, and that such relations cannot be controlled or bettered by legislation.

We hold that to enact the above law creates an impractical condition in the execution of the work and would add greatly to the contract administration cost. The number and variety of performing agencies required on any one operation, the change of circumstances during the duration period of the contract, and the very complicated and involved nature of construction enterprises, generally all contribute to this situation.

THEREFORE, BE IT RESOLVED, By the Associated General Contractors in convention assembled, this 21st day of January, 1932, that they oppose the enactment of legislation of this character as being contrary to the public interest, that they attempt to interest the responsible elements within the industry to the value of dealing only with responsible people and that they call the attention of all elements in the industry to the value of conferring with established Credit Bureaus as sources of information to guide them in their dealings.

BE IT FURTHER RESOLVED, That copies of this resolution be forwarded to members of Congress and to the heads of the various executive departments of the Federal government.

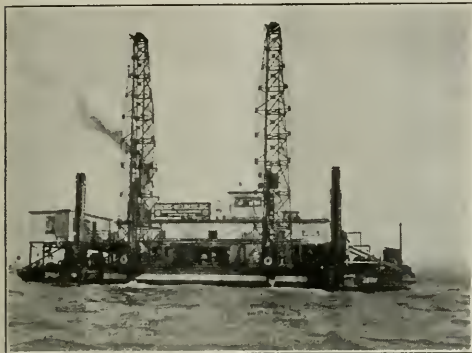
WILSON PAYS US A VISIT

Guy H. Wilson, superintendent of construction for Dodge Bros., Inc., general engineering contractors of Fallon, Nevada, was a visitor to the office of Pacific Constructor last week. His company is now completing the construction of a bridge for the Nevada State Highway Commission over the Virgin River below Las Vegas. The structure will be opened for traffic on February 26. Wilson has been engaged in the construction field on projects from Mexico City to Juneau, Alaska. Previous to joining Dodge Bros. he was for six years associated with the contracting firm of Barrett & Hilp of San Francisco.

Topping Dangerous Blossom Rock--San Francisco Bay

By SPENCER B. LANE

IN SAN FRANCISCO BAY, about midway between Alcatraz Island and Yerba Buena Island, Blossom Rock has long threatened passing ships from its ambush beneath the waters. In 1870 its top was removed to a depth of 24 feet. In 1903 it was again cut down; a minimum depth of 30 feet was provided. Increased draft of modern ships made this depth inadequate. It is now being cut down to provide a depth of not less than 40 feet at mean low water.



Drill Barge, Showing Drill Towers. Note Lever Room Behind Right-hand Tower.

Rock is being removed from an area of 1.1 acres. When the work was started the controlling depth was 30.5 feet. Due to irregularities of the surface the average depth below mean low water was about 34 feet. This meant that about 10,700 cubic yards of material would have to be removed above the 40 foot plane. The contract calls for a minimum depth of 40 feet. It is quite impractical to leave a smooth even surface at that depth; some additional material must be removed. It is estimated that the work will involve the removal of about 14,500 cubic yards of material.

Siems-Helmets, Inc., is the contractor. The rock is being broken up by drilling holes to elevation 50 feet. These holes are spaced at 8 foot centers. By spacing the holes in this way and carrying them to a point 10 feet below the required depth it is expected that there will be no points of rock nearer to the surface than the 40 feet specified. The holes are loaded as they are drilled. As soon as 9 holes have been drilled and loaded the group is fired. The shattered rock will later be removed by a dredge. It will be towed away in barges; dumped where it will not interfere with navigation.

The holes have to be very accurately located. In order to do this the contractor constructed two steel tripods. These tripods were securely anchored to the rock. They were of sufficient height to extend a few feet above the water at high tide. A wire was stretched from the top of one tripod to the top of the other. By means of flags on this wire it was found to be a simple matter to place each hole within a few inches of where it was wanted.

The contractor designed and built the drill barge particularly for this work. The hull is of timber. It is 34

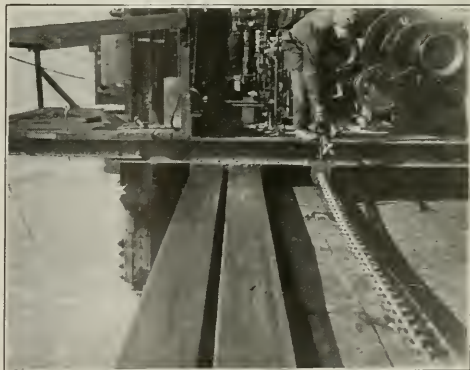
feet wide; 108 feet long. It carries two steel towers—each 65 feet high—for handling the drills. These towers are built so that they can be moved along one side of the barge to the position desired. A track of steel "H" sections is provided.

Each tower has a guide, a drill column, a drill frame, and an Ingersoll-Rand X-80 air drill. The drill columns and drill frames are raised or lowered by Ingersoll-Rand air hoists. Compressed air for the drills and hoists is furnished at 125 pounds pressure by steam driven Worthington compressors; total capacity 800 cubic feet.

The drill barge is equipped with two 100 H. P. steam boilers, a steam pump which delivers water for the drills, and a steam driven electric generator which delivers 7 K. W. of direct current at 110 volts. Specially built American Hoist and Derrick Co. steam hoists are provided for each anchor line and for each spud. There is storage capacity for 14,000 gallons of water and 5,000 gallons of fuel oil.

The drill barge is held in position by six anchors. Three anchor lines come to each end of the barge. Each anchor line is permanently secured to a steam hoist. These six hoists, as well as the hoists for the spuds, are directly controlled from a lever house on the roof of the barge. By slacking on some anchor lines, taking in on others, the operator in the lever house can spot the barge exactly where it is wanted.

Blossom Rock is subject to strong tidal currents, ground swells, and choppy seas. It is also close to the steamer lanes; is subject to the swells from passing boats. In order to make the drill barge a firm working platform it is provided with four 73 foot steel spuds. Each spud is made of three structural "I" beams securely riveted together. The man in the lever room first spots the barge by means of the anchor lines. He then lowers the spuds to the bottom by means of the steam hoists. These hoists are sufficiently powerful to raise the barge three feet above its floating position in the water; put part of its weight on the spuds, which act as columns. In this position the anchor lines steady the barge. This holds the barge still;



Moving Drill Derrick on Rails with Hydraulic Cylinder and Endless Chain.

Compensation Insurance Rates Revised

For the information of contractors who may be bidding on projects which may extend beyond the expiration date of their workmen's compensation insurance policies issued in 1931, we are listing below the principal classifications and rates for construction operations under the 1932 workmen's compensation insurance manual, issued by the California Inspection Rating Bureau.

The revised manual contains the rules, classifications and rates governing the writing of workmen's compensation insurance in the State of California, and is effective for NEW and RENEWAL business ONLY, on and after January 1, 1932, 12:01 a. m.

No policy may be CANCELLED and rewritten or ADDITIONAL POLICIES written for any risk for the purpose of avoiding the above rule.

Complete copies of the General Contractors' Schedule will be furnished to any A.G.C. member upon request.

The manual rates as shown are, of course, subject to modification under the experience rating plan in accordance with the individual experience of each contractor who has sufficient premium to qualify for the plan.

Attention is particularly directed to the classifications and rates for street or road construction. Under the previous manual, effective March 1, 1931, all street or road construction work was included under one classification, No. 6042, at the manual rate of \$4.31. This work has now been segregated into the three major divisions as shown below, No. 5506, paving, etc.; No. 5507, grading, etc., and No. 5508, rock quarries and crushing.

Another material change in the manual is that classification No. 5606, supervising employees, and No. 5604, watchmen and timekeepers. The manual is now available to building contractors only and not to engineering contractors.

GENERAL CONTRACTORS' SCHEDULE CALIFORNIA COMPENSATION MANUAL

Effective January, 1, 1932

| Number Code | Engineering Construction Classifications | MANUAL RATE per \$100 of Remuneration | |
|-------------|---|---------------------------------------|----------|
| | | New R'te | Old R'te |
| 5203 | Bridges, Concrete, where floor is more than ten feet above ground or span exceeds twenty feet—including piers or abutments—excluding excavation, pile driving or all work in tunnels, subways and caissons. (Payroll to include employees engaged in making, setting up, and taking down forms, scaffolds, false work and concrete distributing apparatus) | \$10.15 | \$ 9.76 |
| | Bridge Building—masonry } (Will be rated according to classification applying to the work performed) | | |
| | Bridge Building—wood } | | |
| 5067 | Bridge Building—metal..... | 16.53 | 16.08 |
| 5403 | Carpentry—N. O. C. | 6.22 | 6.21 |
| 9078 | Commissary Work—cooks, waiters and other employees engaged in furnishing board for employees | 1.42 | 1.67 |
| 5213 | Concrete Construction (N. O. C.) excluding excavation, pile driving, and all work in tunnels, subways or caissons (N. P. D.) with No. 5203, "Bridges or Culverts, etc." and 5506, "Street or Road Construction, etc.") Payroll to include employees engaged in making, setting up, and taking down forms, scaffolds, false work and concrete distributing apparatus | 6.36 | 5.91 |
| 6002 | Dam Construction—earth—including all operations. Payroll to include drivers, chauffeurs and their helpers | 12.44 | 7.86 |
| 5207 | Dam Construction—concrete—including all operations. Payroll to include employees engaged in making, setting up, and taking down forms, scaffolds, false work and concrete distributing apparatus | 16.58 | 16.17 |
| 6219 | Excavation—for cellars or for foundations of buildings, bridges, retaining walls or dams, excluding pile driving, shaft sinking, caisson or coffer-dam work. Payroll to include drivers, chauffeurs and their helpers..... | 5.60 | 6.15 |
| 6229 | Irrigation or drainage systems—construction—excluding pile driving, dredging, tunneling and dam or sewer construction..... | 3.83 | 4.08 |
| 6005 | Jetty and Breakwater Construction—all operations, excluding caisson or coffer-dam work..... | 9.34 | 9.12 |
| 6003 | Pile Driving—including timber wharf building..... | 13.38 | 13.06 |
| 6701 | Railroad Construction—all operations, excluding bridge building, tunneling, laying and relaying of tracks and the construction of elevated railroads. Payroll to include drivers, chauffeurs and their helpers | 5.33 | 5.96 |
| 1620 | Quarries—crushed stone, rip rap, rubble or slate—with or without the operation of crushers. Payroll to include drivers, chauffeurs and their helpers, and all employees engaged in the construction, repair and maintenance of all buildings, structures or equipment, including installation of machinery, shall take the rate for "Quarries"..... | 11.95 | 11.63 |
| 6301 | Sewer Construction—all operations—excluding tunneling except at street crossings. Masonry work in connection with sewers must take the sewer rate and not the masonry (N. O. C.) rate.... STREET OR ROAD CONSTRUCTION: (Code No. 6042 in the 1931 Manual)..... | 10.23 | 9.19 |
| | This classification No. 6042 has been eliminated from the manual effective January 1, 1932, and in lieu thereof there are substituted classifications No. 5506, No. 5507 and No. 5508 as follows: | | 4.31 |
| 5506 | Paving or surfacing—all kinds—including incidental field plants—excluding grading, clearing and grubbing right-of-way, bridge or culvert building, tunneling, sewer construction, quarrying, stone crushing and sand and gravel digging. Payroll to include drivers, chauffeurs and their helpers..... | 4.05 | |
| 5507 | Grading—all operations of bringing roadbed to grade, including clearing and grubbing right-of-way and temporary surfacing excluding bridge or culvert building where floor is more than 10 feet above ground or the entire span exceeds 20 feet; and excluding tunneling, sewer construction, quarrying, stone crushing and sand and gravel digging. Payroll to include drivers, chauffeurs and their helpers | 5.33 | |

| | | | |
|------|--|-------|-------|
| 5508 | Rock Quarries and Stone Crushing Plants—operated in connection with street or road construction operations, including all employees hauling to and from quarries, crushing plants or road..... | 11.95 | |
| 6251 | Tunneling—all work to completion, including lining—excluding subway construction | 12.12 | 11.83 |
| 1710 | Stone Crushing—no quarrying—(N. P. D.)—Payroll to include drivers, chauffeurs and their helpers and all employees engaged in the construction, repair and maintenance of all buildings, structures or equipment, including installation of machinery | 7.12 | 6.38 |

NOTE: When Quarrying and stone crushing are carried on at the same location, rate all operations as No. 1620 "Quarries."

Building Construction Classifications

| | | | |
|------|---|-------|-------|
| 5502 | Floors or Sidewalks—not reinforced—including caulking and the installation and repair of light prisms—including construction of curbs and gutters (N. P. D. with No. 5213 "Concrete Construction N. O. C.") and No. 5203 "Concrete Construction—Bridges, Etc." This classification is not available for street or road paving or surfacing..... | 2.20 | 2.12 |
| 5201 | Floors—reinforced concrete (N. P. D. with No. 5213, "Concrete Construction (N. O. C.) etc." and No. 5203, "Concrete Construction—Bridges"). Payroll to include employees engaged in making, setting up, and taking down forms, scaffolds, false work and concrete distributing apparatus..... | 3.77 | 3.70 |
| 8227 | Contractors Material and Equipment Yards. This classification is applicable only to a permanent yard maintained by a contractor for the storage of material and equipment; excluding mill operations or fabrication. It is not available for division of payroll for work done at the place where construction operations are carried on | 2.89 | 2.44 |
| 5190 | Electrical Wiring—within buildings—including installation or repair of fixtures and appliances—excluding installation of electrical machinery and auxiliary apparatus | 2.70 | 2.72 |
| 5443 | Lathing | 6.17 | 5.45 |
| 3724 | Millwright Work (N. O. C.)—erection, repair or dismantling machinery and equipment. (N. P. D. with Salvage 5701.) The payroll of employees engaged in repair, maintenance, replacement and incidental installation of machinery in existing buildings shall be included in the governing classification | 4.66 | 4.53 |
| 5022 | Masonry (N. O. C.) Masonry work in connection with sewers must take the sewer rate and not the "Masonry-N. O. C." rate | 4.69 | 4.76 |
| 5040 | Iron and Steel Erection—erecting iron or steel frame structures (no bridge building)..... | 19.65 | 20.79 |
| 5474 | Painting and Decorating or Paperhanging—N.O.C.—including incidental shop operations—excluding painting of ship hulls, steel structures or bridges..... | 4.35 | 4.12 |
| 5041 | Painting—steel structures or bridges..... | 19.65 | 20.79 |
| 5480 | Plastering (N. O. C.)—including the erection of plaster board and plaster blocks..... | 6.17 | 5.45 |
| 5183 | Plumbing (N. O. C.)—gas, steam, hot water or other pipe fitting including house connections—excluding automatic sprinkler installation. Shop payroll, if any, must be included..... | 2.33 | 2.25 |
| 5545 | Roofing (N. O. C.)—including yard employees. Payroll to include drivers, chauffeurs and their helpers | 11.55 | 11.33 |
| 5539 | Sheet Metal Work—(N. O. C.) galvanized iron, sheet iron, corrugated iron, tin or copper—erection, installation and repair | 10.42 | 11.07 |

This classification is intended to cover incidental sheet metal roofing if performed by a contractor principally engaged in sheet metal work. It is not, however, available for division of payroll to a contractor principally engaged in roofing work.

| | | | |
|-------|---|------|------|
| *5606 | Supervising Employees, not superintendents or foremen in direct charge of work which is covered under a single manual classification..... | .60 | .60 |
| *5604 | Watchmen and Timekeepers..... | 2.22 | 2.15 |

* The above classifications are available only to owners or to contractors engaged in construction of buildings and whose contract involves various manual classifications, and who may perform either the entire work or only a part, subletting the remainder.

OUTSIDE COMPETITION FEARED

"The stand of our organization during the unsettled times of the past two years has been to try to maintain the highest standard possible on the peninsula," says Dio L. Dawson, secretary of the Monterey County Builders' Exchange.

"Without reducing wages, the exchange has at the same time tried to carry out its program without injuring either the tax-payer or the potential builder.

"But due to the keen competition for local jobs on the part of outside builders and outside labor, the exchange is faced with a situation calling for careful study.

"On the Monterey post office job, for instance, it is certain there will be many outside bidders. If local builders are out of line in their prices it will be just too bad. To keep such jobs on the peninsula it will be necessary to arrange labor and material prices to correspond with prices existing elsewhere, such as in San Francisco, San Jose, Stockton, or other towns from which bidders are likely to come."

The Exchange discussed recent action of Watsonville union carpenters in lowering their wages one dollar per day voluntarily. This action equalized the Watsonville scale with the \$8 per day wage paid peninsula carpenters during the past four years, Dawson said.

**METROPOLITAN WATER DISTRICT
TO TEST PREVAILING WAGE LAW**

A suit to test the so-called prevailing wage law of 1931 in so far as it affects construction work on the Colorado River aqueduct, has been filed in the California Supreme Court by the Metropolitan Water District of Southern California, Southwest Builder and Contractor reports. The recent award of a contract to Martin Bros. Trucking Co., of Long Beach for construction of Entrance Hill road, giving access to the aqueduct route in Eagle Mountains, Riverside County, from the state highway, was made the basis of the action.

In the award of this contract, the provisions of the prevailing wage law were ignored on the advice of the district's legal counsel that it did not apply to the district. W. P. Whitsett, as chairman of the board of directors, refused to sign the contract on the ground that it was not in conformity to the prevailing wage law, and the Supreme Court was asked to issue a writ of mandate compelling him to sign. This is a test suit, the directors of the district desiring to have a judicial interpretation of the law before construction operations are started.

An effort will be made to secure an early ruling from the Supreme Court.

THE LEGAL PAGE FOR CONTRACTORS

BY GEORGE N. CROCKER, Attorney for Associated General Contractors of America, California Branch, Russ Building, San Francisco

(Mr. Crocker will discuss in future issues of the Pacific Constructor any legal points which may be of particular interest to the subscribers to this publication. Address your request to Mr. Crocker at the above address.)

The Law of Warranty As It Affects the Contractor

CONTRACTORS are frequently compelled by the nature of their business to incur large risks or to take costly steps in reliance upon the statements and representations of others.

For example, a building contractor may submit a bid for the erection of a building or the remodeling of an old building, in reliance upon the property owner's representations to him concerning the character of the subsoil of the property, which representations may be of considerable importance in the figuring of the cost of excavation, foundation construction, etc. Also, for example, a highway constructor may, in making out his bid for a highway contract, rely upon representations which have been made by the city, county, or State, as to the availability of certain filling material. And in the purchase of materials, of machinery and of equipment of all kinds, contractors must often necessarily rely upon the assurances given by the dealer that the materials or the articles being purchased are of proper quality and fit for the specific purpose for which they are intended to be used. Innumerable similar examples could be given, which are only too familiar to the average contractor.

It is an only too common occurrence that the representations made turn out to be untrue, and the contractor finds his costs mounting far above his expectations, simply by reason of the fact that he had mistakenly placed his trust in the assurances which had been given to him. Is he then without legal remedy? Must he simply charge his loss to experience or to bad fortune?

Sometimes he must. If the representation which he has relied upon is obviously false, or if he should have known it to be so by exercising such diligence as the circumstances would impel the average reasonable man to exercise, he must deem himself at least partly to blame for his loss, and must bear the consequences.

Otherwise, however, the law will provide him a remedy in the form of an action for damages for breach of warranty. For example, it has been held that where a highway contractor relied upon representations in a construction contract with the State as to available filling material, which representations were not true and the contractor was therefore put to extra expense, he had a claim against the State for breach of warranty. Actions of a similar nature have been successfully brought by building contractors against property owners, for breaches of various types of warranties.

In regard to the purchase of materials and equipment, the general rule is clearly stated in Section 1735, subdivision 1, of the California Civil Code, which provides as follows:

"Where the buyer, expressly or by implication, makes known to the seller the particular purpose for which the goods are required, and it appears that the buyer relies on the seller's skill or judgment (whether he be the grower or manufacturer or not), there is an implied warranty that the goods shall be reasonably fit for such purpose."

However, subdivision 3, of the same section sets forth an important limitation to this rule:

"If the buyer has examined the goods, there is no implied warranty as regards defects which such examination ought to have revealed."

This limitation is, of course, a sensible and just one. To put it figuratively, if a man buys with his eyes open, he must be charged with knowledge of a defect which he should have seen. But often the defect is one which is not apparent upon an examination, or the buyer relies upon the seller's skill and judgment, and the article is not fit for the purpose for which the seller knows the buyer intends it. In such cases there is no fault or carelessness on the part of the buyer, and he can claim just damages.

Under such circumstances the law implies a warranty of fitness whether the parties to the contract have expressly provided for it or not. Of course, even under circumstances where the law implies no warranty, the parties may expressly provide for one, the seller giving his definite assurance that the thing sold will measure up to the requirements of the buyer. Such warranties are of course legally binding upon the seller.

The writer has a word of caution for the contractor who may find himself the victim of a breach of warranty. Enforce your rights promptly. The law sets up time limits within which suits must be begun, and many a sound claim for damages has been lost by reason of too long delay. The only safe procedure is to promptly acquaint your attorney with the facts of your case and direct him to preserve your rights.

Another suggestion is that whenever possible it is advisable for the contractor to insist that the warranty be put in writing. Do not put too much trust in the spoken word. If the other party objects to putting his statements down in written form, you may have good reason to doubt his good faith and sincerity. Furthermore, words are uttered into the air and vanish with the wind. It is often difficult subsequently to prove they were ever uttered. For this reason the writer always advises his clients to have every warranty put in writing. Proof is thereby made simple, and the obstacle of certain rules of evidence is overcome. Nevertheless, it is true that under many circumstances oral warranties, where it can be proved they were actually made, are enforceable.

HIGHWAY MEETING SCHEDULE

The North-Central California Highway Association will hold its final meeting for the permanent organization of the group and the election of officers March 2 in the Hotel Senator, Sacramento.

According to R. K. Malcolm, acting chairman of the group, there is foreseen a serious traffic problem with the completion of the new San Francisco bay bridge. Existing facilities for handling the traffic routed by this bridge are said to be inadequate and that the budgetary set-up of the state highway commission may be changed to provide counties with funds to rectify the difficulty.

New project and routes have been discussed which will shorten and speed up travel between Marysville and Sacramento on the north to San Francisco Bay cities and San Jose on the south.

S. F. CONTRACTORS AIM TO CUT CONSTRUCTION COSTS WITH TWO 5-HOUR SHIFTS AND 5-DAY WEEK

By SPENCER B. LANE

Economy is the idea for 1932. Lower construction cost is the cry of the contractor; now more than ever before. Lower costs mean an increased volume of construction. To the owner they mean a smaller investment on which an adequate return must be assured.

Mr. Alfred B. Swinerton, President of Lindgren & Swinerton, Inc., general contractor for San Francisco's War Memorial, is experimenting with an idea to reduce construction costs. He is using two 5-hour shifts on that job, instead of the usual 8-hour shift. At present he is working only five days each week.

Our national industrial system has been built up on the basis of machine production. Any attempt to discard the machine in favor of a return to hand labor, even to meet emergency conditions, is a serious economic error. It increases the cost of the work—wastes money. The obvious course is to increase the working hours of the machine without increasing the working hours of the individual. The more hours the equipment on a job is busy, the more hours labor will be employed. In this direction lies lower cost; real progress. This can be applied to the building industry. It is bound to benefit both labor and the contractor.

The War Memorial job shows that the success of the plan depends on the co-operation secured. The use of two 5-hour shifts in place of the single 8-hour shift for a 5-day week has resulted in an increase of 25% in the weekly pay roll. Nobody's scale is reduced. Nobody is required to work more than five days each week. Twice as many men are employed as would be employed if the 8-hour shift were used. Each man's pay check is reduced from what it would be on the 8-hour shift basis. His working hours are less. It has been found advisable to retain foremen for both 5-hour shifts. They receive overtime for the time over 8 hours. This has been found desirable in order to reduce the time lost in changing shifts to a minimum.

The smaller weekly pay-check of the individual appears at first glance to be a serious drawback to the plan. This is not a fact. There will be a certain amount of building in San Francisco during 1932. This amount of building will furnish just so many man-hours of employment for the members of each trade. As long as the scale is maintained there will be just so much return to the members of each trade for the year's work. The two-shift idea means that there will be more days of employment during the year for each man. The net return received will not be changed materially. There is a probability that the volume of work may be increased. It is possible that the efficiency of the worker may be increased. These two points are taken up below.

It was expected that the two-shift idea would be favored by those trades having a large number of idle men. It was also expected that any opposition would develop from trades which were able to keep their members employed. According to Mr. Swinerton, this is exactly what has occurred on the War Memorial job. It is always difficult to change the ideas of a group unless that group is in trouble and searching for a way out.

Many experiments have demonstrated that a man can produce more per hour when he works five hours than when he works eight. It is to be expected that there will be a slight increase of efficiency under the two shift plan. The experiment has not been carried on far enough to demonstrate this as yet. There will probably be an increase

in the volume of new construction if this system can reduce costs. It is too early as yet to determine whether or not there will be a sufficient increase of efficiency to warrant an increase in the scale, at least in the near future. The expected increase in volume, which will be very difficult to determine, will be of material benefit to labor.

The expected savings to the contractor are obvious. By using his equipment 25% longer each week the cost of equipment rental will be reduced. If the equipment is owned it will mean that a larger number of jobs can be carried forward without the necessity for purchasing new equipment. It will also effect the item of general overhead by reducing the time necessary to complete the job. Neither of these items is a large part of the entire job cost, but savings are vital under present conditions. These savings represent the gross savings to be expected from the two shift idea.

From the gross savings mentioned in the paragraph above must be deducted some costs. It is quite impossible to use two shifts without developing some friction and loss of time when they change. The use of the same foremen for both shifts tends to reduce this loss to a minimum. This loss must be deducted from the gross savings mentioned above before the net savings can be determined. This loss is due to lack of cooperation. It can be reduced as the idea is understood and accepted. It will probably take some time to determine its real part in the problem.

Mr. Swinerton is very enthusiastic about the idea. He feels that it is quite practical for most of the work. There are some particular places, such as special form work, which can be best handled by a single man. These things must be worked out separately. As a whole, he feels that the idea can be worked to advantage with all trades employed on the work.

Mr. Swinerton also favors a six day week wherever possible. This means a 30 hour week for labor—a 60 hour week for the equipment. The present system of using construction equipment only 40 hours each week is an economic waste. That waste is paid for by the owner of the building. It benefits nobody. Such wastes may not be vitally important in times of activity. In times like the present they show themselves as serious hindrances.

EDITOR'S NOTE: We would be pleased to receive your comments on the use of two shifts on construction work. Any reports of similar experiments under present conditions would be particularly welcome. We believe that the matter is of vital interest to all A. G. C. members and other contractors.

Resolutions opposing diversion of gasoline revenues and replacement of machines by manual labor were adopted in closing business sessions of the American Road Builders' Association convention at Detroit, Mich., last month.

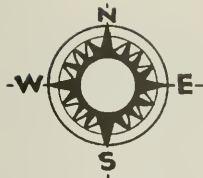
Substitution of manual labor for machines to give employment to more men was termed "momentary relief" in a resolution adopted by the association's board of directors. It urged that the practice be checked as far as possible.

Resolutions opposing gas tax diversion to other than highway purposes were adopted by the board of directors by both city and county highway officials' divisions.

Howard G. Bissell, Stockton architect, has been installed as chief draftsman in the office of Col. B. C. Allin, city port director of Stockton. Mr. Bissell will be engaged in the preparation of plans for the wharves and docks in connection with Stockton's deep water project.



Here To There And Back Again



GALAHAD, ET AL.

With the single possible exception of Unorganized Prostitution, Contracting is the dirtiest business in the world!

Well anyway, that is a good start.

And before any of you boys get to heaving dornicks, you better look around to see that you are not standing under a skylight, even tho you do not live in a glass house!

The Army passing in Review today is that headed by Colonel CARLOS W. HUNTINGTON, consisting of his four gun-bearers and eighteen fighting men.

* * * *

Colonel Huntington believes that a Contractor in California should comply with the California Contractors Law—and if you don't believe it, just try messing up with him!!

* * * *

He has the job of tracking down and gently wrapping a jail-house around those who have, in one way or another, made a "racket" of the Contracting Profession.

* * * *

Carlos was selected after the qualifications of 642 applicants and 9 Democrats had been carefully considered. This job requires a first class hunter, and Huntington is that.

* * * *

*He it was who trapped the Kodak,
Single handed, slayed Bull Durham,
He who shot the great Sears-Roebuck,
And with a Hotpoint speared Sealpax.
He, who thru a long and frozen winter
Lived on Musterole and Tarvia,
Drank of Listerine and Valspar,
Dressed in B. V. D. and Pointex.
Frigidaire it was that warmed him,
Vaseline and Holeproof clothed him—
This brave and mighty hunter,
Calmly smoking his pipe of Carbona.*

* * * * well, if you can stand any more of that kind of stuff, write it yourself!

Carlos is now doing a real job of hunting, as thru the forests of liens and contracts—the jungle of rebates and diversions and other forms of chiseling rascality, he tracks down and gives the well known "shoulder-tap" to those who have brought discredit to One of the Three Oldest Professions.

(Addenda to Specifications)

Except Margin Accounts and Lease Contracts, we Fundamentalists find all the elements of Material Civilization in Genesis 4:16-22 (3875 B. C.).

Lamech, the great-great-grandson of Cain, went in for Marriage in a big way. He married two girls, Adah and Zillah—played the ticket from A to Z, so to speak!

Adah bore two sons: "Jabal, the father of such as dwell in tents, and such as have cattle." The second son was "Jubal, the father of all such as handle the harp and the organ."

In other words, Sheep Herders and Radio Crooners are brothers under the skin!

The other wife, Zillah, bore a son named Tubal-cain, Instructor of every artificer in brass and iron.

The next time your yardage schedule gets behind and the pile-driver is yelling for you to get out of the hole, just remember that steam-shovel runners and truck drivers are half-brothers to piccolo players and saxophone tooters!

Next in line of march comes GLEN V. SLATER, Adjutant and Aide de Camp, listed on the payroll as Assistant Registrar. Glen is a good egg and one "stout fella," and sometime we will spend a half page telling about him.

Slater is probably the only man in California who is the SOLE OWNER and the ENTIRE MEMBERSHIP of a Golf and Country Club!

Glen has more fun than just playing a round of Golph with the Caretaker. Think of the fun in posting yourself for delinquent dues, and then sitting as the Board of Governors and remitting your dues!

It is now half-past Column Time, by courtesy of the Bullofa Watch Company, and we want plenty of time to tell you about HAL G. STILES, Chief Examiner of the Southern District, ORMAN LUTZ, Chief Examiner of the Northern District, and RALPH S. BOWDLE, District Supervisor of Sacramento.

Now comes the ARMY. Huntington's squad of beaters, trackers and all-round fighting men.

The 18 men we are now talking of would make an operating crew for about three Mexican Armies.

Don't think we will write any more about this today. Someone in this Department will wake up to the fact that we have contracted to write this page without a Contractor's License, and then our copy will be sent out from the jail-house.



CASED HOLE AND DIAMOND DRILL EXPLORATIONS ON S. F.-OAKLAND

BAY BRIDGE NEARING COMPLETION

By M. B. McGOWAN, JR., *Civil Engineer for M. B. McGowan, Inc., General Contractors on Project.*

This contract, awarded and approved on January 7, 1932, has as its purpose the determination of the depth of and general character of bedrock, and the type of the overlying soil in the general area to be occupied by the San Francisco Approach to the San Francisco Bay Bridge.

There are thirty-nine holes in the job, which lies in the area bounded by Mission Street, Bryant Street, the

started, this latter end of the work necessarily lags considerably behind the former.

The time limit on this job is very short, being 50 calendar days with Sundays and holidays excluded. For this reason, and to avoid double shifting the rigs if possible, it was necessary to use five boring units for the cased holes and two diamond drilling rigs. Besides these seven rigs, a power bulldozer is held in stand-by to bulldoze through any heavy material in the old filled-in sections of the city where it is impossible to penetrate with ordinary boring equipment. So far it has been necessary to use this machine on several holes in the Embarcadero district, where all manner of foreign material has been encountered, varying from old paving blocks to old wharf structures. After breaking through this upper material, ordinary boring operations can be carried on in the usual manner. At the present time it is planned to put on one additional diamond drilling rig to catch up the lag in this portion of the work.

This contract is being executed for the State of California, Department of Public Works, San Francisco-Oakland Bay Bridge. C. H. Purcell is chief engineer on the bridge, Chas. E. Andrew is bridge engineer, A. J. Stocks is resident engineer, and John Barrett is inspector on the job. The writer is in charge of the work for the general contractors.

DRAGLINE RECOVERY OF SAND AND GRAVEL REPORTED

The recovery of sand and gravel from a deposit partially above and partially below water level by a single operation is described in a report just issued by the United States Bureau of Mines. The report, by Ralph L. Windrow, is one of a series describing the technique of methods used and costs obtained at representative sand and gravel plants.

Following a short history of early gravel operations in Texas, the report describes the geology and general physical characteristics of deposits in that state.

The methods used and costs of prospecting gravel land are discussed, as well as the methods of sampling and calculation of tonnage reserves.

The deposit, being partly above and partly below water level, presents some unusual features in selecting excavating equipment. The reasons for the selections made are briefly discussed.

The report describes the method of excavation by selective and progressive cuts through the entire vertical thickness of the deposit in order to provide a uniform product for the washing plant.

The washing and screening plant is described in technical detail and by line drawings and tabulations of costs in dollars and cents, and units of power and labor are given.

Further details are given in Information Circular 6581, "Methods and Costs of Mining and Preparing Sand and Gravel at the Cloudy Plant of the Dallas Washed and Screened Gravel Co., Dallas, Texas," copies of which may be obtained free from the U. S. Bureau of Mines, Department of Commerce, Washington, D. C.



Boring Unit of M. B. McGowan, Inc.
General Contractors

Embarcadero, and Sixth Street. There are two holes lying outside this area, one being on the end of Pier 20 and the other on the end of Pier 24. These holes are bored to bedrock by the cased hole process using auger rigs and the holes are then occupied by the diamond drilling rigs and the bedrock penetrated to an approximate depth of twenty-five feet.

Samples at each ten feet of depth in the cased holes are taken by means of a special sampling device which brings up a sample of undisturbed material just as it lies in its natural state. In the diamond drill holes the rock cores are brought up as samples.

To date eleven cased holes have been completed and work is in progress on five others. In addition to these three holes have been diamond drilled to completion and work is in progress on two others. As the cased holes must be opened to bed rock before the diamond drilling can be

United Commercial Company, Inc.

*All Our Used Machinery, Second-hand
Shovels at Less Than Cost*

234 Stewart Street

San Francisco

A. G. C. Chapter Activities

SECRETARIES OF A.G.C. CHAPTERS THROUGHOUT THE PACIFIC COAST ARE REQUESTED TO SUBMIT ITEMS FOR PUBLICATION IN THIS DEPT.

PORTLAND CHAPTER. George B. Herington, manager of Portland Chapter, A. G. C., has been awarded the first prize of \$100 by the National A. G. C. headquarters for an essay submitted on "Merchandising Construction." Herington is well known on the Pacific Coast for his participation in construction activities and in speaking on "Merchandising Construction" he covers his topic thoroughly. The prize-winning essay was read before the National Convention of the A. G. C. in Milwaukee last month and will be used as a basis for the program of merchandising construction which is now being promoted by the A. G. C.

SEATTLE CHAPTER, WESTERN PUBLIC WORKS CONTRACTORS ASSOCIATION—Approval of the six-hour day plan for all public works is the first significant policy adopted by the Seattle Chapter of the Western Public Works Contractors Association under the 1932 regime.

Formal action was taken by the chapter at the meeting held January 20 by unanimous passage of a resolution urging legislative bodies to legalize the shorter working day as a feasible method of improving employment. President Brennan believes that the adoption of such a plan would provide employment for 25 per cent more men without additional cost to the taxpayers.

The Chapter is holding its own against the charges of depression. Members of the chapter handled contracts worth \$3,500,000 during 1931. The membership roster now contains fifty-five names, twenty-two being actives, three non-residents, and thirty associates.

ALAMEDA COUNTY CHAPTER—E. W. Roberts, construction engineer in charge of Federal building construction in the Pacific Coast district, was the principal speaker and guest of honor at the regular quarterly dinner-meeting of the Alameda County Chapter, A. G. C. The affair was staged at the Women's City Club in Oakland.

Mr. Roberts outlined the Federal building construction program, which it is estimated, will involve an expenditure in excess of \$780,000,000 during the current year. He particularly described the progress on postoffice projects for which plans are now being prepared and upon which work has been started, in the Central and Northern California district.

INTERMOUNTAIN BRANCH—The next regular meeting of the Intermountain Branch, A. G. C., will be held at Ogden, Utah, February 29, it is announced by Mark Tuttle, manager. Charley Wheelwright is in charge of arrangements.

"It might interest you to know," writes Tuttle, "that our Supreme Court recently rendered a decision invalidating all contracts entered into by the City for the construc-

tion of a big storm sewer for which bonds were recently voted in the sum of \$600,000, for the reason that hand labor instead of machinery should be used on the job, that labor should be rotated and also specifying a minimum wage. The court held that inclusion of these provisions in specifications invalidated the contracts and they were all canceled and bids are now being called for with these provisions eliminated."

Manager Tuttle is having the attorney for the Branch prepare a brief on the facts of the above decision. It will be published in an early issue of Pacific Constructor.

NORTHERN CALIFORNIA CHAPTER—A resolution urging a test suit to determine the legality of the "Prevailing Wage Law," was adopted at the Thirteenth Annual Convention of the Northern California Chapter, A. G. C., and is receiving the attention of organized employers throughout the state. The resolution is published herewith:

WHEREAS, There has been in effect in the State of California since August 14, 1931, an act providing for the establishment of prevailing rates of wages on all public work, which statute is commonly referred to as the PREVAILING WAGE LAW, and

WHEREAS, The said statute provides that all public awarding bodies shall in the call for bids and in the contract determine and establish the prevailing rate of per diem wages which shall be paid on such work to all laborers, workmen and mechanics, and

WHEREAS, This organization with many others conducted extensive inquiries in all sections of the State in the effort to assist in determining as nearly as possible the rates of wages which actually prevailed on similar work in every section of the State, and

WHEREAS, The information thus gathered and upon which recommendations were based for a continuance of such prevailing wage rates were largely ignored by public officials, and rates and classifications have been fixed including overtime and double time rates which did not prevail, and

WHEREAS, It is daily becoming more evident that the fixing on public work of rates which were thus not truly the prevailing rates is causing an increasing violation of the letter and spirit of such law, thereby doing an injustice to the employer who makes every effort to observe the law with a consequent advantage to the employer who has no intention of observing same, and

WHEREAS, Numerous reports are current as to the deliberate violation of the law with no apparent attempt on the part of the enforcement officials to take cognizance of such violations, and

WHEREAS, The wide divergence in wage rates thus established on the public work of the various political units is such as to cause utter confusion in the observance of such a law, and

WHEREAS, Laws of similar import in other States and with similar wording have, by the Supreme Courts of such States, been declared unconstitutional, notably in the States of Arizona and Illinois, and

WHEREAS, It is our belief that no such statute which attempts to regulate the law of supply and demand and which can be so easily evaded to the detriment of the responsible, honest employer, and to such a great advantage to the dishonest employer, can ever be successfully administered and enforced,

(Continued on Page 16)



HERCULES EXPLOSIVES

THE CONTRACTORS' FAVORITE

HERCULES POWDER CO.

Standard Oil Building

San Francisco

Douglas 2330



Around The Builders' Exchanges

SECRETARIES OF BUILDERS' EXCHANGES THROUGHOUT THE PACIFIC COAST
ARE REQUESTED TO SUBMIT ITEMS FOR PUBLICATION IN THIS DEPARTMENT

SAN FRANCISCO.—The annual meeting and election of directors of the San Francisco Builders' Exchange will be held March 21, it is announced by R. J. H. Forbes, secretary. Notices are being sent out calling a meeting of the various crafts to select delegates and alternate to the Central Council. Members of the Nominating Committee are George A. Wieland, Alexander Mennie and H. C. Matthies.

SANTA ROSA.—W. J. Lindsay was officially seated as president of the Santa Rosa Builders' Exchange at the annual dinner meeting of the organization. Thirty-nine contractors and material dealers attended the meeting. Other officers seated are: L. A. Drake, first vice-president; C. O. Roberts, second vice-president; Clyde W. Hansen, secretary-treasurer.

Directors: Robert J. Whiting, A. C. Ingham, Geo. Mitchell, D. Lancina, Ed. Holtz, W. J. Mecker and H. E. Huntington.

SANTA ANA.—An exhibit of residential architecture will be staged at the headquarters of the Orange County Builders' Exchange at Santa Ana from March 1 to the 15th inclusive, it is announced by Frederic W. Sanford, secretary-manager. The exhibit will be made up of some sixty 20-inch by 30-inch photographs, about thirty drawings and twenty sketches. The display will be furnished through the cooperation of Clifford Truesdell, Jr., Los Angeles architect.

A meeting of the Better Business Committee of the Exchange will be held February 18 and on February 26th, a meeting of the directors. On March 1st the general membership meeting is scheduled.

OAKLAND.—T. R. Ewart, newly installed, secretary of the Builders' Exchange of Alameda County, has started a campaign for the revival of building activities in the East Bay district through a program directed at further extension of credit by banks and building and loan organizations, adjustments of various construction problems and the general stimulation and encouragement of new projects. A series of conferences with leading industrialists, financiers, manufacturers and business representatives of Northern California, are to be scheduled as an opening gun in the revival program.

S. J. Bertelsen, president of the exchange, is cooperating with Ewart in the revival movement.

SANTA BARBARA.—The Santa Barbara Builders' Exchange has started a movement similar to that undertaken by the Builders' Exchange of Alameda County—seeking prompt resumption of private construction activities. The Santa Barbara organization, however, goes a step further in urging "if you can't build a house, buy a suit of clothes, paint the house you now have, or invest in

whatever it is that you have been wanting and you can pay for, either in cash or on time payments."

"There is no use putting off getting what you need," the Exchange declares. "Every dollar you spend will bring back the "good times" everybody is hoping for. We can only bring them back by spending money."

The Exchange is receiving the support of the local newspapers in publicizing the Press material issued in connection with the movement.

LOS ANGELES.—A division of investigation has been formed in the Los Angeles Builders' Exchange under the direction of Bert Wyatt, it is announced by Mano Zan, secretary of the exchange. The purpose of the new division is to hasten construction activities by consolidating in one report every detail of the job, financial and otherwise, and to give full protection to all concerned. The data, Zan reports, is to be available within twenty-four hours of request.

The service will provide 1—A physical inspection of the job. 2—Correct legal description of the property. 3—Is builder a licensed contractor? 4—Or an owner just trying to get along. 5—Exact financial set-up. 6—Amount and character of loans. 7—Money available for construction. 8—Estimated cost of construction. 9—Owner's approximate equity in lot. 10—Name and address of legal owner.

The data, Zan reports, is to be available within twenty-four hours of request.

CALIFORNIA STATE.—The semi-annual convention of the California State Builders' Exchange, Ltd., will be held at Bakersfield, March 18th and 19th, according to Frederic Sanford of Santa Ana, executive secretary of the state organization. Many matters affecting the construction industry are scheduled for discussion including the contractors' license law, prevailing wage rates, and ways and means to promote investment in the building construction field.

The State organization has appointed a committee to secure sustaining and contributing memberships. Members of the committee include: C. W. Pettifer, Long Beach, California; Emil Hogberg, San Francisco, vice-chairman; G. Gartley, Bakersfield; C. V. Mero, Contra Costa County; Fred Jarboe, San Diego; C. E. McMullin, Fresno; J. A. Martin, Los Angeles; Fred Ruhl, Monterey County; Paul Schwenzfeier, Pasadena; W. F. O'Keeffe, Stockton; George Vance, Orange County; Fred Hayden, Santa Clara County; W. H. McAllister, San Pedro-Wilmington; R. C. Douglas, San Luis Obispo; L. H. Tyler, Bay-Santa Monica; James Bitcon, Vallejo; W. M. Spencer, South Bay (Redondo); O. H. Anderson, Berkeley; S. J. McKinnon, Santa Barbara.

(Continued on Page 16)

Phone TRinity 0241 for —
Rock-Sand-Gravel-Plaster
Cement-Mixed Mortar-Stucco
Lath-Lime Putty-Reinforcing Steel

**Consolidated Rock
Products Co.**

656 S. Los Angeles St.

Los Angeles, Calif.

Construction Materials and Equipment

TRADE NOTES—PERSONALS

ROBINSON TRACTOR COMPANY ANNOUNCES ENLARGED FIELD

With the rearrangement of Caterpillar dealer territory, the Robinson Tractor Company has been assigned the San Francisco and San Mateo county territories with



THOS. E. ROBINSON

which will be incorporated with the Alameda and Contra Costa county districts. Headquarters of the San Francisco Robinson Tractor Company will be located at 1175 Howard St., formerly occupied by the West Coast Tractor Company, which firm, is retiring from business.

The Robinson Tractor Company at one time were dealers for the Caterpillar Tractor Company in Southern Oregon, Northern and East-

ern California and Nevada. For the past three and one-half years the activities of the company have been confined to Alameda, Contra Costa, Solano and part of Sacramento counties.

The San Francisco headquarters will maintain a complete organization to handle machinery and parts sales in addition to servicing and rebuilding equipment, according to Thomas E. Robinson, who, associated with his wife, Mrs. Olive L. Robinson, operates the business.

The company will carry a complete line of Caterpillar Combines, Caterpillar track-type tractors, Caterpillar road machinery, Oliver and Killefer implements and Ateco equipment.

The Oakland headquarters of the Robinson Tractor Company is located at 1705-1709 East Twelfth street.

Walter H. Nourse has been appointed by the Cleveland Tractor Company, manufacturers of Cletrac tractors, to service logging operators in the Pacific Northwest. Nourse, previous to joining the Cleveland forces, was for twelve years associated with Willamette Iron and Steel Works, and for five years engineer for the Electric Steel Foundry. He will maintain headquarters in the Weatherly Building at Portland, Ore.

ALONG THE LINE

Captain John G. Drinkwater, of West Newton, Mass., has been assigned as U. S. district engineer at Sacramento, Calif. Captain Drinkwater has been with the 14th Engineers in the Philippines and will replace Major John R. D. Matheson, assigned to the 13th Engineers at Fort Humphries, Va.

Col. Herbert Deakyne, head of the Board of Engineers for rivers and harbors Corps of Engineers, U. S. Army, retired from active service on December 31, having reached the age of 64. Although a native of Delaware, Col. Deakyne spent the major part of his active service in the army on the Pacific Coast, and expects to return to the coast now that his tour of active duty is completed. Twice during his career, Col. Deakyne held the rank of brigadier general, first in 1918 and 1919 as chief engineer of the Second Army in France, and then from July, 1926, to July, 1930, as Assistant Chief of Engineers, U. S. Army, at Washington. Col. Deakyne organized and took to France the 19th Engineers (Ry.), a shop regiment, and later commanded the 11th Engineers (Ry.) during part of its service with the British army. Subsequently, he was director of light railways and roads of the American Expeditionary Force and chief engineer of the Paris group before the organization of the Second Army. He retires with the rank of brigadier general.

Appointment of Charles Brown as a member of the executive staff of the Associated Oil Company is announced by William F. Humphrey, president. Brown continues to serve as assistant to the president, a position that he has filled for the past three years. His new duties will include general office management, supervision of the industrial relations department and direction of public relations for the Associated Oil Company. The executive staff, to which Brown is named, is composed of eight members and serves as an advisory council to the president in the formation of company policies and the coordination of activities of all operating divisions.

W. J. McMullin has been appointed chief engineer of the Herbert M. Baruch Corporation, general contractors, Los Angeles, assuming the duties of Zara Witkin, who leaves this month for an extended journey to Russia. Mr. McMullin has been connected with the Baruch Corporation for over five years in the capacity of chief estimator.

Julius M. Manthey, county surveyor of San Joaquin County, has been elected president of the Stockton Engineers' Club.

Contractors Machinery Exchange

RENTALS A SPECIALTY

Phone FRuitvale 0715

1135—57th Avenue

Oakland, Calif.

Union Tank and Pipe Co., Ltd.

STEEL PLATE AND SHEET METAL
PRODUCTS

Phone JEfferson 2251

2801 Santa Fe Avenue

Los Angeles, Calif.

A. G. C. CHAPTER ACTIVITIES

(Continued from Page 13)

THEREFORE, BE IT RESOLVED, That the Northern California Chapter, Associated General Contractors of America, in annual convention assembled, this 18th day of December, 1931, does go on record as follows:

1. That the public officials of the State of California should immediately institute a test suit which will determine as quickly as possible whether or not such a statute is constitutional, to the end that further complications will be avoided, should the courts later so rule;

2. That these same officials should request the Attorney General's immediate review of said statute in the light of the court decisions which have been rendered on similar laws in other States;

3. That pending such legal steps the said officials make a review of all wage rates and on future public work establish rates which are more nearly in accordance with the actual prevailing wage rates on similar work in all communities.

PACIFIC N. W. BRANCH—Protection of common labor by maintaining a living wage scale and reduction of industrial insurance cost by adopting improved safety measures occupied the attention of the thirteenth annual convention of the Pacific Northwest Branch of the Associated General Contractors of America, held in Spokane last month.

Contractors who take advantage of the unemployment crisis by cutting the wages of common labor, thus placing themselves outside the pale of commendatory relations as employers, are denounced by the Branch in a resolution, which reads in part: "The foregoing practice of oppressively reducing wages is hereby condemned; this association for its membership is hereby pledged to do all within its power to stabilize and hold a respectable living wage basis in all payments to employes; and that the good offices of this association be extended to the various awarding bodies to accomplish this purpose."

BUILDERS' EXCHANGE*(Continued from Page 14)*

PASADENA.—Geo. W. Israel, secretary-manager of the Pasadena Builders' Exchange reports the following letter received from Stanley K. Brown of the firm of Morin, Newell, Brown and Hamill, Pasadena attorneys: "We have recently come across a situation which may possibly result in a loss to materialmen and laborers, which is not covered by the present provisions of the Contractors License Law, and I am inclined to think that the situation is a typical one and desire to call it to the attention of your members.

"An owner employed a contractor to build a residence for him, but together they miscalculated and under-estimated the amount of money necessary. A loan was obtained but when the building was completed it was found

that there were perhaps \$2,000.00 worth of unpaid bills against the property and only \$1,000.00 on hand with which to pay them.

"The result is, that there will either have to be some refinancing, with the ordinary delay thus occasioned, or the lien claimants will have to be content to pro rate whatever money there is on hand and take their chances on the balance.

"This brings to my mind the fact that although there has been no violation of the contractor's license law in that all parties were acting in good faith and there has been no diversion of funds whatsoever, still, the loss referred to may possibly ensue. This, in my opinion, could probably have been prevented had the document known as Senate Bill No. 376, been passed by the last legislature. This bill is popularly known as the "Declaration of Intention Bill" and is the one which provided that previous to engaging in any statement in the office of the County Recorder of the county in which the property upon which he proposed to build, was situated, starting, among other things, his scheme of financing the project.

"Had this been done in the particular case, I have in mind, it is entirely possible to suppose that materialmen and laborers would have been able to ascertain that the proposed structure could not be built for the amount of the loan with which the owner proposed to erect the building.

"Thus, they could have been saved the loss which may ensue or perhaps could have influenced the owner to obtain a larger loan."

LONG BEACH.—Wm. T. Tway, past president of the Orange County Builders' Exchange and chairman of the publicity committee of the state organization, addressed the regular meeting of the Long Beach Builders' Exchange last month. Tway stressed the need of exchange members to do business with members where and whenever possible.

E. A. Bradbury, secretary of the Long Beach Exchange, has issued a revised Exchange Roster listing the membership according to crafts and materials handled, together with the address and phone number of each.

HURLEY CALLED BY DEATH

Charles B. Hurley, 73, engineer and contractor of the Pacific Northwest, died at his home in Tacoma, Jan. 30. As a partner in the Hurley-Mason Co. he played a prominent part in the construction of Camp Lewis, as a wartime cantonment. His company also constructed the American Lake Veterans' Hospital, near Tacoma, and numerous other large buildings in Seattle, Tacoma and Portland.

COLTON CEMENT

**Uniform Quality : Service : Satisfaction***Manufactured by***CALIFORNIA PORTLAND CEMENT COMPANY**

1228 PACIFIC MUTUAL BUILDING

Mills at Colton, California

TR. 1271

Los Angeles

ORGANIZE TO FIGHT GOVERNMENT IN BUSINESS

Organization of the Construction Industries Joint Committee of California was completed at a meeting last week in Los Angeles. This committee is organized to combat the extension of government activities in business.

Lynn S. Atkinson, representing the Associated General



LYNN S. ATKINSON

Contractors, was elected president; D. W. Porter, representing the Surety Association, vice-president and Ralph Homann, representing the Builders' Exchange, treasurer. Melville Dozier, Jr., manager of the Southern California Chapter, A. G. C., was elected secretary-manager of the committee.

Stanley Bent of the A. G. C. was appointed chairman of the Finance Committee and Harold McGee of the Surety Association chairman of the Membership Committee. Arthur Ellis, an authority on public works and contract laws, will be legal advisor to the committee.

SEATTLE CONTRACTOR PASSES

Alexander Pearson, 65, one of the Pacific Northwest's leading building and public works contractors, died from asphyxiation at his apartment recently. Efforts to resuscitate him failed. Death is believed to have been accidental.

Golden State Flooring Corporation

Hardwood Flooring Headquarters

C. E. COATES, Manager

RHODE ISLAND STREET, Bet. 16th and 17th Street
San Francisco, California
Telephone Market 3177

BILL AIMS TO BAR CONVICT LABOR ON FEDERAL AID ROADS

Federal aid roads cannot be built by convict labor if an amendment to the Federal aid road bill adopted by the House is retained in the measure. The states which will be affected are Alabama, Florida, New Jersey and Virginia, which employ convicts on state highway construction. Representative LaGuardia, of New York, who presented the amendment, said it would place no limit on the states as to the employment of convicts on state and county roads, and that it conflicted with no state law.

The bill, in making appropriations for "forest roads and trails," provides that the Secretary of Agriculture shall apportion and probate among the states, Alaska and Porto Rico, \$12,500,000 authorized for the fiscal year 1933 under a 1930 law. The House, in adopting this, eliminated a provision which the committee had reported limiting this appropriation by deducting \$3,000,000 for national forest highways under another law. The effect of this elimination, on a point of order by Representative Englebright, of Nevada City, Calif., is to leave the amount of \$12,500,000 for this purpose instead of reducing it to \$9,500,000.

Pacific Clay Products

General Offices: 650 Chamber of Commerce Bldg.,
1151 SOUTH BROADWAY
Los Angeles, Calif.

Hotel Sacramento

The Contractor's Home while at the California State Capitol



Where every guest feels at home and where he finds the comforts and service of the most cosmopolitan hotel.

Just a short block from all the State Buildings and in the heart of the city.



V. ST. CLOUD and A. H. ANDERSON
Proprietors

**EXECUTIVE ORDER BY PRESIDENT
HOOVER AFFECTS PREVAILING WAGE
LAW ON FED. BUILDING PROJECTS**

Members of the Associated General Contractors, contemplating bidding on any future Federal building construction should study the order issued by President Hoover on January 19 and recently announced by the U. S. Department of Labor. It is published herewith:

EXECUTIVE ORDER

Stipulations for the Payment of Prevailing Rate of Wages in Public Building Contracts

In order to effect the purposes of the act entitled "AN ACT, relating to the rate of wages for laborers and mechanics employed on public buildings of the United States and the District of Columbia by contractors and subcontractors, and for other purposes," approved March 3, 1931 (46 stat. 1494) it is hereby ordered that in all contracts within the terms of said act there shall be added to the stipulation required by said act the following stipulations:

It is expressly understood and agreed that the aforesaid wages shall be paid unconditionally in full not less than once a week and in lawful money of the United States, to the full amount accrued to each individual at time of payment and without subsequent deduction or rebate on any account.

It is expressly understood and agreed that for the purpose of said act every person, while performing work of a laborer or mechanic on the public work covered by this contract, is to be regarded as employed as a laborer or mechanic by the contractor or subcontractor, regardless of any contractual relationship alleged to exist between the contractor or sub-contractor and such laborer or mechanic.

It is understood and agreed that the payrolls of the contractor and all sub-contractors and agreements made by the contractor or sub-contractor or any other party relating to the employment of laborers or mechanics or the performance of the work of laborers and mechanics on said building, and to the wages or compensation to be paid therefor, are to be open to inspection by the contracting officer at such times as the latter may elect, provided that such inspection shall not interfere with the proper and orderly prosecution of the work, and that a clearly legible statement of the rates payable, as aforesaid, under this contract shall be posted by the contractor in a prominent and easily accessible place at the site of the work, so that such statement may be seen at any time by persons engaged on the work.

It is further expressly understood and agreed that if it should be found by the contracting officer that any laborer or mechanic employed by the contractor or any sub-contractor on the public work covered by this contract has been, or is being paid a rate of wages less than the prevailing rate of wages, as aforesaid, the Government may, by written notice to the contractor, terminate his right to proceed with the work, or such part of the work as to which there has been a failure to pay said prevailing wages. In such event, it is understood and agreed that the Government may take over the work and prosecute the same to completion by contract or otherwise, and that the contractor and his sureties shall be liable to the Government for any excess cost occasioned the Government thereby.

This order shall apply to all such contracts for which bids are hereafter invited.

(Signed) HERBERT HOOVER.

**WESTINGHOUSE ELECTRIC HOLDS
4-DAY GENERAL SALES CONFAB**

A four-day general sales conference was held recently at headquarters of the Westinghouse Electric and Manufacturing Company, in East Pittsburgh. Headquarters executives, district sales managers, subsidiary company officials and work's managers attended this conference.

Markets, policies, engineering developments and research progress were among the subjects discussed during the meeting. New and improved electrical products, for the home and industry, were discussed by the engineering managers.

The conference was held under the direction of J. S. Tritle, Vice-President and General Manager. Included among the speakers were President F. A. Merrick; Vice-Presidents S. M. Kintner, W. S. Rugg, Walter Cary and Harold Smith; and J. M. Hipple, General Works Manager.

Commercial Vice-President W. R. Marshall, located on the Pacific Coast; N. G. Symonds, from Chicago, and C. E. Stephens, from New York, discussed the general business conditions of the regions under their direction. Commercial Vice-President C. E. Allen, in charge of the merchandising department, outlined unusually hopeful market conditions for electrical domestic appliances.



Left to Right: C. E. Stephens, Commercial Vice-President, with headquarters in New York; J. S. Tritle, Vice-President and General Manager; F. A. Merrick, President; N. G. Symonds, Commercial Vice-President, with headquarters in Chicago; S. M. Kintner, Vice-President, and W. R. Marshall, Commercial Vice-President, with headquarters in San Francisco. All are officials of the Westinghouse Electric and Manufacturing Company.

NOrmandie 4303

NOrmandie 7715

LEO HONEK

**EXCAVATING CONTRACTOR
CONCRETE PAVEMENT BREAKING**

Compressed Air Equipment

2941 Denby Avenue

Los Angeles, Calif.

SMITH BROS. TRUCK CO.

"TRANSPORTATION SPECIALISTS"

Portable Crane Service—Rigging

15704 E. 16th St.

Los Angeles

WEstmore 3271


San Carlos Feed & Fuel Company

**SAND, ROCK AND GRAVEL
ROAD AND BUILDING MATERIALS**

PHONE SAN CARLOS 250

Old Highway

San Carlos, Calif.



SUCONEM

Super Concrete Emulsions

Limited

—for Better Concrete

215 Richfield Bldg.,
Oakland, Calif.

3710 S. ALAMEDA ST., Los Angeles
District Offices

208 Stock Ex. Bldg.,
Portland, Ore.

216 Walker Bldg.,
Seattle, Wash.

**NORTHERN CALIFORNIA UNIT OF
A. G. C. OPPOSES DIVERSION OF
GAS TAX FUNDS TO OTHER USES**

A resolution, passed by unanimous vote, at the Thirtieth Annual Convention of the Northern California Chapter, A. G. C., held in San Francisco recently, opposes diversion of a portion of the gas tax income to other purposes. A copy of the resolution is published herewith:

WHEREAS, Various public officials are advocating the diversion of a portion of the gas tax income to other purposes, as an offset to other forms of taxation, and would thereby greatly reduce the funds available for actual highway construction and maintenance, and

WHEREAS, The principle of use of gasoline tax income solely for the purpose it was intended; namely, improvement and maintenance of highways, and as was assured to the motorist at all times during the various campaigns for the enactment of such a form of taxation, is now so firmly established in the public mind that to direct any of such income to other purposes would constitute a breach of faith with the citizens of this State, and

WHEREAS, It is also well established that every available dollar of income from this source is urgently needed to continue state highway improvement if California is to keep pace with the actual highway needs of the motorists, and

WHEREAS, The diversion of gasoline tax funds to Highway Patrol has already assumed proportions which we believe to be too great for the continued improvement and maintenance of the highway system with no offsetting benefits in decreased ratio of highway accidents, and

WHEREAS, As one of the organizations which took an active part in the first and all subsequent campaigns for the enactment of the gasoline tax law, we are unalterably opposed to any policy of diversion of these funds to purposes other than direct highway improvement and maintenance, and

NOW, THEREFORE, BE IT RESOLVED, That the Northern California Chapter, Associated General Contractors of America, in annual convention assembled, this 18th day of December, A. D. 1931, go on record as being unalterably opposed to the diversion of the gasoline tax funds to any purpose other than the direct construction and maintenance of the highways of this State, and

BE IT FURTHER RESOLVED, That copies of this resolution be forwarded by our President to His Excellency, Governor James Rolph, Jr., to the Honorable Rolland E. Vandegrift, Director of Finance; to Colonel Garrison, Director of Public Works; and to C. H. Purcell, State Highway Engineer.

**PORTLAND CEMENT ASSOCIATION
REOPENS S. F. DISTRICT OFFICE**

George E. Warren, Assistant General Manager of the Portland Cement Association with general offices in Chicago, has established an office at 564 Market Street, in San Francisco. Mr. Warren will remain in San Francisco and will have general supervision of the Association's Pacific Coast activities.

Mr. Warren has been identified with the Portland cement industry for the last 17 years, of which eleven have been spent in his present position of Assistant General Manager. He is a member of the American Society of Civil Engineers and the American Society for Testing Materials. In this latter society Mr. Warren has been very active, having served on a number of committees and as a member of the executive committee.

J. E. Jellick, formerly District Engineer for the Association at Los Angeles, has been appointed District Engineer for the northern and central California territory with headquarters at the San Francisco office. Mr. Jellick has long experience in engineering and highway construction activities and is widely known among Architects, Engineers and Contractors throughout the state. He is a member of the Engineers Club of San Francisco and has been active in the Highways Committee of the State Chamber of Commerce.

Mr. Warren and Mr. Jellick represent one of the oldest and largest trade association in the country. The Portland Cement Association was formed thirty years ago and has carried on as a research, educational and promotive body. Selling Portland cement, except as an idea, is no part of Association work. Through its force of field engineers the uses of cement are stressed; selling is the task for the salesmen of the individual member companies. Research work is one of the Association's chief activities. More than 40,000 tests are made each year in its laboratories.

The local office of the Association will gladly furnish Architects, Engineers and Contractors technical information on the uses of concrete.

PACIFIC CONSTRUCTOR

Consolidated With

Building & Engineering News

547 Mission Street, San Francisco.



RATES

| | |
|---------------------|--------|
| One Year | \$5.00 |
| Two Years | \$8.00 |

Please enter my subscription to PACIFIC CONSTRUCTOR for year....
for which I enclose check in the sum of \$.....

NAME

P. O. ADDRESS

CITY AND STATE

Official Publication of Associated General Contractors of America for the Eleven Pacific Coast States.

UNIT BID SUMMARY

Compiled from the Daily News Service of Pacific Constructor

GRADE—CONCRETE PAVEMENT, ETC.—LOS ANGELES

LOS ANGELES, Calif.—Peck Contracting Co., 2913 Denby Ave., Los Angeles, at \$184,825.73 submitted low bid to the county supervisors to improve Vermont Ave. and Bixby Ave. from Ocean Ave. to Anaheim St. and Amaranth Ave. and Normandie Ave. from Lomita Blvd. to Vermont Ave., a distance of 3.48 miles. Project involves:

- (1) 107,016 cu. yds. excav., including shaping and removal of trees;
- (2) 41,862 cu. yds. fill in complete, Sta. 224 plus 50 to 226 plus 50;
- (3) 85,429 cu. yds. fill in complete, Sta. 305 plus 50 to Anaheim St.;
- (4) 514 lin. ft. 6x10x18-in. cem. conc. curb;
- (5) 3333 lin. ft. monolithic curb and 2-ft. gutter;
- (6) 191 lin. ft. monolithic curb and 1-ft. gutter;
- (7) 14 sq. ft. 6-in. cement concrete gutter;
- (8) 550 sq. ft. 8-in. do;

- (9) 411,542 sq. ft. 9x7x7x9-in. cement concrete pavement with disintegrated rock sub-base on oiled sub-grade;
- (10) 106,924 sq. ft. 8-in. cement concrete pavement with 5-in. disintegrated rock sub-base on oiled sub-grade;
- (11) 59,745 sq. ft. 5-in. disintegrated rock pave. with rock and oil wearing surface on oiled sub-grade;
- (12) 226,563 sq. ft. 4-in. do;
- (13) 9,860 sq. ft. 3-in. asph. concrete base;
- (14) 43,825 sq. ft. 2-in. do;
- (15) 33,965 sq. ft. 4-in. asph. concrete base and 5-in. disintegrated rock sub-base;
- (16) Drainage structure No. 3;
- (17) Drainage structure No. 4;
- (18) Drainage structure No. 6;
- (19) Drainage structure No. 7;
- (20) Catchbasins No. 6-22;
- (21) Catchbasins No. 8-1;
- (22) 129 lin. ft. furnish and place 18-

- in. corr. metal pipe, type A;
- (23) 358 lin. ft. 24-in. corr. metal pipe, type A;
- (24) 271 lin. ft. 30-in. do;
- (25) 335 lin. ft. 15-in. double riveted and dipped corr. metal pipe;
- (26) 80 lin. ft. 18-in. do.

- Complete bids follow:
- (A) Peck Contracting Co., \$184,825.73.
 - (B) Southern Calif. Roads, \$201,643.28.
 - (C) R. B. Butterfield, \$205,807.46.
 - (D) Kovacevich & Price, \$209,974.17.
 - (E) Ed Johnson & Sons, \$211,563.17.
 - (F) Griffith Co., \$213,564.80.
 - (G) Oswald Co., \$214,431.98.
 - (H) J. L. McClain, \$215,678.33.
 - (I) Basich Bros., \$216,593.17.
 - (J) Dimmitt & Taylor, \$219,005.12.
 - (K) J. E. Haddock, \$224,118.98.
 - (L) Geo. R. Curtis Paving Co., \$237,973.34.

The bid of J. C. Hickey was irregular as it was accompanied by a bidder's bond instead of a check. The unit prices were:

| | (D) | (E) | (C) | (I) | (E) | (G) | (L) | (F) | (J) | (A) | (K) | (H) |
|------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| (1) | ..20 | \$.20 | \$.21 | \$.265 | \$.24 | \$.30 | \$.35 | \$.30 | \$.124 | \$.175 | \$.30 | \$.25 |
| (2) | ..20 | .09 | .21 | .06 | .14 | .20 | .20 | .11 | .255 | .15 | .20 | .20 |
| (3) | ..20 | .09 | .21 | .14 | .24 | .20 | .20 | .23 | .3575 | .15 | .20 | .23 |
| (4) | ..60 | .50 | .50 | .55 | .50 | .42 | .40 | .55 | .77 | .50 | .50 | .45 |
| (5) | ..80 | .80 | .75 | .90 | .90 | .75 | .90 | 1.00 | 1.00 | .80 | .70 | .85 |
| (6) | ..70 | .70 | .60 | .72 | .85 | .60 | .60 | .75 | 1.35 | .70 | .60 | .70 |
| (7) | ..20 | .18 | .20 | .25 | .20 | .16 | .20 | .30 | .25 | .20 | .20 | .18 |
| (8) | ..24 | .20 | .22 | .25 | .24 | .20 | .25 | .35 | .30 | .25 | .25 | .23 |
| (9) | ..23 | .236 | .23 | .223 | .23 | .215 | .247 | .22 | .264 | .196 | .23 | .22 |
| (10) | ..246 | .252 | .23 | .242 | .20 | .22 | .259 | .227 | .275 | .201 | .247 | .23 |
| (11) | ..05 | .068 | .05 | .056 | .075 | .06 | .088 | .065 | .0925 | .055 | .066 | .06 |
| (12) | ..05 | .062 | .045 | .053 | .05 | .05 | .06 | .05 | .06 | .05 | .058 | .045 |
| (13) | ..08 | .075 | .08 | .08 | .075 | .07 | .068 | .06 | .0725 | .08 | .085 | .077 |
| (14) | ..045 | .038 | .045 | .055 | .05 | .04 | .045 | .04 | .05 | .05 | .054 | .055 |
| (15) | ..14 | .119 | .13 | .145 | .15 | .12 | .134 | .11 | .14 | .13 | .155 | .14 |
| (16) | 2210.00 | 1700.00 | 550.00 | 2000.00 | 210.00 | 2000.00 | 1800.00 | 1950.00 | 1800.00 | 2000.00 | 1790.00 | 1800.00 |
| (17) | 2250.00 | 2300.00 | 2400.00 | 3000.00 | 2600.00 | 2500.00 | 2700.00 | 2500.00 | 2300.00 | 2000.00 | 2525.00 | 3000.00 |
| (18) | 7500.00 | 7300.00 | 6500.00 | 8000.00 | 7500.00 | 9500.00 | 6200.00 | 7000.00 | 7375.00 | 9300.00 | 7250.00 | 9000.00 |
| (19) | 2840.00 | 2300.00 | 1400.00 | 2950.00 | 2700.00 | 2700.00 | 2600.00 | 2500.00 | 2600.00 | 3150.00 | 2675.00 | 3500.00 |
| (20) | 225.00 | 80.00 | 80.00 | 70.00 | 75.00 | 100.00 | 70.00 | 70.00 | 110.00 | 90.00 | 65.00 | 90.00 |
| (21) | 225.00 | 250.00 | 150.00 | 140.00 | 150.00 | 290.00 | 250.00 | 125.00 | 160.00 | 200.00 | 135.00 | 240.00 |
| (22) | 2.15 | 2.00 | 1.50 | 1.70 | 1.80 | 2.25 | 1.70 | 2.00 | 2.00 | 1.90 | 1.65 | 1.80 |
| (23) | 2.60 | 2.50 | 2.40 | 2.75 | 2.30 | 2.70 | 2.05 | 2.20 | 2.25 | 2.70 | 2.15 | 3.00 |
| (24) | 3.50 | 3.75 | 3.80 | 3.20 | 3.50 | 4.25 | 3.15 | 3.70 | 3.80 | 3.50 | 3.25 | 3.50 |
| (25) | 1.75 | 2.00 | 1.50 | 1.80 | 1.85 | 2.25 | 1.75 | 2.15 | 1.75 | 1.85 | 1.85 | 1.90 |
| (26) | 2.25 | 2.25 | 2.00 | 2.10 | 2.30 | 2.50 | 1.90 | 2.30 | 2.50 | 1.55 | 2.00 | 2.20 |

GRADE—GRAVEL SURFACE—HUMBOLDT COUNTY

HUMBOLDT COUNTY, Cal.—Rocca & Caletti, P. O. Box 243, San Rafael, at \$23,273.25 submitted low bid to the State Highway Commission to grade and surface with untreated crushed gravel or stone about 0.4 mi. in length, Benbow Bridge approaches, involving:

- (1) 1.9 acres clear and grub right of way;
- (2) 43,250 cu. yds. rdwy. excav. without class;
- (3) 258,100 sta. yds. overhaul;
- (4) 260 cu. yds. struc. excav.;
- (5) 2525 cu. yds. untreated crushed gravel or stone surf.;
- (6) 400 cu. yds. screenings in stockpiles;

- (7) 320 M gals. water applied to sub-grade and surface;
- (8) 8 cu. yds. Class A Port. cement concrete (struc.);
- (9) 680 lbs. bar reinf. steel (struc.);
- (10) 344 lin. ft. 18-in. corr. metal pipe;
- (11) 400 cu. yds. salvage existing surf.;
- (12) 1214 lin. ft. lam. timber guard rail;
- (13) 38 sta. finish roadway;
- (14) 17 monuments complete in place. State will furnish corrugated metal pipe.

- (C) Contoules Const. Co., San Francisco, \$24,410.60.
- (D) Hein Bros.; Basalt Rock Co.; J. V. Galbraith, Petaluma, \$25,046.80.
- (E) Hemstreet & Bell, Marysville, \$25,469.00.
- (F) E. C. Coates, Sacramento, \$26,115.90.
- (G) Chas. M. Chittenden, Napa, \$26,630.80.
- (H) M. A. Purdy, San Francisco, \$27,949.75.
- (I) Force Const. Co., Oakland, \$28,164.80.
- (J) Peter McHugh, San Francisco, \$32,239.20.
- (K) Meyer Rosenberg, San Francisco, \$34,195.10.

Unit bids follow:

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | |
|-----|-------|----------|-------|---------|--------|--------|--------|--------|---------|-------|-------|--------|-------|-------|--------|
| (A) | | \$200.00 | \$.32 | \$.0075 | \$1.00 | \$1.50 | \$2.00 | \$1.00 | \$20.00 | \$.05 | \$.50 | \$1.00 | \$.75 | \$.60 | \$3.00 |
| (B) | | 100.00 | .27 | .01 | 1.00 | 2.30 | 2.50 | 2.00 | 25.00 | .05 | .40 | 1.00 | 1.00 | 5.00 | 3.00 |
| (C) | | 200.00 | .30 | .005 | 1.00 | 2.50 | 2.00 | 2.00 | 25.00 | .06 | .40 | .50 | .80 | 4.00 | 3.00 |
| (D) | | 100.00 | .37 | .003 | 1.00 | 1.99 | 2.75 | 1.00 | 20.00 | .06 | .25 | .30 | .80 | 2.00 | 3.00 |
| (E) | | 100.00 | .32 | .005 | .75 | 2.50 | 3.00 | 1.00 | 20.00 | .05 | .50 | .75 | 1.00 | 5.00 | 3.00 |
| (F) | | 150.00 | .33 | .005 | 1.00 | 2.50 | 3.00 | 1.00 | 25.00 | .05 | .60 | .70 | 1.00 | 5.00 | 3.00 |
| (G) | | 125.00 | .345 | .005 | 1.00 | 2.35 | 3.00 | 1.00 | 25.00 | .06 | .50 | 1.50 | 1.00 | 5.00 | 3.00 |
| (H) | | 200.00 | .35 | .0075 | .50 | 2.50 | 2.00 | 1.10 | 25.00 | .10 | .50 | 2.00 | 1.00 | 10.00 | 4.00 |
| (I) | | 100.00 | .39 | .005 | 1.00 | 2.50 | 2.40 | 1.00 | 25.00 | .06 | .50 | 1.00 | .75 | 5.00 | 3.00 |
| (J) | | 100.00 | .425 | .01 | .90 | 2.75 | 3.00 | 1.15 | 25.00 | .07 | .40 | 1.15 | 1.00 | 5.00 | 4.00 |
| (K) | | 20.00 | .47 | .005 | .75 | 3.50 | 2.50 | 2.00 | 17.00 | .10 | .50 | .35 | .90 | 5.00 | 4.00 |

GRADE AND SURFACE—CALAVERAS COUNTY

CALAVERAS COUNTY, Cal.—Larsen Bros., Galt, at \$25,607.10 submitted low bid to State Highway Commission to grade and surface with crushed gravel or stone 1.6 miles between 3.4 miles north of Angels Camp and 1.8 miles north of Angels Camp, involving:

- (1) clear and grub right of way;
- (2) 32,250 cu. yds. rdwy. excav. with-out class.;
- (3) 40,000 sta. yds. overhaul;
- (4) 400 cu. yds. struc. excav.;
- (5) 3975 cu. yds. untreated crushed gravel or stone surf.;
- (6) 180 barrels light fuel oil;
- (7) 60 barrels heavy fuel oil;
- (8) 290 M. gals. water applied to surf.
- (9) 22 cu. yds. Class A Portland cem. conc. (struc.);
- (10) 150 lbs. bar reinf. steel struc.;
- (11) 32 lin. ft. 8-in. corrug. metal pipe;

- (12) 44 lin. ft. 12-in. corrug. metal pipe;
- (13) 240 lin. ft. 18-in. do.;
- (14) 192 lin. ft. 24-in. do.;
- (15) 88 lin. ft. 30-in. do.;
- (16) 270 lin. ft. 36-in. do.;
- (17) 50 lin. ft. 42-in. do.;
- (18) 44 lin. ft. 48-in. do.;
- (19) 46 lin. ft. salvage existing culverts;
- (20) 3.4 miles new property fence;
- (21) 18 fence gates;
- (22) 84 sta. finish rdwy.;
- (23) 25 monuments complete in place.

State will furnish corrugated metal pipe.

Complete list of bids follows:

- (A) Larsen Bros., Galt, \$25,607.10.
- (B) Hemstreet and Bell, Marysville, \$28,220.55.
- (C) Willard & Biasotti, Tracy, \$27,048.45.

- (D) A. Teichert & Sons, Sacramento, \$27,913.55.
- (E) C. W. Wood, Stockton, \$29,558.50.
- (F) Coutoules Const. Co., San Francisco, \$30,130.85.
- (G) A. E. Johnson, Stockton, \$30,251.35.
- (H) Fred W. Nighbert, Bakersfield, \$31,955.85.
- (I) C. M. Chittenden, Napa, \$32,199.55.
- (J) Hein Bros. and Basalt Rock Co., Napa, \$32,423.65.
- (K) Force Const. Co., Oakland, \$32,575.00.
- (L) R. L. Oakley, Palo Alto, \$33,508.70.
- (M) Milton A. Purdy, San Francisco, \$34,256.35.
- (N) J. R. Reeves, Sacramento, \$38,893.25.
- (O) Skeels & Graham, Roseville, \$42,779.70.

List of unit bids follows:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) |
|------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| (1) | \$400.00 | \$200.00 | \$200.00 | \$250.00 | \$500.00 | \$400.00 | \$500.00 | \$240.00 | \$550.00 | \$250.00 | \$500.00 | \$500.00 | \$250.00 | \$250.00 | \$125.00 |
| (2) | .33 | .35 | .33 | .41 | .50 | .40 | .42 | .53 | .52 | .55 | .53 | .57 | .60 | .565 | .75 |
| (3) | .02 | .01 | .01 | .005 | .005 | .01 | .01 | .005 | .005 | .01 | .01 | .01 | .01 | .01 | .02 |
| (4) | 1.00 | 1.50 | 1.25 | 1.25 | 1.00 | 1.00 | 1.50 | 1.00 | 1.25 | 1.50 | 1.50 | 1.00 | 2.00 | .75 | 1.00 |
| (5) | 2.30 | 2.35 | 2.25 | 2.25 | 2.00 | 2.75 | 2.25 | 2.25 | 2.25 | 2.23 | 2.40 | 2.20 | 2.15 | 3.80 | 3.00 |
| (6) | 2.25 | 2.50 | 2.25 | 2.50 | 2.00 | 3.00 | 2.50 | 3.68 | 4.00 | 2.25 | 2.20 | 2.50 | 1.50 | 3.00 | 2.60 |
| (7) | 3.00 | 3.00 | 2.75 | 3.75 | 2.00 | 4.00 | 3.00 | 3.85 | 4.40 | 2.75 | 2.50 | 2.75 | 2.50 | 4.00 | 3.00 |
| (8) | 2.50 | 1.50 | 2.00 | 1.75 | 2.00 | 2.00 | 2.25 | 2.00 | 2.25 | 2.50 | 2.00 | 2.50 | 2.50 | 1.50 | 3.00 |
| (9) | 22.00 | 20.00 | 20.00 | 22.50 | 20.00 | 25.00 | 25.00 | 22.00 | 26.50 | 20.00 | 22.00 | 25.00 | 25.00 | 15.00 | 25.00 |
| (10) | .05 | .05 | .05 | .06 | .05 | .05 | .05 | .06 | .04 | .05 | .05 | .06 | .10 | .05 | .08 |
| (11) | .25 | .25 | .25 | .30 | .50 | .30 | .50 | .50 | .25 | .25 | .25 | .25 | .40 | .50 | .25 |
| (12) | .25 | .25 | .40 | .40 | .50 | .40 | .60 | .50 | .40 | .50 | .30 | .50 | .50 | .25 | .25 |
| (13) | .30 | .30 | .50 | .50 | .50 | .50 | .75 | .50 | .50 | .50 | .60 | .40 | .60 | .75 | .30 |
| (14) | .35 | .40 | .75 | .60 | .50 | .60 | 1.25 | .50 | .60 | .60 | .75 | .55 | .70 | .75 | .35 |
| (15) | .40 | .50 | .85 | .75 | 1.00 | .65 | 1.40 | .50 | .75 | .75 | 1.00 | .70 | .80 | 1.00 | .50 |
| (16) | .50 | .75 | 1.00 | 1.00 | 1.00 | .80 | 2.00 | .80 | 1.00 | .80 | 1.00 | .90 | 1.00 | 1.00 | .75 |
| (17) | .50 | 1.00 | 1.25 | 1.50 | 1.50 | 1.25 | 3.00 | .80 | 1.00 | .90 | 1.50 | 1.10 | 1.25 | 1.50 | 1.00 |
| (18) | .50 | 1.00 | 1.50 | 2.00 | 1.50 | 1.50 | 3.50 | .80 | 1.25 | 1.00 | 1.50 | 1.20 | 1.50 | 1.50 | 1.50 |
| (19) | .20 | 1.00 | .30 | .40 | .50 | .50 | .50 | .50 | .75 | 1.00 | .50 | 1.00 | 1.00 | .50 | 1.00 |
| (20) | 365.00 | 450.00 | 400.00 | 450.00 | 325.00 | 500.00 | 625.00 | 500.00 | 450.00 | 425.00 | 350.00 | 500.00 | 275.00 | 450.00 | 400.00 |
| (21) | 15.00 | 15.00 | 14.00 | 15.00 | 15.00 | 15.00 | 15.00 | 15.00 | 12.50 | 15.00 | 15.00 | 15.00 | 14.00 | 14.00 | 20.00 |
| (22) | 5.00 | 5.00 | 4.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 | 4.00 | 5.00 | 5.00 | 10.00 | 3.50 | 10.00 |
| (23) | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 5.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.50 | 3.00 | 3.50 |

GRADE—PAVEMENT—LOS ANGELES COUNTY—STATE

LOS ANGELES COUNTY, Calif.—Kovacevich & Price, 5400 Imperial Highway, Compton, at \$163,194.40 submitted low bid to State Highway Commission to grade and pave with Portland cement concrete about 10.4 miles between Sepulveda Blvd. and Calabassas, involving:

- (1) 551 sta., clear and grub;
- (2) 21,000 cu. yds. rdwy. excav. with-out class.;
- (3) 11,500 tons disintegrated granite base;
- (4) 2,600 cu. yds. struc. excav.;
- (5) 12,105 sq. yds. subgrade for pave.;
- (6) 580 cu. yds. Class A Port. cem. concrete (struc.);
- (7) 16,670 cu. yds. Class A Port. cem. concrete (pave.);
- (8) 433,000 lbs. bar reinf. steel (pave. and struc.);
- (9) 127 lin. ft. 18-in. corrug. metal pipe

- (10) 160 lin. ft. 24-in. do.;
- (11) 111 lin. ft. 36-in. do.;
- (12) 180 lin. ft. 54-in. do.;
- (13) 50 lin. ft. 72-in. do.;
- (14) 102 lin. ft. 18-in. stand. reinforced concrete pipe;
- (15) 68 lin. ft. 30-in. do.;
- (16) 6,000 lbs. iron and steel (manhole assemblies);
- (17) 400 tons asph. conc.;
- (18) 2,300 cu. yds. Port. cem. concrete removed from existing pave. and struc.;
- (19) 551 sta. finish rdwy.

State will furnish corrugated metal pipe.

Complete bids follow:

- (A) Kovacevich & Price, Compton, \$163,194.40.
- (B) G. T. McLain, Los Angeles, \$166,205.00.
- (C) Griffith Co., Los Angeles, \$169,109.50.
- (D) Ed Johnson & Sons, Pasadena, \$169,250.30.
- (E) Basich Bros., Los Angeles, \$170,265.25.
- (F) Southern California Roads Co., Los Angeles, \$174,810.33.
- (G) George R. Curtis Paving Co., Los Angeles, \$179,850.32.
- (H) McCray Co., Glendale, \$189,130.35.
- (I) Jahn & Bressi, Los Angeles, \$189,723.40.
- (J) Gibbons & Reed, Burbank, \$189,823.80.
- (K) Thor C. Rogers, Los Angeles, \$202,899.10.
- (L) Sander Pearson, Riverside, \$206,592.50.
- (M) Will F. Peck Co., Los Angeles, \$211,043.45.

- (N) Will F. Peck Co., Los Angeles, \$211,043.45.

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) |
|------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| (1) | \$ 5.00 | \$ 1.00 | \$ 1.15 | \$ 1.14 | \$ 1.00 | \$ 1.00 | \$ 1.10 | \$ 2.00 | \$ 2.00 | \$ 1.00 | \$ 2.00 | \$ 1.00 | \$ 3.00 |
| (2) | | .40 | .33 | .45 | .53 | .30 | .36 | .275 | .55 | .35 | .45 | .40 | .50 |
| (3) | | 1.05 | .95 | 1.35 | 1.00 | 1.10 | 1.09 | 1.43 | 1.00 | 1.00 | .85 | 1.80 | 1.30 |
| (4) | | .75 | .60 | .80 | .60 | .55 | .81 | .55 | 1.00 | .60 | 1.00 | .50 | .75 |
| (5) | | .05 | .08 | .09 | .09 | .08 | .08 | .076 | .01 | .08 | .10 | .10 | .06 |
| (6) | | 15.50 | 15.00 | 14.00 | 14.25 | 17.00 | 12.00 | 14.35 | 18.00 | 16.00 | 16.50 | 11.00 | 14.00 |
| (7) | | 6.33 | 6.80 | 6.56 | 6.70 | 6.97 | 7.33 | 7.27 | 7.60 | 7.85 | 7.75 | 8.13 | 8.35 |
| (8) | | .035 | .02 | .032 | .037 | .035 | .03 | .037 | .037 | .03 | .04 | .04 | .0365 |
| (9) | | .40 | .30 | .35 | .50 | .25 | .35 | .44 | .50 | .50 | .35 | 1.00 | .50 |
| (10) | | .40 | .35 | .50 | .55 | .30 | .41 | .55 | .60 | .60 | .35 | 1.50 | .60 |
| (11) | | .50 | .50 | .75 | .80 | .40 | .58 | .66 | .80 | 1.00 | .50 | 1.50 | .70 |
| (12) | | .70 | 1.00 | 1.00 | 1.10 | .50 | 1.00 | 1.10 | 1.00 | 1.00 | 1.00 | 2.00 | 1.80 |
| (13) | | 1.25 | 2.00 | 1.25 | 1.30 | .50 | 1.50 | 1.32 | 1.50 | 2.00 | 1.00 | 3.00 | 2.00 |
| (14) | | 2.25 | 2.50 | 2.00 | 2.15 | 1.90 | 2.00 | 2.05 | 2.00 | 2.50 | 2.00 | 3.00 | 1.70 |
| (15) | | 4.00 | 5.00 | 4.00 | 4.00 | 3.75 | 3.80 | 3.85 | 4.00 | 5.00 | 3.85 | 4.50 | 4.20 |
| (16) | | .03 | .12 | .12 | .057 | .12 | .06 | .11 | .07 | .12 | .05 | .15 | .07 |
| (17) | | 4.00 | 4.25 | 4.25 | 3.30 | 4.50 | 3.73 | 3.30 | 3.75 | 5.00 | 4.00 | 4.00 | 3.75 |
| (18) | | 1.50 | 1.75 | 1.50 | 1.40 | 1.00 | 1.50 | 1.55 | 1.50 | 1.50 | 2.50 | 2.00 | 3.00 |
| (19) | | 3.00 | 5.00 | 4.00 | 2.75 | 3.00 | 5.00 | 4.40 | 5.00 | 8.00 | 3.00 | 4.00 | 6.00 |

SAN GABRIEL DAM—UNIT BIDDING

LOS ANGELES, Cal.—As previously reported, Merritt-Chapman & Scott Corp., P. O. Box 507, San Pedro, at \$1,686,464 submitted low bid on Pro-

posal No. 1 and \$1,690,264 on Proposal No. 2 to County Supervisors to construct San Gabriel Dam No. 2. Project involves:

PROPOSAL NO. 1

- (1) 250,000 cu. yds. A excavation, open cut for dam foundation;
- (2) 7,200 cu. yds. B excavation, cutoff trenches;
- (3) 180,000 cu. yds. C excavation;
- (4) 1,000 cu. yds. driving inlet tunnels;
- (5) 970,000 cu. yds. A rockfill, dumped rockfill in body of dam;
- (6) 95,000 cu. yds. B rockfill, large selected rock on downstream face;
- (7) 52,500 cu. yds. C rockfill, packed rock on upstream face of dam;
- (8) 8,000 cu. yds. concrete, A in upstream cutoff wall;
- (9) 6,500 cu. yds. concrete, B all plain concrete except in upstream cutoff wall;
- (10) 8,000 cu. yds. concrete, C, all reinforced concrete;
- (11) 2,000 cu. yds. concrete, D tunnel lining;
- (12) 440,000 sq. ft. placing 6-in. reinforced granite facing slabs;
- (13) 3,000 lin. ft. drilling A grout holes, less than 10 ft. deep;
- (14) 7,500 lin. ft. drilling B grout holes less than 50 ft. deep, more than 10 ft.
- (15) 20,000 lin. ft. drilling grout holes, less than 150 ft. deep, more than 50 ft.;
- (16) 7,500 lin. ft. drilling D grout holes, re-drill through grout;
- (17) 12,000 lin. ft. drilling E grout holes, less than 20 ft. deep;
- (18) 1,700 holes, placing fittings in grout holes;
- (19) 1,300 lin. ft. placing grout pipe;
- (20) 500 cu. yds. pressure grouting;
- (21) 14,000 lin. ft. placing water seals;
- (22) 275,000 lbs. placing gates and valves;
- (23) 50,000 lbs. placing operating pipes and steel vent pipes;
- (24) 100,000 lbs. placing steel trash rock and structural steel and operating tank;
- (25) 200,000 lbs. placing reinforcing steel in plain concrete;
- (26) 6,000 lbs. placing iron pipe hand rail;
- (27) 150 lin. ft. placing tile drains;
- (28) 4,500 lin. ft. placing steel dowels;
- (29) 500 cu. yds. backfill, all types;
- (30) 15,000 men to be furnished lodging;
- (31) 15,000 men to be fed.

Proposal No. 2 involves the same quantities except for item No. 12, which is 440,000 square feet placing 6-in. reinforced granite facing slab.

Total bids follow:

- (A) Merritt-Chapman & Scott, San Pedro, Prop. No. 1, \$1,686,464; Prop. No. 2, \$1,690,264.
- (B) Macco Const. Co., Clearwater, Prop. No. 1, \$2,138,860; Prop. No. 2, \$2,142,460.
- (C) Bent Bros, Los Angeles, Prop. No. 1, \$2,285,180; Prop. No. 2, \$2,323,180.
- (D) Utah Const. Co., San Francisco, Prop. No. 1, \$2,492,745; Prop. No. 2,

- \$2,517,945.
- (E) Hall-Johnson, Alhambra, and L. E. Dixon Co., Los Angeles, Prop. No. 1, \$2,549,650; Prop. No. 2, \$2,528,150.
- (F) Geo. F. Follock, Sacramento, Prop. No. 1, \$2,739,745; Prop. No. 2, \$2,757,945.
- (G) W. E. Callahan Const. Co., Dallas, Tex., Prop. No. 1, \$2,914,975; Prop. No. 1, \$2,914,975; Prop. No. 2, \$2,918,975.

The unit prices were:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) |
|------|-------|-------|-------|-------|-------|-------|-------|
| (1) | .60 | .75 | 1.10 | 1.00 | 1.25 | 1.15 | 1.80 |
| (2) | 3.00 | 3.30 | 4.00 | 10.00 | 6.00 | 5.00 | 3.20 |
| (3) | .55 | 1.00 | 1.50 | 1.10 | 1.25 | 1.15 | 1.25 |
| (4) | 10.00 | 15.00 | 7.50 | 15.00 | 8.00 | 10.00 | 12.50 |
| (5) | .81 | 1.05 | 1.05 | 1.15 | 1.27 | 1.40 | 1.30 |
| (6) | .85 | 1.05 | 1.25 | 1.80 | 1.47 | 1.50 | 2.30 |
| (7) | 1.65 | 1.95 | 3.50 | 2.50 | 3.50 | 3.50 | 2.00 |
| (8) | 5.40 | 6.72 | 5.00 | 9.00 | 5.00 | 12.00 | 11.00 |
| (9) | 5.60 | 9.60 | 8.00 | 10.00 | 7.00 | 9.00 | 12.00 |
| (10) | 8.40 | 14.30 | 8.50 | 13.00 | 8.00 | 10.00 | 13.00 |
| (11) | 19.00 | 16.77 | 17.00 | 17.50 | 17.27 | 15.00 | 18.00 |
| (12) | .23 | .20 | .10 | .24 | .175 | .21 | .30 |
| (13) | .50 | .40 | .35 | .75 | .50 | 1.00 | 1.30 |
| (14) | 1.24 | .70 | 1.25 | 1.25 | 1.50 | 2.00 | 1.30 |
| (15) | 3.20 | 2.25 | 2.50 | 2.50 | 2.25 | 2.50 | 2.60 |
| (16) | 1.25 | .90 | 1.25 | 1.00 | 1.00 | 2.00 | 1.30 |
| (17) | .80 | 1.10 | .50 | .75 | 1.00 | 1.00 | 1.30 |
| (18) | .50 | 2.00 | .25 | 2.00 | .50 | .30 | 1.25 |
| (19) | .08 | .25 | 1.00 | .40 | .10 | .20 | 1.25 |
| (20) | 24.00 | 50.00 | 40.00 | 30.00 | 25.00 | 10.00 | 34.00 |
| (21) | .14 | .25 | .25 | .30 | .30 | .30 | .05 |
| (22) | .04 | .02 | .025 | .02 | .03 | .025 | .03 |
| (23) | .04 | .025 | .01 | .05 | .02 | .03 | .15 |
| (24) | .04 | .02 | .02 | .02 | .02 | .03 | .03 |
| (25) | .0125 | .015 | .015 | .02 | .02 | .015 | .02 |
| (26) | .05 | .10 | .08 | 1.10 | .03 | .05 | .06 |
| (27) | .10 | .60 | .10 | .50 | .20 | 1.00 | .50 |
| (28) | .30 | 1.00 | .50 | .70 | .10 | .30 | 1.00 |
| (29) | 1.00 | 2.00 | 2.00 | .50 | 1.00 | 1.00 | 1.25 |
| (30) | .15 | .30 | .30 | .25 | .30 | .25 | .50 |
| (31) | 1.35 | 1.40 | 1.20 | 1.35 | 1.20 | 1.25 | 1.00 |

Proposition No. 2, item No. 12 (all other items having same cost as in Proposition No. 1.)

(A) \$.27; (B) \$.19 (C) \$.20 (D) \$.33; (E) \$.15; (F) \$.28; (G) \$.35.

Engineer's estimate, \$2,912,000. All bids referred to E. C. Eaton, County Flood Control Engineer, for checking.

LOS ANGELES COUNTY, Cal.—Oswald Bros., 366 E. 58th St., Los Angeles, at \$51,155.10 submitted low bid to State Highway Commission to grade and pave with asphalt concrete about 1.5 miles through Glendora, involving:

- (1) 79 sta., clear and grub right of way;
- (2) 16,000 cu. yds. rdwy. excav. without class;
- (3) 650 cu. yds. struc. excav.;
- (4) 37,000 sq. yds. subgrade for pave.;
- (5) 12,825 tons asph. conc. (base and Type A surf.);
- (6) 1,500 cu. yds. salvaged macadam borders;
- (7) 1,035 tons broken stone (bit. mac. surf.);
- (8) 30 tons Grade E asph. (bit. mac. surface);
- (9) 140 cu. yds. Class A Port. cement concrete (struc.);
- (10) 80 cu. yds. Class A Port. cement concrete (curbs and sidewalk);
- (11) 10,000 lbs. bar reinf. steel (struc.)
- (12) 28,000 lbs. steel railroad rails struck;
- (13) 12,500 lbs. misc. iron and steel (struc.);
- (14) 96 lin. ft. 42-in. corr. metal pipe;
- (15) 8 culvert markers;
- (16) 79 sta. finish rdwy.;
- (17) 16 monuments complete in place. State will furnish corrugated metal pipe.

Complete bid follows:

- (A) Oswald Bros., L. A. \$55,155.10
- (B) Griffith Co., Los Angeles 52,956.85
- (C) Hall Johnson Co., Alhambra
- 58,921.00
- (D) A. J. Akmdavich, L. A. 62,474.75

Unit bids follow:

| | (A) | (B) | (C) | (D) |
|------|-------------|--------|--------|---------|
| (1) |\$5.00 | \$4.00 | \$5.00 | \$10.00 |
| (2) |35 | .25 | .27 | .40 |
| (3) |60 | .50 | .60 | .50 |
| (4) |075 | .06 | .08 | .06 |
| (5) | 2.45 | 2.85 | 3.07 | 3.03 |
| (6) |60 | .90 | 1.50 | 2.00 |
| (7) | 2.75 | 2.00 | 2.25 | 2.00 |
| (8) |16.00 | 15.00 | 18.00 | 20.00 |
| (9) |15.00 | 12.00 | 14.00 | 16.00 |
| (10) |11.00 | 10.00 | 12.00 | 10.50 |
| (11) |03 | .03 | .02 | .04 |
| (12) |03 | .03 | .03 | .06 |
| (13) |08 | .07 | .07 | .10 |
| (14) |60 | .60 | .01 | 1.00 |
| (15) | 1.50 | 2.00 | 2.00 | 3.00 |
| (16) | 2.00 | 2.00 | 2.50 | 3.00 |
| (17) | 2.50 | 3.00 | 2.50 | 3.00 |

SEATTLE, Wash.—Until Feb. 23, 10 A. M., bids will be received by George A. Grant, County Clerk, to pave Myers Way from the Seattle City Limits south to South 100th St., 1½ miles, involving:

- (1) 2300 cu. yds. excavation;
- (2) 6452 cu. yds. concrete pavement 20 ft. wide;
- (3) 2760 lin. ft. concrete gutter;
- (4) 7 City of Seattle catchbasins;
- (5) 3 drop inlets;
- (6) 2140 lin. ft. adjust and paint existing guard rail.

The San Francisco Board of Supervisors has passed an ordinance establishing a new procedure for the City Planning Commission which will enable the commission to restrict undesirable establishments when it returns property for commercial purposes.

More than \$1,000,000 in unpaid wage claims was collected for 18,877 California workers last year, according to a report to Gov. Rolph by Will J. French, director of the State Department of Industrial Relations. French said that of 35,228 complaints 90 per cent were over wages.

RAILROAD SPUR TRACKS—GOVERNMENT

ALAMEDA, Alameda Co., Calif.—Hutchinson Co., 1450 Harrison Street, Oakland, at \$5,445.81 with an alternate of \$3,794.76, submitted low bid to U. S. Bureau of Public Roads, 461 Market St., San Francisco, to construct Unit No. 3, Government Island Construction, involving those parts of two railroad spur tracks that are to be built by the Government and involving in the main:

- (1) 2,638 lin. ft. laying railroad track, including rails and accessories, cross ties, ballast and grading necessary to establish finished sub-grade;
- (2) 260 cu. yds. furnishing sub-ballast spread in place;
- (3) 1,350 cu. yds. furnishing delivered, spread, tamped & dressed crushed rock or gravel ballast;

OR (alternate)

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
|----------------|-------|--------|--------|--------|--------|--------|--------|
| (A) | \$.41 | \$1.67 | \$1.80 | \$.577 | \$.777 | \$.105 | \$.189 |
| (B) | .75 | 1.90 | 2.10 | .50 | .80 | .20 | .40 |
| (C) | .79 | 1.70 | 2.18 | 1.18 | .78½ | .30 | .26 |
| (D) | .85 | 2.00 | 2.30 | .51 | .70 | .20 | .40 |
| (E) | .65 | 2.50 | 2.65 | 1.00 | 1.29 | .15 | .425 |
| Estimate | .85 | 1.40 | 2.25 | .80 | 1.15 | .15 | .30 |

Bids held under advisement.

- (4) 1,350 cu. yds. unloading, spreading, tamping and dressing Government furnished crushed rock or gravel ballast;
- (5) 1,600 furnishing delivered, 7x8-in. by 8-ft. hewed redwood cross ties;
- (6) 610 lin. ft. remove and salvage railroad track;
- (7) 1,020 cu. yds. unclass. excavation.

Complete bids follow:
 (A) Hutchinson Co., Oakland, \$5,445.81; alternate, \$3,794.76.
 (B) Ariss Knapp, Oakland, \$7,117.50; \$4,957.50.
 (C) United Commercial Co., San Francisco, \$7,170.55; \$5,820.55.
 (D) Shannahan Bros., Inc., San Francisco, \$7,517.30; \$5,100.80.
 (E) M. B. McGowan, San Francisco, \$5,531.20; \$4,303.70.
 Engineer's estimate, \$7,881.30; \$5,923.80
 Unit bids follow:

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
|----------------|-------|--------|--------|--------|--------|--------|--------|
| (A) | \$.41 | \$1.67 | \$1.80 | \$.577 | \$.777 | \$.105 | \$.189 |
| (B) | .75 | 1.90 | 2.10 | .50 | .80 | .20 | .40 |
| (C) | .79 | 1.70 | 2.18 | 1.18 | .78½ | .30 | .26 |
| (D) | .85 | 2.00 | 2.30 | .51 | .70 | .20 | .40 |
| (E) | .65 | 2.50 | 2.65 | 1.00 | 1.29 | .15 | .425 |
| Estimate | .85 | 1.40 | 2.25 | .80 | 1.15 | .15 | .30 |

GRADE—PAVE.—IMPERIAL COUNTY—STATE

IMPERIAL COUNTY, Cal.—Griffith Co., Los Angeles Railway Bldg., Los Angeles, at \$387,395 submitted low bid to State Highway Commission to grade and pave with asphalt concrete about 14.7 miles between 3 miles west of Coyote Wells and Dixieland, involving:

- (1) 195,000 cu. yds. rdwy. excav. without class;
- (2) 945,000 sta. yds. overhaul;
- (3) 4350 cu. yds. struc. excav.;
- (4) 66,000 cu. yds. sel. material;
- (5) 95,000 sq. yds. subgrade for pave;
- (6) 132,000 mi. yds. haul of sel. material;
- (7) 65,000 sq. yds. asph. paint binder;
- (8) 65,000 tons asph. conc.;
- (9) 244 cu. yds. Class "A" Port. cem. conc. (struc.);
- (10) 26,000 lbs. bar reinf. steel (struc.)
- (11) 6200 bbls. fuel oil (detours);
- (12) 140 lin. ft. 12" corr. metal pipe;
- (13) 426 lin. ft. 18" do.;
- (14) 224 lin. ft. 24" do.;
- (15) 163 lin. ft. 36" do.;
- (16) 22,730 lin. ft. furnish treated pile;
- (17) 863 drive piles;
- (18) 399 M. ft. E. M. redwood timber dense select all-heart struc. grade;

- (19) 287 M. ft. E. M. redwood timber, select all-heart struc. grade;
- (20) 395 cu. yds. conc. rem. from existing pave and struc. and disposed of;
- (21) 779 sta. finish rdwy.;
- (22) 220 monuments complete in place.

State will furnish corrugated metal pipe.

Complete bids follow:
 (A) Griffith Co., Los Angeles, \$387,395.00.
 (B) H. W. Rohl Co., Los Angeles, \$426,333.00.
 (C) V. R. Dennis Const. Co., San Diego, \$436,463.00.
 (D) Granite Const. Co., Watsonville, \$439,839.40.
 (E) Southern California Roads Co., Los Angeles, \$441,212.70.
 (F) R. E. Hazard Const. Co., Los Angeles, \$463,445.40.
 (G) Daley Corp., San Diego, \$466,319.73.
 (H) Hall Johnson Co. and Geo. Herz, San Bernardino, \$512,039.10.
 (I) Geo. R. Curtis Paving Co., Los Angeles, \$526,855.50.

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) |
|------------|-------|-------|-------|-------|-------|-------|--------|-------|-------|
| (1) | \$.16 | \$.22 | \$.25 | \$.21 | \$.23 | \$.24 | \$.232 | \$.31 | \$.31 |
| (2) | .005 | .01 | .01 | .005 | .002 | .01 | .016 | .005 | .01 |
| (3) | .50 | .60 | .50 | .40 | .42 | .30 | .70 | .70 | .60 |
| (4) | .12 | .20 | .25 | .13 | .60 | .25 | .236 | .13 | .26 |
| (5) | .07 | .09 | .07 | .06 | .06 | .08 | .09 | .09 | .09 |
| (6) | .10 | .10 | .06 | .12 | .07 | .09 | .07 | .07 | .12 |
| (7) | .03 | .02 | .01 | .015 | .014 | .03 | .02 | .03 | .02 |
| (8) | 3.45 | 3.45 | 3.55 | 3.91 | 3.97 | 4.00 | 4.07 | 4.50 | 4.67 |
| (9) | 16.00 | 16.00 | 25.00 | 17.00 | 14.00 | 20.00 | 16.80 | 21.00 | 20.00 |
| (10) | .03 | .05 | .05 | .04 | .033 | .04 | .04 | .045 | .035 |
| (11) | 2.00 | 2.00 | 3.00 | 2.73 | 2.40 | 2.40 | 2.22 | 3.20 | 2.00 |
| (12) | .30 | .50 | .50 | .25 | .35 | .40 | .38 | .45 | .50 |
| (13) | .30 | .50 | .50 | .30 | .40 | .50 | .49 | .50 | .60 |
| (14) | .40 | .50 | .75 | .35 | .50 | .60 | .60 | .55 | 1.00 |
| (15) | .50 | 1.00 | 1.00 | .40 | .50 | .75 | .70 | .60 | 1.00 |
| (16) | .60 | .70 | .70 | .60 | .50 | .65 | .63 | .64 | .615 |
| (17) | 10.00 | 10.00 | 12.00 | 7.00 | 14.50 | 10.00 | 16.00 | 18.30 | 13.65 |
| (18) | 75.00 | 85.00 | 85.00 | 90.00 | 73.00 | 82.00 | 77.80 | 83.00 | 84.00 |
| (19) | 70.00 | 80.00 | 80.00 | 84.00 | 97.00 | 82.00 | 72.50 | 86.00 | 84.00 |
| (20) | 2.00 | 1.00 | 2.00 | 1.00 | 3.00 | 2.50 | .75 | 2.20 | 2.00 |
| (21) | 5.00 | 5.00 | 3.00 | 5.00 | 5.00 | 3.00 | 4.00 | 3.00 | 5.00 |
| (22) | 3.00 | 3.00 | 2.00 | 2.50 | 2.75 | 2.50 | 2.17 | 3.00 | 3.00 |

GRADE—CONC. AND ASPH. CONC. PAVEMENT, ETC.

- (1) 65 sq. ft. 8-in. curb;
- (2) 135 sq. ft. 8-in. curb;
- (3) 135 sq. ft. 8-in. curb, pipe, heavy;
- (4) 487 sq. ft. 12-in. conc. pipe, medium;
- (5) 502 sq. ft. 24-in. do.;
- (6) 2 spillway boxes;
- (7) 2 No. 29 catchbasins;
- (8) 5 No. 30 catchbasins;
- (9) 5 brick manholes.

- (10) 65 sq. ft. 8-in. curb;
- (11) 135 sq. ft. 8-in. curb;
- (12) 135 sq. ft. 8-in. curb, pipe, heavy;
- (13) 487 sq. ft. 12-in. conc. pipe, medium;
- (14) 502 sq. ft. 24-in. do.;
- (15) 2 spillway boxes;
- (16) 2 No. 29 catchbasins;
- (17) 5 No. 30 catchbasins;
- (18) 5 brick manholes.

BEVERLY HILLS, Los Angeles Co., Cal.—F. W. Teschke, 1200 Broadway, Beverly Hills, submitted contract by city council at \$27,619.60 for improving streets in Civic Center Project, Cash Contract, involving:

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) | (18) |
|-----------|-------|-------|-------|-------|-------|-------|------------|--------|-------|--------|--------|--------|--------|--------|--------|---------|---------|----------|
| (A) | \$.02 | \$.36 | \$.20 | \$.12 | \$.16 | \$.16 | \$.3400.00 | \$.165 | \$.75 | \$2.40 | \$9.65 | \$4.40 | \$3.00 | \$1.05 | \$2.80 | \$45.00 | \$60.00 | \$100.00 |
| (B) | .017 | .38 | .22 | .12 | .165 | .145 | 3750.00 | 1.55 | 1.50 | 2.15 | 2.55 | .45 | .60 | .90 | 2.75 | 75.00 | 80.00 | 100.00 |
| (C) | .025 | .37 | .215 | .12 | .17 | .16 | 4250.00 | 1.35 | 1.00 | 2.30 | 3.10 | .54 | .70 | 1.00 | 3.50 | 50.00 | 50.00 | 75.00 |
| (D) | .02 | .40 | .25 | .14 | .16 | .16 | 4000.00 | 1.60 | 1.80 | 2.40 | 3.0 | .65 | .70 | 1.00 | 2.50 | 30.00 | 60.00 | 80.00 |
| (E) | .05 | .45 | .25 | .157 | .167 | .167 | 3890.00 | 1.35 | 1.80 | 2.40 | 2.40 | .45 | .70 | 1.00 | 2.75 | 25.00 | 45.00 | 70.00 |
| (F) | .0185 | .45 | .25 | .125 | .16 | .16 | 3890.00 | 1.30 | 1.90 | 2.40 | .35 | .80 | 1.10 | 1.40 | 2.45 | 50.00 | 60.00 | 70.00 |
| (G) | .02 | .38 | .23 | .13 | .17 | .16 | 3900.00 | 1.30 | 2.00 | 2.60 | 2.60 | .65 | .90 | 1.20 | 2.90 | 60.00 | 100.00 | 125.00 |
| (H) | .022 | .40 | .225 | .135 | .168 | .155 | 3900.00 | 1.30 | 1.90 | 2.60 | 2.60 | .65 | .90 | 1.20 | 2.90 | 60.00 | 100.00 | 125.00 |
| (I) | .028 | .384 | .228 | .1385 | .1781 | .165 | 4289.00 | 1.73 | 2.16 | 2.48 | .25 | .95 | 1.37 | 1.87 | 2.85 | 29.00 | 68.00 | 76.00 |

STREET LIGHTING SYSTEMS

BEVERLY HILLS, Los Angeles Co., Cal.—Until 8 P. M., March 1, bids will be received by city council to furnish 750 8x16-in. spherical street lighting globes. W. R. Metz, city engineer. E. J. Firminger, city clerk.

BERKELEY, Alameda Co., Calif.—City Improvement Co., 2055 Center St., Berkeley, at \$3,290.84 awarded contract by the Regents of the University of California to construct street lighting system in Fulton and Oxford Sts. between Bancroft and Berkeley Ways.

MACHINERY AND EQUIPMENT

SACRAMENTO, Cal.—Bids for furnishing a 6-ton gasoline road roller, f.o.b. Paso Robles, and a one-man motor grader unit and 10-ft. blade and front scarifier attachment f.o.b. San Bernardino, operated by the State Purchasing Agent, follow:

ROAD ROLLER

Crook Co., Los Angeles—Buffalo—Springfield, \$2325.

Austin-Western Road Machinery Co.—Austin Cadet, \$2356.40; Austin Bull Pup, \$2176.40.

Smith Booth Usher Co.—Gallon 6-ton Little Master, \$2985; Gallon 3-ton Little Master, \$3950; Gallon 6-ton International, \$3770.

Kratz & McClelland, San Francisco—Ames, \$3157.

Associated Equip. Co., San Francisco—Hercules No. 60, \$1879.

Jenison Machinery Co., San Francisco—Gallon 6-ton International \$2,275; Gallon 6-ton Little Master, \$2975. Brown-Bevis Co., Los Angeles—Huber, \$2271, extra for compressor and scarifier, \$371.

J. O. Tucker Co., Los Angeles—Hercules, \$3663.60.

GRADER

Freeland Tractor & Equipment Co.—Auto Patrol, \$3835.

Spears Wells Co., Oakland—Spearwell, \$3500.

Austin-Western Road Machinery Co., San Francisco—Austin No. 20, \$3585.

Crook Co., Los Angeles—Adams No. 102, \$3500.

Smith Booth Usher Co.—Gallon EZ Lift, \$3045.

Hulse - Anderson Co.—Auto Patrol, \$3729.

Associated Equip. Co.—Rome, \$3423.

Jenison Machinery Co.—Gallon EZ Lift, \$3279.

SAN DIEGO—MARE ISLAND, Cal.—R. W. Kaltenbach Corp., Bedford, Ohio, at \$156,200 submitted low bid to the Bureau of Yards and Docks, Navy Department, Washington, D. C., under Specification No. 6770, for 2 25-ton floating revolving boom cranes at the destroyer base, Mare Island, and for San Diego, each to consist of a revolving boom crane mounted on a steel pontoon. Shall have a main hook capacity of 50,000 lbs. at 55-ft. radius, 40,000 lbs. at 70-ft. radius, and an auxiliary hook capacity of 10,000 lbs. at 75-ft. radius; the cranes shall be operated by Diesel-electric power. The pontoons shall be not less than 100 by 44 ft. A house shall be provided on each crane over the machinery. Three low bidders on the project were:

| | | |
|--|-------|-----------|
| R. W. Kaltenbach Corp. | ..... | \$156,200 |
| Dravo Contracting Co., Pittsburgh, Pa. | ..... | 172,500 |
| Chicago Bridge & Iron Works, New York City | ..... | 155,600 |

COACHELLA, Riverside Co., Cal.—Following bids received by Supply Department, U. S. Department of Agriculture, Washington, D. C., under Circular No. 890 to furnish garden tractor for Coachella:

Shaw Mfg. Co., Galesburg, Kansas, \$219, \$243, \$270 and \$387.40, 15% 2%.

S. L. Allen & Co., Inc., Philadelphia, \$319.60.

Jenson Mfg. Co., Alhambra, \$545, less 2%.

Rotiller Tractor Co., Berkeley, \$561.50, less 35% discount and 3%.

RENO, Nevada—Until March 15, 10 A. M., bids will be received by E. H. Beemer, county clerk, to furnish one 5-ton motor truck with cab. Specifications obtainable from the clerk at Reno.

RAILROADS

MARCH FIELD, Riverside Co., Cal.—Until 11 A. M., February 25, bids will be received by Col. W. C. Gardenhire, Const. Quartermaster, March Field, to furnish and install 865 ft. of railroad spur track at March Field; Spec. No. 6694-81.

STOCKTON, San Joaquin Co., Cal.—Shannahan Bros., Inc., 406 S Main St., Los Angeles, at \$55,035 awarded contract by city council for general construction in connection with the Belt Line Railroad.

Morrison & Knudsen, Boise, Idaho, at \$16,560 awarded contract to furnish ties.

ALAMEDA, Cal.—Until Feb. 19, 2 P. M., bids will be received by C. H. Sweetser, District Engineer, Bureau of Public Roads, 461 Market St., San Francisco, to construct Unit 3, Government Island construction, Government Island, Alameda, consisting of constructing parts of two railroad spur tracks involving:

- (1) 2633 lin. ft. laying railroad track, including rails and accessories, cross ties, ballast and grading necessary to establish finished subgrade;
- (2) 260 cu. ft. furnishing sub-ballast in place;
- (3) 1350 cu. yds. furnishing, delivered, spread, tamped and dressed crushed rock or gravel ballast;

OR (alternate)

- (4) 1350 cu. yds. unloading, spreading, tamping and dressing crushed rock or gravel ballast, which will be furnished by the Government;
- (5) Furnishing, delivered, 7"x8"x8" hewed Redwood cross ties;
- (6) 610 lin. ft. remove and salvage railroad track;
- (7) 1020 cu. yds. excavation unclassified.

Deposit \$10, returnable, required for specifications obtainable from above. Certified check 5% required with bid.

RESERVOIRS AND DAMS

LOS ANGELES, Cal.—E. C. Eaton, County Flood Control Engineer, is completing plans for the Eaton Canyon earth fill dam for which money to finance was voted in 1924. It is proposed to have the state's approval of the plans in sufficient time to permit the opening of bids for construction by March 15. The cost is placed at \$535,000.

BOULDER CITY, Nev.—See "Government Work and Supplies." In this issue. Contracts awarded by U. S. Reclamation Service for cement for the Boulder Dam project.

PANAMA CANAL ZONE—New York Engineering Co., 75 West St., New York City, N. Y., awarded contract by General Purchasing Agent, Panama Canal, Washington, at \$33,378 for three 132-in. penstocks and two outlet pipes for the Madden Power Plant.

PIPE LINES, WELLS, ETC.

SAN LUIS OBISPO, Cal.—Until Mar. 7, 3 P. M., bids will be received by J. G. Driscoll, county clerk, to construct bored well near crossing of San Luis Obispo-Cambria Rd. and Morro Creek. Certified check \$100 payable to Chairman of Board of Supervisors required with bid. Specifications obtainable from county clerk or surveyor's office.

LOS ANGELES, Cal.—Until Feb. 23, 2 P. M., bids will be received by the Los Angeles County Supervisors for drilling a 16-inch diameter well at Baldwin Park. Project involves:

- (1) 200 lin. ft. 16-in. dia. to a depth of 200 ft.;
- (2) 50 lin. ft. 16-inch diameter to a depth of more than 200 ft.;
- (3) 100 lin. ft. perforating casing;
- (4) 25 hours sand pumping and flushing of perforation.

OAKLAND, Cal.—Santa Fe Foundry Co., D and Clinton, Richmond, total \$891, awarded contract to furnish following items of 17 flanged c. i. water pipe fittings by East Bay Municipal Utility District: (1) one 36-in. flanged tee, \$274; (2) one 36-in. flanged and spigot tee, \$235; (3) two 36x24-inch eccentric flanged reducers, \$111 each; (4) one 36x24-in. concentric flanged reducer, \$110; (10) one 24x16-in. flanged concentric reducer, \$50.

United Iron Works, 580 2nd Street, Oakland, total \$413.50, awarded items (5) one 24-in. flanged tee, \$127.50; (6) four 24-in. flanged 90-deg. short radius elbows, \$71.50 each.

Phoenix Iron Works, 2nd and Castro, Oakland, total \$113.10, awarded items (9) one 24-in. flanged nipple, Class B, 21½-in. long, \$46; (11) one piece 16-in. flanged Class B pipe, 3-ft. long, \$67.10.

All bids on items (7) and (8) rejected.

SEWERS AND SEWAGE DISPOSAL PLANTS

ALAMEDA, Alameda Co., Cal.—As previously reported, bids will be received by Constructing Quartermaster, Benton Air Field, 33 Pacific Ave., Alameda, to construct complete, a drainage system with extra strength reinforced concrete culvert pipe, standard reinforced concrete culvert pipe, and vitrified clay sewer pipe, brick manholes with cast iron frames and covers, rock backfill, concrete headwall and cast iron pipe low water outlet, cast iron back water gates, pipe fittings, etc., at Benton Field Air Depot,

SUNNYVALE, Santa Clara Co., Cal.—Meyer Rosenberg, 1755 San Bruno Ave., San Francisco, at \$30,500 awarded contract by Bureau of Yards and Docks, Navy Department, Washington, D. C., under Specification No. 6705, to construct water distributing and sewage systems at the Naval Air Station, Sunnyvale.

EL CENTRO, Imperial Co., Calif.—City Engineer P. W. Knight estimates cost of new outfall sewer at between \$150,000 and \$200,000. Report taken under advisement by city council.

ALAMEDA, Alameda Co., Cal.—Until March 7, 11 A. M., bids will be received by Capt. Leander Larson, Constructing Quartermaster, Benton Air Depot, 33 Pacific Ave., Alameda, for the installation of a drainage system in connection with the Benton Air Depot project. Plans obtainable from the Constructing Quartermaster at the above address.

ALBANY, Alameda Co., Cal.—City Engineer H. I. Dygert completes plans and bids will be asked in about ninety days to construct sanitary sewer connection between the Albany North Outfall Sewer and the Stege Sanitary Outfall Sewer, involving:
 (1) 2048 lin. ft. 18" sewer;
 (2) 75 cu. yds. foundation rock;
 (3) 800 lin. ft. redwood sleepers;
 (4) 2000 lin. ft. timber piles;
 (5) 600 lin. ft. timber foundation;
 (6) 30 lin. ft. concrete reinforcing;
 (7) 4 manholes.

SPARKS, Nev.—City Engineer Taylor, instructed by city council to prepare estimates of cost for a drainage system in connection with the municipal paving program.

LOS ANGELES, Cal.—Until 10 A. M. March 2, bids will be received by the board of public works to construct Section No. 3 of San Pedro Intercepting Sewer in Harbor Blvd. and Wilmington and San Pedro Road, bet. Pacific Ave. and Sixth St., Cash Contract, involving:
 (1) Type I—6792.69 ft. vit. clay pipe sewer, including concrete reinforcement, tunnels, structures, etc., complete, including resurfacing.
 (2) Type II—6792.69 ft. cement pipe and precast reinforced concrete pipe sewer, including concrete reinforcement, tunnels, structures, etc., complete, including resurfacing.
 (3) Type III—6892.69 ft. centrifugal concrete pipe sewer, including concrete reinforcement, tunnels, etc.

Specifications obtainable from City Engineer, room 5, City Hall.

WATERWORKS

TACOMA, Wash.—City council will shortly ask bids for Hood St. Pumping Station, involving equipment to cost \$40,000; 1,830 ft. of 30-in. electric-welded steel pipe from Hood Street Pumping Station to distribution system, \$25,600; extending 3,590 ft. 42-in. present Wells pipe line to Hood Street Reservoir, \$159,000; duplication of "gravity line," consisting of 6,280 ft. 48-in. electric-welded steel pipe, \$155,600; 4 deep wells for additional supply of not less than 20 m.g.d., \$100,000; reinforced concrete sewage tank, \$5,000.

WAPATO, Wash.—U. S. Bureau of Reclamation, Wapato, is preparing revised plans for Pumping Unit No. 2 on the Wapato project, for which an appropriation of \$360,000 is available. D. Redman is project engineer.

MARCH FIELD, Riverside Co., Cal.—Until 11 A. M., March 7, bids will be received by Col. W. C. Gardenhire, Const. Quartermaster, March Field, to furnish and construct one 200,000-gal. steel water tank supported on a 6-column steel trestle with foundations, valve chambers, 6-inch cast iron blow-off pipe with valve and a connection to existing drain line and 10-inch cast iron water supply connection with valve to Post system, including all piping, new 8-inch bypass and connections, valves, beacon platform, etc., at March Field; Spec. No. 9074-D.

MARCH FIELD, Riverside Co., Cal.—Until 10:30 A. M., March 7, bids will be received by Col. W. C. Gardenhire, Const. Quartermaster, March Field, to construct 200,000-gal. concrete reservoir including 6-inch cast iron blow-off line with valve, 12-inch supply main with valve and two 8-in. cast iron branch lines, with valves and fittings, to connect with existing piping and 10-inch cast iron outlet main with valves and fittings to connect with existing piping at March Field; Spec. No. 9073-D.

MOUNTAIN VIEW, Santa Clara Co., Cal.—O. A. Smith Corp., Milwaukee, Wis., at \$53,018 submitted low bid Feb. 9 to the Bureau of Supplies and Accounts, Navy Department, Washington, D. C., under Schedule No. 7334 to furnish 85 helium storage tanks, 80 ft. long and 2 ft. outside diameter for 750-lb. per sq. inch in gauge working pressure. Hedges-Walsh-Weidner Co., Chattanooga, Tenn., at \$57,290 second low, and Western Pipe and Steel Co., San Francisco, third low at \$70,740.

STOCKTON, San Joaquin Co., Cal.—United Commercial Co., 234 Steuart St., San Francisco, at \$22,572.50 awarded contract by city council to furnish rails, angle bars and tie plates in connection with the first unit of the Stockton Belt Railroad Project. A bid of \$25,542, previously submitted by D. McDonald of Sacramento, was rejected and W. B. Hogan, city manager, instructed to purchase the equipment in the open market. General contract for the railroad was awarded to Shannahan Bros. of San Francisco and Los Angeles.

SUNNYVALE, Santa Clara Co., Cal.—As previously reported, bids will be received March 2, 11 A. M., under Specification No. 6789, by the Bureau of Yards and Docks, Navy Department, Washington, D. C., for two gravel-wall wells, pumps and pump houses at the Naval Air Station, Sunnyvale. Plans obtainable from the Commandant, Twelfth Naval District, 100 Harrison St., San Francisco, on deposit of \$10, returnable, checks for same to be made payable to the Chief of the Bureau of Yards and Docks.

SUNNYVALE, Santa Clara Co., Cal.—Meyer Rosenberg, 1755 San Bruno Ave., San Francisco, at \$30,500 submitted low bid to the Bureau of Yards and Docks, Navy Department,

Washington, D. C., under Specification No. 6705, to construct water distributing and sewage systems at the Naval Air Station, Sunnyvale. Three low bidders on this project follow:
 Meyer Rosenberg, S. F., \$30,500
 F. W. Snook Co., S. F., \$22,200
 J. A. Fazio, Oakland., \$34,000

PACIFIC GROVE, Monterey Co., Calif.—As previously reported, until Feb. 18, 7:30 P. M., bids will be received by Elgin C. Hurlbert, city clerk, to furnish galvanized steel pipe in mill lengths and pipe fittings as follows:

- (1) 2300 ft. 2-in. pipe;
 - (2) 750 ft. 1½-in. pipe;
 - (3) 2200 ft. 1¼-in. pipe;
 - (4) 9000 ft. 1-in. pipe;
 - (5) 632 pipe fittings.
- The bid for 632 fittings shall be in lump sum for the following units (o.b. Pacific Grove):
 23 2-in. Dresser couplings (black);
 156 1-in. hydraulic recess couplings (black);
 2 2-in. pipe plugs (black);
 11 2x1½-in. pipe bushings (black);
 40 2x1½-in. do;
 33 2x1-in. do;
 4 1½x1¼-in. do;
 24 1½x1-in. do;
 91 1¼x1-in. do;
 5 1x4-in. galv. screw nipples;
 1 1¼x4-in. do;
 9 2-in. galv. malleable beaded tees;
 7 1½-in. do;
 47 1¼-in. do;
 20 1-in. do;
 26 2-in. galv. malleable beaded crosses
 6 1½-in. do;
 8 1-in. galv. malleable beaded street
 ells, 90 deg.;
 120 1-in. galv. malleable beaded ells,
 90 deg.
- Pipe and fittings shall comply with Federal Specifications WW-P-441, or equal. Certified check 10% required with bid. 5

SUNNYVALE, Santa Clara Co., Cal.—Meyer Rosenberg, 1755 San Bruno Ave., San Francisco, at \$30,500 awarded contract by Bureau of Yards and Docks, Navy Department, Washington, D. C., under Specification No. 6705, to construct water distributing and sewage systems at the Naval Air Station, Sunnyvale.

SAN FRANCISCO.—Until Feb. 16, 2 P. M., bids will be received by C. H. Sweetser, District Engineer, U. S. Bureau of Public Roads, 461 Market St., San Francisco, to construct Unit 5, Government Island construction, Government Island, Alameda, consisting of constructing fresh water distributing system and salt water fire protection system, involving:
 (1) 8000 lin. ft. dip and wrap new 6-in. steel pipe;
 (2) 13 6-in. gate valves and appurtenances;
 (3) 8000 lin. ft. lay 6-in. pipe line and appurtenances;
 (4) 20 recondition and install fire hydrants;
 (5) 210 lin. ft. 2½-in. galv. wrought iron pipe;
 (6) 400 lin. ft. 3-in. do;
 (7) 8 3-in. gate valves;
 (8) 4 3-in. water meters and appurtenances;
 (9) 520 lin. ft. lay 2½-in. and 3-in. services.

Previous bids rejected. Complete list of unit and total bids received under previous call published in our issue of Jan. 23. Specifications obtainable from above on deposit of \$10, returnable. Certified check payable to Federal Reserve Bank of San Francisco.

DAILY NEWS SERVICE

If you are interested in a daily construction news service featuring all types of building and engineering construction, send for free sample copies of Daily Pacific Builder. Subscription price, \$1.50 per month or \$15.00 per year when paid in advance.

Daily Pacific Builder features in each issue, timely reports on work contemplated, bids wanted, bids opened and contracts awarded for all types of building and engineering construction, machinery and equipment, Government work, supplies and equipment, business opportunities, etc.

Daily Pacific Builder is the only publication publishing listings of building permits, building contracts, mechanics liens, etc., in Northern and Central California.

Send for sample copies today or phone GARfield 8744.

Daily Pacific Builder

545 Mission St.
 San Francisco, Calif.

PRESCOTT, Ariz.—No bids submitted to the city council Jan. 25 for the \$200,000 water bond issue authorized at the special election last August. The city council and chamber of commerce are discussing ways and means to find a buyer for the bonds.

MIAMI, Ariz.—Arizona Edison Co. will start construction at once in replacing water mains where storm sewers are to be constructed, the work involving approximately 7,000 ft. cast iron water main, including 200 ft. 8-in. pipe; 5,000 ft. 4-in. pipe; 1,000 ft. 2-in. pipe; 300 ft. 6-in. pipe. Following the laying of the new mains, the Driscoll Const. Co., Pueblo, Colo., will begin actual construction of the new storm sewer, for which they hold the contract.

SUNNYVALE, Santa Clara Co., Cal.—Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa., (second low bidder) at \$10,360 awarded contract by Bureau of Yards and Docks, under Spec. No. 6758 to construct one 200,000-gallon steel water tank on 100-ft. steel tower at the Naval Air Station, Sunnyvale.

SUNNYVALE, Santa Clara Co., Cal.—Until March 2, 11 A. M., under Spec. No. 6789 bids will be received by Bureau of Yards and Docks, Navy Department, Washington, D. C., for pumps, pump houses and wells at the Sunnyvale Air Station. Plans and specifications are obtainable from the office of the 12th Naval District, 100 Harrison Street, San Francisco.

WEST LOCH, T. H.—Bureau of Yards and Docks, Navy Department, Washington, D. C., is preparing Specification No. 6746 for water supply system at West Loch, T. H. Estimated cost, \$45,000. Bids for construction will be asked shortly.

SUNNYVALE, Santa Clara Co., Cal.—Bureau of Yards and Docks, Navy Department, Washington, D. C., is preparing specification No. 6783 to drill wells and install pumps at the Sunnyvale Dirigible Base. Estimated cost \$15,000. Further mention will be made of this work when bids are asked.

LONG BEACH, Cal.—Bids for furnishing cast iron pipe opened by city manager, Feb. 9 follow:

- Item (1) 100,080 ft. 6-in. pipe;
Alt. a, 12-ft. lengths;
Alt. b, 16-ft. lengths;
Alt. c, 18-ft. lengths;
Alt. d, 20-ft. lengths;
2nd alternate, 12-ft. lengths.
Item (2) 50,040 ft. 8-in. pipe, with alternates as in item (1);
Item (3) 20,160 ft. 12-in. pipe, with alternates as in item (1);
The bids were:

United States Pipe & Foundry Co.—Alt. a, total order \$76,933.58; alt. c, \$76,933.58.

American Cast Iron Pipe Co.—(1) alt. b, \$8,756 ct.; total \$38,781; (2) alt. b, \$4,716 ct.; total \$27,376.88; (3) alt. b, \$5,94 c t.; total \$19,341.50; grand total, \$85,499.38.

National Cast Iron Pipe Co.—(1) alt. c, \$89,900; (2) alt. c, \$28,375; (3) \$21,260; grand total, \$89,000.

Pacific States Cast Iron Pipe Co.—(1) 2nd alt. \$40,032; (2) 2nd alt., \$34,024 (3) 2nd alt., \$20,764.50.

J. W. Black Co., Ltd.—(1) alt. b, 41.15c ft.; total, \$41,182.92; (2) alt. b, 58.15c ft.; total \$29,098.26; (3) alt. d, \$1,0215 ft.; total, \$20,593.44; grand total, \$90,874.62.

CANAL ZONE.—Until March 21, 10:30 A. M., under Schedule No. 2725, bids will be received by Purchasing Officer, Panama Canal, Washington, D. C., for Emergency Butterfly Valves, Sluice Gates, Conduit Linings and Trash Rack Metal Work for the Madden Dam in the Panama Canal Zone.

STREETS AND HIGHWAYS

CENTRAL CALIFORNIA.—Until Feb. 24, 2 P. M., bids will be received by R. E. Pierce, District Engineer, State Highway Commission, Room 502, State Office Bldg., Sacramento, to apply Diesel oil to roadside vegetation over a distance of about 180 roadside miles in the counties of Amador, Calaveras, Tuolumne and Stanislaus.

SEATTLE, Wash.—Until March 11, 10 A. M., bids will be received by Samuel J. Humes, State Highway Director and G. W. Roberge, secretary, Seattle Board of Public Works, at the office of the State Highway Director, Olympia, to improve Aurora Avenue, Valley, Aloha, Ward and Prospect streets, Highland Drive and Constock St., involving grading, retaining, sewers, water mains and paving. Estimated cost \$240,000. Plans obtainable from the Director of Highways at Olympia or the secretary of the Board of Public Works at Seattle.

RIVERSIDE COUNTY, Cal.—As previously reported, bids will be received March 2, 2 P. M., by State Highway Commission to grade and surface with oil treated crushed gravel or stone, 19.5 miles between Shavers Summit and Desert Center. Project involves:

- (1) 375,000 cu. yds. rdwy. excavation without class;
- (2) 730,000 sta. yds. overhaul;
- (3) 491,000 cu. yds. ditch and channel excavation;
- (4) 54,000 cu. yds. gravel base;
- (5) 31,500 cu. yds. struc. excav.;
- (6) 52,000 tons crushed gravel or stone surfacing;
- (7) 1,400 cu. yds. screenings (seal coat);
- (8) 16,200 bbls. fuel oil (surf. and seal coat);
- (9) 3430 lin. ft. 36-in. corr. metal pipe;
- (10) 453 lin. ft. 48-in. do;
- (11) 3000 M. gals. water applied to subgrade and base;
- (12) 82,010 lin. ft. furnish treated piles
- (13) 2942 drive piles;
- (14) 1233 M. ft. b.m. redwood timber, dense sel. all-heart structural grade;
- (15) 1134 M. ft. b.m. redwood timber, select all-heart struc. grade;
- (16) 996 sta. finish rdwy.;
- (17) 555 monuments.

State will furnish corrugated metal pipe.

LOS ANGELES, Calif.—County supervisors will start proceedings shortly to extend Anandale Blvd. from its present terminus at Colorado Blvd. between Pasadena and Eagle Blvd. to connect with Michigan Avenue in La Canada over the San Rafael Hills. Estimated cost \$755,000.

OLYMPIA, Wash.—D. A. Sullivan & Co., 3523 N. W. Blvd., Spokane, at \$40,753 awarded contract by State Highway Commission for clearing, grading and draining about 6.6 miles of State Road No. 22, Evans North in Stevens County, involving: 29 acres of clearing; 103,800 cu. yds. excavation; 1425 lin. ft. pipe culverts, and other items.

SAN BERNARDINO COUNTY, Cal.—Until February 24, 5 P. M. bids will be received by E. Q. Sullivan, district engineer, State Highway Commission, 247 Third St., San Bernardino, for removal of dead trees from highway right-of-way between P-pand and San Bernardino. Specifications obtainable from engineer.

OLYMPIA, Wash.—Morrison-Knudsen, Boise, Idaho, at \$122,803 submitted low bid to State Highway Commission for clearing, grading, surfacing with crushed stone and draining about 3.7 miles of State Road No. 5 (Fairfax branch), Forest Line to Park Entrance in Pierce County, involving: 42 acres of clearing; 208,320 cu. yds. of excavation; 12,150 cu. yds. crushed stone; 2265 lin. ft. drain pipe; 3039 lin. ft. pipe culverts; 1 timber trestle 210 ft. long, and other items.

OLYMPIA, Wash.—Until March 8, 10 A. M., bids will be received by Samuel J. Humes, State Director of Highways, Olympia, Wash., for the following projects:

Paving with Portland cement concrete about 11.7 miles of State Road No. 3, Hillsdale to Yakima in Kittitas and Yakima Counties, Federal Aid Project No. 105-C.

Resurfacing and stockpiling about 5580 cubic yards of crushed stone on about 1.5 miles of State Road No. 5, Kosmos to Divide in Lewis County.

Clearing, grading, surfacing with crushed stone and draining about 4.5 miles of State Road No. 10, Entiat Ferry to Orondo, Federal Aid Project No. 145-H in Douglas County, involving:

- 42,250 cu. yds. excavation;
- 12,500 cu. yds. crushed stone;
- 705 lin. ft. pipe culverts, etc.

Constructing about 43.0 miles of Bituminous macadam on State Road No. 14, Junction State Road No. 9 to Gig Harbor, Harper and Manchester, involving:

- 52,000 cu. yds. crushed stone;
- 2600 tons bituminous cement and other items—also constructing a bituminous treated surface by the Road Mix Method on about 4.8 miles of state Road No. 21, Bremerton to Junction Seabeck Road, involving:
- 310 tons of bituminous cement, etc.

Certified check 5% payable to State Treasurer required with bid.

EL SEGUNDO, Los Angeles Co., Cal.—City council has started proceedings to improve two miles of Arizona Ave. between the Imperial Highway and Rosecrans, involving asphaltic pavement, curbs and gutters; estimated cost \$270,000. R. T. Hutchins, city engineer.

SUB-CONTRACTORS MATERIALMEN Stop Your Losses

Credit information on general contractors, owners, builders and individuals.

MATERIALMEN'S CREDIT BUREAU

J. E. Higgins, General Manager
564 Market St.—KEarny 6245-46
Night Phone Douglas 5304
San Francisco

HUMBOLDT COUNTY, Cal.—Until February 23, 2 P. M., bids will be received by C. H. Sweetser, district engineer, U. S. Bureau of Public Roads, 461 Market St., San Francisco, for 4.07 miles of highway grading and structures, Federal Lands Project No. 1, Hoopa Valley Indian Reservation, involving:

- (1) 33 acres clearing;
- (2) 350,000 cu. yds. unclass. excav.;
- (3) 2487 cu. yds. unclass. excav. for structures;
- (4) 200,000 sta. yds. overhaul;
- (5) 4.63 miles finishing earth graded road;
- (6) 72.5 M.B.M. untreated timber in place;
- (7) 100 cu. yds. concrete;
- (8) 4200 lbs. reinforcing steel;
- (9) 26 cu. yds. cem. rubble masonry;
- (10) 260 cu. yds. dry rubble masonry;
- (11) 2400 lin. ft. corr. metal pipe;
- (12) 1030 cu. yds. hand laid rock embankment;
- (13) 83.7 M.B.M. timber cribbing;
- (14) 1900 sq. yds. asphaltic wearing surface;
- (15) 100 cu. yds. base course;
- (16) 12,500 lin. ft. protection ditch.

Plans obtainable from engineer of office, 461 Market Street, San Francisco, on deposit of \$10, returnable, checks for same to be certified and made payable to the Federal Reserve Bank of San Francisco.

LOS ANGELES, Calif.—Peck Contracting Co., 2918 Denby Ave., awarded contract by county supervisors at \$184,415 for improving Vermont Ave. and Bixby Ave. from Ocean Ave. to Normandie Ave. and Amaranth Ave. and Vermont Ave. bet. Lomita Blvd. and Vermont Ave., under Cash Contract No. 432, approximately 3.48 mi.

FORT SHAFTER, T. H.—Hawaiian Contracting Co., Honolulu, at \$116,847 awarded contract by Department Quartermaster, Fort Shafter, T. H., to construct roads and install electric system at Fort Shafter.

SANTA CLARA COUNTY, Calif.—Union Paving Co., Call Bldg., San Francisco, at \$62,637 awarded contract by State Highway Commission to grade and pave with asphalt concrete and Portland cement concrete, 3.4 mi. bet. Union Ave. and Stevens Creek Road. Complete bids published in issue of Jan. 28.

SONOMA - MENDOCINO Counties, Calif.—Granfield, Farrar & Carlin, 67 Hoff St., San Francisco, at \$403,264.20 awarded contract by State Highway Commission to grade 13.9 miles between Cloverdale and Hopland. Complete bids published in issue of Jan. 28.

PEARL HARBOR, T. H.—Bureau of Yards and Docks, Navy Department, Washington, D. C., is preparing Specification No. 6711 for seaplane beach and paving at Pearl Harbor, T. H. Estimated cost \$10,000.

BEVERLY HILLS, Los Angeles Co. Cal.—Until 8 P. M., March 1, bids will be received by city council to improve alley west of Roxbury Drive bet. Lomitas Ave. and Sunset Blvd., involving:

- (1) 28,595 sq. ft. grading and repairing sub-grade;
 - (2) 9 ft. Class B curb;
 - (3) 12.5 sq. ft. sidewalk;
 - (4) 25,748 sq. ft. 5-in. asph. concrete pavement (Topeka);
 - (5) 49 ft. 6-in. vitrified sewer;
 - (6) 5 water services (1½-in. pipe).
- W. R. Metz, city engineer.

NORTHERN CALIFORNIA.—Until February 24, 2:30 P. M., bids will be received by C. H. Whitmore, District Engineer, State Highway Commission, Room 502, State Office Bldg., Sacramento, to apply Diesel oil to roadside vegetation over a distance of about 153 roadside miles in the counties of Placer, Yuba, Sutter, Butte, Lake and Colusa.

NORTHERN CALIFORNIA.—Until February 24, 2:30 P. M., bids will be received by C. H. Whitmore, District Engineer, State Highway Commission, Room 502, State Office Bldg., Sacramento, to apply Diesel oil to roadside vegetation over a distance of about 140 roadside miles in the counties of Sacramento, Placer, El Dorado and Nevada.

SAN DIEGO COUNTY, Cal.—As previously reported, until February 24, 2 P. M., bids will be received by State Highway Commission to grade and pave with Portland cement concrete about 0.8 mile between Sorrento Creek and Del Mar, involving:

- (1) 42 sta. clear and grub right-of-way;
 - (2) 177,000 cu. yds. rdwy. excav. without class;
 - (3) 2,500,000 sta. yds. overhaul;
 - (4) 700 cu. yds. struc. excav.;
 - (5) 9050 sq. yds. subgrade for pave.;
 - (6) 1880 cu. yds. Class "A" Port. cem. conc. (pave.);
 - (7) 20 cu. yds. Class "A" Port. cem. conc. (struc.);
 - (8) 44,000 lbs. bar reinf. steel (pave and struc.);
 - (9) 180 lin. ft. 18" corr. metal pipe;
 - (10) 170 lin. ft. 24" corr. metal pipe;
 - (11) 70 lin. ft. 36" corr. metal pipe;
 - (12) 1060 cu. yds. Port. cem. conc. to be removed from exist. pave.;
 - (13) 4800 M. gal. water (embank);
 - (14) 9200 cu. yds. misc. iron and steel (struc.);
 - (15) 6 culv. markets in place;
 - (16) 100 lin. ft. solid timber guard rail;
 - (17) 42 sta. finish rdwy;
 - (18) 12 monu. complete in place.
- State will furnish corrugated metal pipe.

NORTHERN CALIFORNIA—Until Feb. 25, 2 P. M., bids will be received by John H. Skeggs, District Engineer, State Highway Commission, 211 State Bldg., San Francisco, to apply Diesel oil to roadside vegetation over about 80 miles in the counties of San Mateo, Alameda, Santa Clara, Santa Cruz and Contra Costa.

DAILY NEWS SERVICE

If you are interested in a daily construction news service featuring all types of building and engineering construction, send for free sample copies of Daily Pacific Builder. Subscription price, \$150 per month or \$15.00 per year when paid in advance.

Daily Pacific Builder features in each issue, timely reports on work contemplated, bids wanted, bids opened and contracts awarded for all types of building and engineering construction, machinery and equipment, Government work, supplies and equipment, business opportunities, etc.

Daily Pacific Builder is the only publication publishing listings of building permits, building contracts, mechanics liens, etc., in Northern and Central California.

Send for sample copies today or phone GAfield 8744.

Daily Pacific Builder
545 Mission St.
San Francisco, Calif.

ORANGE COUNTY, Cal.—As previously reported, until Feb. 24, 2 P. M., bids will be received by State Highway Commission, Sacramento, to grade and pave with asphalt concrete about 1.9 miles in Fullerton, involving:

- (1) 102 sta. clear and grub right-of-way;
 - (2) 26,000 cu. yds. rdwy. excav. without class;
 - (3) 2000 cu. yds. struc. excav.;
 - (4) 42,100 sq. yds. subgr. for pave.;
 - (5) 23,000 cu. yds. asph. paint binder;
 - (6) 19,150 tons asph. conc.;
 - (7) 705 cu. yds. Class "A" Port. cem. conc. (bridge);
 - (8) 620 cu. yds. Class "A" Port. cem. conc. (curbs);
 - (9) 31 cu. yds. Class "A" Port. cem. conc. (catchbasins);
 - (10) 220 cu. yds. Class "B" Port. cem. conc. (bridge);
 - (11) 25 cu. yds. Class "E" Port. cem. conc. (bridge)
 - (12) 75,000 lbs. bar reinf. steel;
 - (13) 20 lin. ft. 18" corrugated metal pipe;
 - (14) 35 lin. ft. 24" corr. metal pipe;
 - (15) 80 lin. ft. 30" corr. metal pipe;
 - (16) 50 cu. yds. asph. conc. rem. from exist. pave.;
 - (17) 0.1 mi. move and reset property fence;
 - (18) 102 sta. finish rdwy.
- State will furnish corr. metal pipe.

BOISE, Idaho—Until February 26, 2 P. M., bids will be received by State Commissioner of Public Works:

(1) Construct roadbed, drainage structures and surfacing with crushed gravel 9.535 miles of the North Side highway between Jerome and Edon in Jerome County, involving:

- 3300 cu. yds. solid rock excav.;
 - 86,200 cu. yds. common excav.;
 - 2590 cu. yds. struc. excav.;
 - 20,000 station yds. overhaul;
 - 27,500 mile yds. haul on borrow;
 - 12,340 cu. yds. crushed gravel surfacing (FAP 37CD);
 - 4200 cu. yds. crushed gravel surfacing (FAP 42-D);
 - 3400 cu. yds. binder;
 - 8200 mile yds. binder haul, etc.
- (2) Construct roadbed, drainage structures and surfacing with crushed gravel 4.114 miles of the Coeur d'Alene-Yellowstone trail between Mullan and the Montana line in Shoshone County, involving:
- 44 acres clearing;
 - 16.4 acres grubbing;
 - 33,000 cu. yds. solid rock excav.;
 - 179,600 cu. yds. common excav.;
 - 1320 cu. yds. struc. excav.;
 - 537,000 sta. yds. overhaul;
 - 12,070 cu. yds. crushed rock surf., etc.

Plans obtainable from the State Bureau of highways, Boise, on deposit of \$2.

IMPERIAL COUNTY, Calif.—R. E. Hazard Contracting Co., 2548 Kettner Ave., San Diego, at \$33,687 submitted low bid to State Highway Commission to construct about 10.1 miles of oil treated crushed gravel or stone borders between El Centro and Calexico, involving:

- (1) 9400 tons crushed gravel or stone (borders);
- (2) 180 tons screenings (seal coat);
- (3) 3050 bbls. fuel oil (borders and seal coat).

Complete bids follow:
(A) R. E. Hazard Contracting Co., San Diego.

(B) V. R. Dennis Const. Co., San Diego.

| | | | | |
|----------|--------|--------|--------|----------|
| (1) | (2) | (3) | Total | |
| (A) | \$2.83 | \$3.20 | \$1.98 | \$33,687 |
| (B) | 3.20 | 3.50 | 2.00 | 36,810 |

KERN COUNTY, Cal.—Bids will be asked the latter part of March or early in April by the State Highway Commission to construct three miles of highway from Grapevine Station to connect the Ridge Route with a line straightaway into Bakersfield, eliminating dangerous curves. Estimated cost, \$524,000.

OREGON STATE.—I. L. Young, 524 Henry Building, Portland, at \$85,475 awarded contract by State Highway Commission to construct Otis-Siletz River Section of the Oregon Coast Highway in Lincoln County, involving 11.5 miles broken stone and gravel surfacing and furnish broken stone in stockpiles, involving 53,000 cu. yds. broken stone and gravel.

Powell and Gilo, Portland, at \$60,209 awarded contract for 6.3 miles grading of the Juntura-Peach Section of the Central Oregon Highway, involving 132,000 cu. yds. excavation in Malheur County.

NORTHERN CALIFORNIA—Until Feb. 25, 2 P. M., bids will be received by John H. Skeggs, District Engineer, State Highway Commission, Room 211, State Bldg., San Francisco, to apply Diesel Oil to roadside vegetation over a distance of about 106 roadside miles in the counties of Mendocino, Sonoma, Marin, Solano, Lake and Napa.

SAN MATEO COUNTY, Cal.—Until March 7, 10 A. M., bids will be received by E. B. Hinman, county clerk, to improve the Sawyer Camp or San Andreas Valley road, involving:

- (1) 3100 cu. yds. clear and grade;
- (2) 36 lin. ft. 24-in. corr. metal pipe culvert installed;
- (3) 46 lin. ft. 18-in. do;
- (4) 1 reinforced concrete wing wall culvert inlet;
- (5) 1 reinforced concrete ell type culvert inlet;
- (6) 2 reinforced conc. straight headwalls.

County will furnish corrugated metal pipe. Certified check 10% required. Jas. James, county surveyor.

FRESNO, Fresno Co., Cal.—Until 11 A. M., Feb. 26, bids will be received by the Fresno City Commission to pave traffic circle at the west end of Belmont Ave. sub-way, involving:

- 73,500 sq. ft. 7-in.-9-in. conc. pave;
- 33,000 sq. ft. 6-in. conc. pave;
- 135,000 sq. ft. grading;
- 2,400 lin. ft. curb;
- 5,600 sq. ft. sidewalk;
- 25 electroliters;
- drainage structures.

Estimated cost, \$40,000. Cash contract. Jean L. Vincenz, commissioner of public works. H. S. Foster, city clerk.

CLARK COUNTY, Nevada.—Gibbons & Reed, 221 E-San Fernando St., Burbank, Calif., at \$169,534 submitted low bid to Nevada State Highway Commission Feb. 10 to reconstruct a portion of the state highway system in Clark County, between Lower Virgin River Bridge and Mesquite, 10.58 miles in length, involving in the main 499,600 cu. yds. roadway excavation; 831,304 yd. sta. overhail; 31,000 cu. yds. crushed rock or crushed gravel surface; 10.58 mi. prepare subgrade and shoulders, etc. Complete list of quantities listed in issue of January 26.

Morrison-Knudsen, Boise, Idaho, at \$189,980 second low and Merritt, Chapman & Scott, San Pedro, Calif., third low at \$198,114. Thirteen bids, in all, were received.

MOUNTAIN VIEW, Santa Clara Co., Cal.—Until Feb. 24, 7:30 P. M., bids will be received by E. L. Hays, city clerk, to improve Moffett Blvd. in Aq. and Imp. District No. 2, involving:

- (1) 3000 cu. yds. grading, excav.
- (2) 52,300 sq. yds. grading, surface;
- (3) 1470 lin. ft. concrete curb and gutter;
- (4) 52,300 sq. ft. rolled rock base;
- (5) 46,400 sq. ft. asphalt conc. pave;
- (6) 500 lin. ft. 8-in. cast iron water main;
- (7) 70 lin. ft. 6-in. do;
- (8) 2 8-inch valves;
- (9) 2 6-inch valves;
- (10) 1200 lbs. cast iron fittings;
- (11) 500 lin. ft. ¾-inch copper service pipe;
- (12) 2 catchbasins;
- (13) 30 lin. ft. 12-in. corr. iron pipe culvert;
- (14) 10 electroliters, complete;
- (15) 1600 lin. ft. 1-in. conduit;
- (16) 1700 lin. ft. electric conductor.

The project will cost \$43,000, of which the city will pay \$25,000 and the county of Santa Clara \$18,000. Work under Aq. and Imp. Act 1925.

Certified check 10% payable to the city of Mountain View required with bid. C. C. Kennedy, Call Bldg., San Francisco, engineer.

LOS ANGELES COUNTY, Cal.—Kovacevich & Price, 5400 Imperial Highway, Compton, at \$163,194.40 awarded contract by State Highway Commission to grade and pave with Portland cement concrete about 10.4 miles between Sepulveda Blvd. and Calabasas.

IMPERIAL COUNTY, Cal.—Griffith Co., Los Angeles Railway Bldg., Los Angeles, at \$37,395 awarded contract by State Highway Commission to grade and pave with asphalt concrete about 14.7 miles between 3 miles west of Coyote Wells and Dixieland.

NEWPORT, Wash.—Colonial Const. Co., Hutton Bldg., Spokane, at \$63,863 (using concrete pipe) awarded contract by Pen d' Oreille County Commissioners for grading, surfacing with crushed stone and drainage, on 1.12 miles of Permanent Highway No. 10, including the erection of a steel cantilever bridge with timber approaches over the Clark's Fork of the Columbia River (Pen d' Oreille river) near Ione.

CALAVERAS CO., Calif.—Larsen Bros., Galt, at \$25,607.10 awarded contract by State Highway Commission to grade surface with crushed gravel or stone 1.6-miles between 3.4-miles north of Angels Camp and 1.8-miles north of Angels Camp.

LOS ANGELES COUNTY, Calif.—Oswald Bros., 366 E 58th St., Los Angeles, at \$51,155.10 awarded contract by State Highway Commission to grade and pave with asphalt concrete about 1.5 miles through Glendora.

DREDGING, HARBOR WORKS & EXCAVATIONS

PORTLAND, Ore.—Oregon Bridge and Dredging Co., Board of Trade Bldg., Portland, at \$1145 cu. yd., awarded contract by U. S. Engineer Office, Portland, for dredging 265,000 cu. yds. material in Isthmus Slough, Coos Bay, Ore.

SACRAMENTO, Cal.—Ajax Dredging Co., 249 First St., San Francisco, awarded contract by U. S. Engineer Office, Sacramento, at 15.9 cu. yd., or a total of \$12,243 for raising existing levee along east side of old channel of Feather River, from a point near Eliza Bend pump (approx. two miles south from Marysville, Yuba Co.), and extending south a distance of approx. 3700 ft. The project involves 77,000 cu. yds.

SACRAMENTO, Calif.—Longview Dredging and Const. Co., Longview, Wash., awarded contract by U. S. Engineer Office, Sacramento, at \$225,547.50 for dredging approx. 3,100,000 cu. yds. in Stockton 26-ft. channel prism from a point west of north end of Spud Island, approx. 10 miles northeast of Stockton. Circular proposal No. 167.

PORTLAND, Ore.—Parker - Schram Co., Couch Bldg., Portland, at \$15,605 awarded contract by U. S. Engineer Office, Portland, to construct 1,555 lin. ft. pile dikes.

LOS ANGELES, Cal.—Bids will be asked at once by U. S. Engineer Office, Central Bldg., Los Angeles, for repairing jetty east side of entrance to San Diego harbor, involving bet. 93,000 and 115,400 tons stone.

LAKE RIVER, Wash.—Pacific Bldg. Material Co., 210 Thompson, Portland, at \$0,095 cu. yd. submitted low bid to U. S. Engineer, Portland, for 23,523 cu. yds. dredging at Lake River. Portland Dredging Co. second low, at \$1.3 cu. yd.

SACRAMENTO, Cal.—Until February 23, 3 P. M., under Circular Proposal No. 32-268 Specification No. 4158, bids will be received by U. S. Engineer Office, California Fruit Bldg., for furnishing and operating a clamshell dredge with necessary auxiliary plant, labor and materials and doing dredging, at hourly rates, in the Sacramento and San Joaquin Rivers, and streams tributary thereto. Bids are being considered for approximately 2000 operating hours. Specification obtainable from above office.

OREGON - WASHINGTON.—Northwestern Electric Co., Public Service Bldg., Portland, Ore., will construct a 114,000-kw. cable line and submarine cable under the Columbia River and Arizona Slough. Work will be undertaken by the company's engineering department. Estimated cost \$275,000.

Member Insurance Brokers' Exchange

FRED H. BOGGS INSURANCE

490 GEARY STREET

Phone FRanklin 9400

San Francisco

BUILDING NEWS

BONDS

CLAREMONT, Los Angeles Co., Cal.—Claremont elementary school district defeated \$103,000 bond issue. The issue will probably be re-submitted within a few months. Marsh, Smith & Powell, 516 Architects Bldg., Los Angeles, are the architects for the district.

NORTH SACRAMENTO, Calif.—Grant Union High School District defeats proposal to issue bonds of \$250,000 to finance construction of a new high school group. The vote was 783 against and 754 in favor. A two-thirds majority was required to carry the proposal. Preliminary plans for the proposed structure were prepared by Architect Starke & Flanders, Forum Bldg., Sacramento.

PALO ALTO, Santa Clara Co., Cal.—City Board of Education has decided to call election in the immediate future to vote bonds to finance erection of a new junior high school plant. The amount to be voted has not yet been determined.

FACTORIES AND WAREHOUSES

Contract Awarded.
PLANT ADDITION Cost, \$100,000
LOS ANGELES, Cal.—5700 E 9th St. Additions to battery plant (steel frame and reinforced concrete walls).

Owner—Willard Storage Battery Co.
Plans by Eng. Dept. of Owner.
Contractor—Wm. P. Nell Co., 4814 Loma Vista St., Los Angeles.
Construction involves lead-oxide mill acid-reclaiming plant and enlarging administration building.

LOS ANGELES, Cal.—Stanton-Reed Co., 816 W Fifth St., Los Angeles, awarded contract for concrete work, framing and timber work at \$115,128 by Los Angeles harbor department for construction of transit shed at Berths 145-146, Los Angeles Harbor.

Filing Bids Wanted.
FACTORY Cost, \$750,000
OAKLAND, Alameda Co., Cal. Foot of Adeline St. on the estuary.

Steel frame and concrete cocoonant products factory (650x100-ft.); steel frame and reinforced concrete warehouse (40x416-ft.); pile foundations, flat slab floor, corrugated iron roof and siding.

Owner—El Dorado Oil Works, Third and University Ave., Berkeley.
Engineers—Ellison and Russell, Pacific Bldg., San Francisco.

Pile Driving—Duncanson Harelson Co., deYoung Bldg., San Francisco
Reinforcing Steel—Gunn, Carle & Co., 444 Market St., San Francisco.

Concrete Aggregates—Standard Supply Co., 17 Spear St., San Francisco.

Bidding bids are being taken by the Duncanson Harelson Co. Bids will be taken for a general contract in about ninety days.

Commissioned To Prepare Plans.
DISTRIBUTING PLANT Cost, \$—
SAN FRANCISCO. Potrero Ave. bet. 25th and Army Sts. (156,000 sq. ft.)
Distributing plant for dairy.
Owner—Dairy Delivery Co., 2550 19th Street.
Architect—Wm. Toepke, Call Bldg.

Preparing Working Drawings.
TERMINAL Cost, \$300,000
SAN FRANCISCO. At rear of State Products Terminal Bldg. in Berry Street.

Reinforced concrete Cotton Terminal. Owner—State of California (Harbor Commission), Ferry Bldg.
Engineer—Frank G. White, Ferry Building.

Completing Revised Plans.
WAREHOUSE, ETC. Cost, \$20,000
HAYWARD, Alameda Co., Cal.

Group of buildings (warehouse, garage residences, etc.); corrugated iron & wood frame construction).
Owner—Pacific Gas and Electric Co., 245 Market St., San Francisco.

Plans by Eng. Dept. of Owner.
Bids will be asked in about 1 week.

GOVERNMENT WORK AND SUPPLIES

Preparing Working Drawings.
POST OFFICE Cost, \$150,000
MARYSVILLE, Yuba Co., Cal. NE Fourth and C Sts. (160x160 ft.)

Class A post office building.
Owner—United States Government.
Architect—J. J. Donovan, 1916 Broadway, Oakland.

PHOENIX, Ariz.—Until Feb. 26, 2 P. M., bids will be received by Carl H. Skinner, Superintendent, Phoenix Indian School, Phoenix, to furnish one shoe finishing machine as follows: To be similar and equal to Model 191, left hand finisher, manufactured by Landis Shoe Repair Machinery Company of St. Louis, Mo., as outlined in their Cat. No. 14. Finisher to be complete with dust collector, but bids are desired both with and without electric motor of 1½-hp., 60-cycle, 220-230-volts, 3-phase.

PEARL HARBOR, T. H.—Newport Contracting and Engineering Co., Lee Hall, Va., at \$148,000 awarded contract by the Bureau of Yards and Docks, Navy Department, Washington, D. C., under Spec. No. 6376, to erect engine and aircraft overhaul shop at Pearl Harbor.

MOUNTAIN VIEW, Santa Clara Co., Cal.—O. A. Smith Corp., Milwaukee, Wis., at \$53,018 submitted low bid Feb. 9 to the Bureau of Supplies and

Accounts, Navy Department, Washington, D. C., under Schedule No. 7334 to furnish 85 helium storage tanks, 80 ft. long and 2 ft. outside diameter for 750-lb. per sq. inch in gauge working pressure. Hedges-Walsh-Weidner Co., Chattanooga, Tenn., at \$57,290 second low, and Western Pipe and Steel Co., San Francisco, third low at \$70,740.

PANAMA CANAL ZONE—New York Engineering Co., 75 West St., New York City, N. Y., awarded contract by General Purchasing Agent, Panama Canal, Washington, at \$33,378 for three 132-in. penstocks and two outlet pipes for the Madden Power Plant.

Preparing Plans.
POSTOFFICE Cost, \$160,000
PALO ALTO, Santa Clara Co., Calif. Hamilton Ave., Waverly and Gilman Sts. (149 ft. frontage).

One-story, mezzanine floor and basement Class A postoffice (concrete walls, clay tile roof, terra cotta, marble, tile work, etc.)

Owner—United States Government.
Architect—Birge M. Clark, 310 University Ave., Palo Alto.

BOULDER CITY, Nev.—Utah-Idaho Cement Co., Salt Lake City, Utah, at \$40,500 and Riverside Portland Cement Co., California Portland Cement Co., Southwestern Portland Cement Co. and Monolith Portland Cement Co., all of Los Angeles, at \$605,200 (combined bid) awarded contract by U. S. reclamation Service to furnish cement on the Boulder Dam Project.

MOUNTAIN VIEW, Santa Clara Co., Cal.—As previously reported, A. O. Smith Corp., Milwaukee, Wis., submitted low bid to Bureau of Supplies and Accounts, Navy Department, Washington, D. C., under Schedule No. 7334 to furnish 85 helium storage tanks, 80 ft. long and 2 ft. outside diameter for 750-lb. per sq. inch in gauge working pressure. Following is a complete list of bids received:

| A. O. Smith Corp. | |
|---------------------------------|--------------------|
| (A) Mountain View | (B) Factory |
| 1-a \$15,700 | 1-a \$41,650 |
| 1-b 48,875 | 1-b 38,250 |
| 1-c 48,875 | 1-c 39,100 |
| 1-d 45,475 | 1-d 36,125 |
| plus \$218.75 for extras | |
| Hedges-Weidner Co., Chattanooga | |
| (a) \$57,290; (b) \$40,250. | |
| Western Pipe & Steel Co., S. F. | |
| (a) \$71,740; (b) no bid. | |

Plans Being Completed.
POSTOFFICE ADDN. Cost, \$750,000
SAN FRANCISCO. Seventh and Mission Streets.

Four-story Class A reinforced concrete addition to postoffice (granite exterior).

Owner—United States Government.
Architect—G. W. Kelham, 315 Montgomery Street.

Plans will be forwarded to Washington for final approval about March 1st.

ALAMEDA, Alameda Co., Cal.—Until March 7, 11 A. M., bids will be received by Capt. Leander Larson, Constructing Quartermaster, Benton Air Depot, 33 Pacific Ave., Alameda, for the installation of a drainage system in connection with the Benton Air Depot project. Plans obtainable from the Constructing Quartermaster at the above address.

SKILSAW Portable Electric Hand Saws (four models).

SKILSAW Portable Electric Sander.

SKILSAW Radial Arm Attachments.

SYNTRON Portable Electric Hammers (four models, motorless).

MILL Flexible Shaft Machines (50 models).

Electric Drills, Grinders, Buffers, Routers, Lock Mortisers.

Peter H. Nelson

Labor Saving Portable Electric Tools

1246 Mission St., San Francisco

Underhill 7662

SALES : SERVICE : RENTALS

WAPATO, Wash.—U. S. Bureau of Reclamation, Wapato, is preparing revised plans for Pumping Unit No. 2 on the Wapato project, for which an appropriation of \$360,000 is available. D. Redman is project engineer.

Low Bidders.
POST OFFICE Cost, \$—
BEND, Oregon.
 Class A postoffice.
 Owner—United States Government.
 Plans by Supervising Architect, Treasury Dept., Washington, D. C.
 Low Bidder—Charles Weitz Sons, 713 Mulberry St., Des Moines, Iowa, \$97,386.
 Second low bid submitted by Dougan—Hammond Const. Co., Portland, Ore., at \$98,200.

WASHINGTON, D. C.—Felton Water Wheel Co., 2929 19th St., San Francisco, at \$30,564 for Schedules Nos. 1 and 2 submitted the low bid Feb. 9 to the U. S. Reclamation Service, Washington, D. C., for electrical apparatus for the Grand Valley Power Plant in Colorado. Electric Machinery Manufacturing Co., Minneapolis, at \$30,100 low under Schedule No. 3 and Standard Mechanical Equipment Co., Dallas, Texas, at \$9270 for Schedule No. 4.

SUNNYVALE, Santa Clara Co., Cal.—Robert E. McKee, 108 W 6th Street, Los Angeles, at \$64,400 awarded contract by Bureau of Yards and Docks, Navy Dept., Washington, D. C., under Specification No. 6706, to construct helium and boiler plant building, medium pressure, helium storage structure, concrete chimney, funnel, inverted syphon and gas holder foundation at the Naval Air Station, Sunnyvale.

February 6, 1932
 Plans Being Figured—Bids Close Mar. 1, 3 P. M.
POST OFFICE \$220,000 Appropriated
POCATELLO, Idaho.
 Extend and remodel post office.
 Owner—United States Government.
 Plans by Supervising Architect, Treasury Dept., Washington, D. C.

Preliminary Plans Completed.
POST OFFICE Cost, \$150,000
VALLEJO, Solano Co., Cal. Main and Carolina Streets.
 Class A Post Office.
 Owner—United States Government.
 Architect—Charles Dean, California State Life Bldg., Sacramento.
 Preliminary plans have been forwarded to Washington for approval.

SAN DIEGO, Cal.—Bureau of Yards and Docks, Navy Department, Washington, D. C., is preparing plans and specifications for the following improvements to be undertaken at San Diego:
 Specification No. 6717—Extension to Building No. 17, \$15,000.
 Specification No. 6689—Gasoline Tank, \$9000.
 Specification No. 6665—Improvement to drawing system, \$40,000.

Completing Plans.
POST OFFICE Cost, \$300,000
BEVERLY HILLS, Los Angeles Co., Cal. Civic Center Site.
 Class A steel frame and masonry Post Office (tile and composition roof).
 Owner—United States Government.
 Architect—Ralph C. Flewelling, 450 N. Beverly Drive.
 Consulting Architect—Allison & Allison, California Reserve Bldg., Los Angeles.

PORT SHAFTER, T. H.—Hawaiian Contracting Co., Honolulu, at \$116,847 awarded contract by Department Quartermaster, Fort Shafter, T. H., to construct roads and install electric system at Port Shafter.

PUGET SOUND, Wash.—Bureau of Yards and Docks, Navy Department, Washington, D. C., is preparing Specification No. 6797 for refrigeration plant at Puget Sound Navy Yard. Estimated cost \$7500. Bids for construction will be asked shortly.

SAN FRANCISCO—Bureau of Yards and Docks, Navy Department, Washington, D. C., is preparing Specification No. 6685 for heating boiler to be installed at Yerba Buena Island in San Francisco Bay. Estimated cost \$4500. Bids for installation will be asked shortly.

PEARL HARBOR, T. H.—Bureau of Yards and Docks, Navy Department, Washington, D. C., is preparing plans and specifications for the following improvements to be undertaken at Pearl Harbor, T. H.:
 Specification No. 6743, recondition locomotive house, \$10,000.
 Specification No. 6746, water supply at West Lock, \$45,000.
 Specification No. 6711, Seaplane Beach and Paving, \$10,000.

CANAL ZONE—Until March 21, 10:30 A. M., under Schedule No. 2725, bids will be received by Purchasing Officer, Panama Canal, Washington, D. C., for Emergency Butterfly Valves Sluice Gates, Conduit Linings and Trash Rack Metal Work for the Madden Dam in the Panama Canal Zone.

SUNNYVALE, Santa Clara Co., Cal.—Bureau of Yards and Docks, Navy Department, Washington, D. C., is preparing plans and specifications for the following construction for the Sunnyvale Dirigible Base:
 Specification No. 6789, wells and pumps, \$15,000.
 Specification No. 6791, industrial buildings, \$275,000.
 Specification No. 6761, helium repairification building, \$78,000.
 Specification No. 6748, passenger elevator (in hangar), \$10,000.
 Specification No. 6707, power plant equipment, \$15,000.

DAILY NEWS SERVICE

If you are interested in a daily construction news service featuring all types of building and engineering construction, send for free sample copies of Daily Pacific Builder. Subscription price, \$1.50 per month or \$15.00 per year when paid in advance.
 Daily Pacific Builder features in each issue, timely reports on work contemplated, bids wanted, bids opened and contracts awarded for all types of building and engineering construction, machinery and equipment, Government work, supplies and equipment, business opportunities, etc.
 Daily Pacific Builder is the only publication publishing listings of building permits, building contracts, mechanics liens, etc., in Northern and Central California.
 Send for sample copies today or phone GARfield 8744.
Daily Pacific Builder
 545 Mission St.
 San Francisco, Calif.

SUNNYVALE, Santa Clara Co., Cal.—Stacey Manufacturing Co., Cincinnati, Ohio, at \$114,487, under Specification No. 6768, awarded contract by Bureau of Yards & Docks, Navy Dept., Washington, D. C., or one 2,000,000 cu. ft. capacity 4-lift telescopic type gas holder at the Naval Air Station, Sunnyvale.

Preliminary Plans Completed.
POST OFFICE Cost, \$150,000
VALLEJO, Solano Co., Cal. Main and Carolina Streets.
 Class A Post Office.
 Owner—United States Government.
 Architect—Charles Dean, California State Life Bldg., Sacramento.
 Preliminary plans will be forwarded to Washington for approval within one week.

Plans Being Completed.
POST OFFICE Cost, \$330,000
GLENDALE, Los Angeles Co., Calif. Broadway between Jackson and Louise Streets.
 Two - story and basement reinforced concrete postoffice (100x230-ft.); exterior brick walls, granite base and entrance steps, terra cotta tile partitions, bronze doors, etc.)
 Owner—United States Government.
 Architect—George M. Lindsay and E. P. Eiden, Union Insurance Bldg., Los Angeles.

SUNNYVALE, Santa Clara Co., Cal.—Pittsburgh - Des Moines Steel Co., Pittsburgh, Pa., (second low bidder) at \$10,260 awarded contract by Bureau of Yards and Docks, under Spec. No. 6758 to construct one 200,000 - gallon steel water tank on 100-ft. steel tower at the Naval Air Station, Sunnyvale.

PEARL HARBOR, T. H.—Newport Contracting and Engineering Co., Lee Hall, Va., at \$148,000 submitted low bid under Spec. No. 6276 to Bureau of Yards and Docks, Navy Department, Washington, D. C., to erect engine and aircraft overhaul shop at the Naval Operating Base (Air Station), Pearl Harbor, T. H. The work includes concrete foundations, structural steel framing, steel windows and doors, hollow tile walls and partitions, plaster and stucco, wood roof decking, built-up roofing, sheet metal, metal covered doors, marble and plumbing fixtures and services, all complete. Three low bidders on this project follow:
 Newport Contracting & Eng.
 Co., Lee Hall, Va.....\$148,000
 E. E. Black, Honolulu..... 149,800
 R. E. Woolley, Honolulu..... 152,000

SUNNYVALE, Santa Clara Co., Cal.—Robert E. McKee, 108 W 6th St., Los Angeles, at \$64,400 submitted low bid to Bureau of Yards and Docks, Navy Dept., Washington, D. C., under Specification No. 6706, to construct helium and boiler plant building, medium pressure, helium storage structure, concrete chimney, funnel, inverted syphon and gas holder foundation at the Naval Air Station, Sunnyvale. Three low bidders follow:
 Robt. E. McKee, L. A.....\$64,400
 E. T. Lesure, Oakland..... 69,860
 K. E. Parker, San Francisco..... 70,750

Plans Being Completed.
POST OFFICE Cost, \$155,000
MONTEREY, Monterey Co., Cal.
 One-story Class A steel frame Spanish type postoffice.
 Owner—United States Government.
 Architect—Wm. O. Raiguel, Del Monte
 Plans will be completed in about 30 days.

SACRAMENTO, Calif.—Until March 2, bids will be received by Supervising Architect, Treasury Dept., Washington, D. C. to furnish and install elevators in the Sacramento Postoffice.

SAN DIEGO-MARE ISLAND, Cal.—R. W. Kaltenbach Corp., Bedford, O., at \$156,200 submitted low bid to the Bureau of Yards and Docks for two 25-ton floating revolving boom cranes for destroyer base at Mare Island and San Diego. See item under "Machinery and Equipment," in this issue.

Bids To Be Asked Shortly.
FEDERAL BLDG. Cost, \$210,000
LONGVIEW, Wash.
 Two-story Class A concrete Federal Bldg., 100x120-ft.
 Owner—United States Government, Architect—Bebb & Gould, Hoge Bldg., Seattle, Wash.

Plans have been submitted to the Supervising Architect, Treasury Department, Washington, D. C., and upon approval bids for construction will be asked.

Preliminary Plans Awaiting Approval.
POSTOFFICE Cost, \$—
NAPA, Napa Co., Cal. Randolph and Second Sts. (240x120-ft.)
 Class A postoffice.

Owner—United States Government, Architect—Reed and Corlett, Oakland Bank Bldg., Oakland.
 Plans have been forwarded to Washington for approval.

Bids Opened.
POST OFFICE Cost, \$—
BOULDER, Colorado.
 Remodel and construct extension to Post Office.
 Owner—United States Government, Plans by Supervising Architect, Treasury Dept. Washington, D. C.

Two Low Bidders
Bushoom & Rauh, Selma, Kansas\$70,000
Mead & Mount Const. Co., Denver, Colo. 72,200

WASHINGTON, D. C.—Bids are being received by the Bureau of Supplies and Accounts, Navy Dept., Washington, D. C., to furnish materials and equipment to Pacific Coast navy yards and stations, further information on the schedules listed being obtainable from the Navy Purchasing Office, 100 Harrison St., San Francisco:
Bids Close Feb. 23

Western yards, steel rivets and washers; sch. 7378.

Mare Island, 21,000 ft. b. m. white ash lumber; sch. 7389.

Mare Island, 1 motor driven expanding and flanging machine; sch. 7402.

Mare Island, 1 motor driven tool grinder; sch. 7404.

Mare Island, 1 motor-driven vertical drill; sch. 7422.

Mare Island, 1 X-ray unit, shock-proof type; sch. 7395.

West yards, boat rivets, brass Washers, and aluminum alloy rivets; sch. 7379.

Mare Island, 19,000 lbs. steel wool; Puget Sound, 17,200 lbs. steel wool; sch. 7417.

Mare Island, 10 hand-driven testing generators; sch. 7407.

Mare Island, 3 motor-driven turret lathes; sch. 7398.

San Diego, 1 motor truck; sch. 7435.

Mare Island, 1 motor driven combination angling, mitering, beveling, and dadoing saw; sch. 7421.

Mare Island, 4 motor driven turret lathes; sch. 7406.

Puget Sound, 4 motor driven turret lathes; sch. 7405.

BOISE, Idaho—Until March 1, 2:30 P. M., bids will be received by Superintendent of Construction, U. S. Veterans' Hospital, Palo Alto, for chain link boundary fence at the Veterans' Administration, Boise, Idaho.

SACRAMENTO, Cal.—Until February 23, 3 P. M., under Circular Proposal No. 32-268 Specification No. 4158, bids will be received by U. S. Engineer Office, California Fruit Bldg., for furnishing and operating a clam-shell dredge with necessary auxiliary plant, labor and materials and doing dredging, at hourly rates, in the Sacramento and San Joaquin Rivers, and streams tributary thereto. Bids are being considered for approximately 2000 operating hours. Specification obtainable from above office.

HALLS AND SOCIETY BUILDINGS

Commissioned To Prepare Plans.
MEMORIAL HALL Cost, \$30,000
SONORA, Tuolumne Co., Cal.
 Memorial hall.
 Owner—County of Tuolumne.
 Architect—G. Frederick Ashley, 525 Market St., San Francisco.

To Ask Bids Shortly.
COMMUNITY CENTER Cost, \$650,000
SAN FRANCISCO, California St. and Divisadero Avenue.

Two-story and basement reinforced concrete community center.
 Owner—Jewish Community Center, Sidney M. Erhman, chairman, 68 Post St., San Francisco.
 Architect—Hyman and Appleton, 68 Post St., and Arthur Brown Jr., 251 Kearny St., San Francisco.

Building will contain gymnasium, swimming pool, handball courts, auditorium, theatre, club rooms, lecture hall, game rooms, lounge rooms and kitchen.

HOSPITALS

Preparing Preliminary Working Drawings.
MEDICAL BLDG. Cost, \$600,000
SAN FRANCISCO. Second and Parnassus Avenues.

Six-story steel frame and concrete medical building.
 Owner—University of California.
 Architect—Wm. C. Hays, Crocker 1st National Bank Bldg., S. F.

Mechanical Engineer—Frank Walsh, 5th Architect W. C. Hays, Crocker 1st National Bank Bldg., S. F.

DAILY NEWS SERVICE

If you are interested in a daily construction news service featuring all types of building and engineering construction, send for free sample copies of Daily Pacific Builder. Subscription price, \$1.50 per month or \$15.00 per year when paid in advance.

Daily Pacific Builder features in each issue, timely reports on work contemplated, bids wanted, bids opened and contracts awarded for all types of building and engineering construction, machinery and equipment, Government work, supplies and equipment, business opportunities, etc.

Daily Pacific Builder is the only publication publishing listings of building permits, building contracts, mechanics liens, etc., in Northern and Central California.

Send for sample copies today or phone GARfield 8744.

Daily Pacific Builder
 545 Mission St.
 San Francisco, Calif.

Preliminary Plans Completed.
HOSPITAL Cost, \$70,000
HEDDING, Shasta Co., Cal.
 One and two-story reinforced concrete hospital (245x36 feet); two ward wings (32x43 ft. each); 44 rooms; tile and composition roof, steam heating system.
 Owner—County of Shasta.
 Architect—Otto Deichmann, 110 Sutter St., San Francisco.

Preliminary plans have been presented to the Board of Supervisors for approval.

Preparing Plans.
SANATORIUM Cost, \$160,000
ALTA LOMA, San Bernardino Co.
 Three-story reinforced concrete sanatorium (accommodate 56).
 Owner—Upland Sanatorium Corp., Dr. H. H. Johnson, President, 160 N. Wilcox Ave., Los Angeles.
 Architect—Edward & Ellis Taylor, 503 W. Third St., Los Angeles.

February 11, 1932

Plans Completed.
NURSES' HOME Cost, \$—
BAKERSFIELD, Kern Co., Cal. Kern County General Hospital.
 Nurses' home.
 Owner—County of Kern.
 Architect—Edwin J. Symmes, Habersfelde Bldg., Bakersfield.
 Bids will be asked shortly.

HOTELS

Plans To Be Prepared.
HOTEL & CLUBHOUSE Cost, \$75,000
TWAIN HARTE, Tuolumne Co., Cal.
 40-acre site.

Hotel and clubhouse (42 rooms and baths) steam heating system, golf courses, plunge, garage, boat house, stables, tennis courts, etc.
 Owner—Twain Harte Mountain Club, (Lee R. Cordray, Rm. 505, American Bank Bldg., Stockton, representing building committee).
 Architect—E. L. Norberg, 580 Market St., San Francisco.

Financing arrangements are now under way.

Contract Awarded.
HOTEL ADDITION Cost, \$—
MERCED, Merced Co., Cal. 601 M St.
 Five-story and basement reinforced concrete Class C addition to hotel (wood studs, concrete exterior walls, columns and beams).

Owner—Stanley Simonson (El Capitan Hotel), 601 M St., Merced.

Architect—Kent & Hass, 525 Market St., San Francisco.

Contractor—Dinwiddie Const. Co., Crocker Bldg., San Francisco.

ICE AND COLD STORAGE PLANTS

Plans Being Prepared.
CANNERY Cost, \$100,000
HAMILTON, Montana.
 Three-story and basement reinforced concrete and hollow tile cold storage warehouse and cannery, 60x120-ft.

Owner—Fred T. Parker.
 Architect—R. C. Hugenin, 1923 West Porphy St., Butte, Mont.

POWER PLANTS

SUNNYVALE, Santa Clara Co., Cal.
 —Bureau of Yards and Docks, Navy Department, Washington, D. C., is preparing Specification No. 6707 to furnish and install power plant equipment in connection with the Sunnyvale Dirigible Base. Estimated cost \$15,000. Bids will be asked shortly.

WASHINGTON, D. C.—Fulton Water Wheel Co., 2929 19th St., San Francisco, at \$30,564 for Schedules Nos. 1 and 2 submitted the low bid Feb. 9 to the U. S. Reclamation Service, Washington, D. C., for electrical apparatus for the Grand Valley Power Plant in Colorado. Electric Machinery Manufacturing Co., Minneapolis, at \$30,100 low under Schedule No. 3 and Standard Mechanical Equipment Co., Dallas, Texas, at \$3270 for Schedule No. 4.

YAKIMA, Wash.—U. S. Bureau of Reclamation is making surveys in connection with the Yakima-Benton Irrigation Project, including the construction of 101-mile ditch to half circle the Yakima and Rosa irrigation canal and the construction of a 30,000-hp. power plant at Union Gap. W. L. Rowe is reclamation engineer.

FRESNO, Fresno Co., Cal.—Proceedings will be started shortly by the city council to take over the power distributing system of the San Joaquin Light & Power Co., within the Fresno city limits, for \$2,500,000, with a view to operating the utility as a municipal project.

ANTIOCH, Contra Costa Co., Cal.—City council is conferring with manufacturers of Diesel engines with a view to having such a plant installed in connection with the water plant and probably the street lighting system.

PUBLIC BUILDINGS, FIRE HOUSES AND JAILS

Plans To Be Prepared.
JAIL Cost, \$15,000
FRESNO, Fresno Co., Cal.
City jail quarters.
Owner—City of Fresno, H. S. Foster, city clerk.

Architect—Not Selected.
Two plans are contemplated, one providing quarters adjacent to the city hall fronting on Broadway and another for an addition to the garage quarters at the city hall.

Commissioned To Prepare Plans
COURT HOUSE Cost, \$250,000
TILLAMOOK, Oregon.
Class A Courthouse.
Owner—County of Tillamook.
Architect—Lawrence, Holford, Allyn & Bean, Falling Bldg., Portland.

Preparing Working Drawings.
ART MUSEUM Cost, \$250,000
SEATTLE, Wash. Volunteer Park.
Three-story concrete art museum, 280 x 75 ft.
Owner—City of Seattle and Art Institute of Seattle (Thos. Toomey, assistant director, Harvard Avenue and E Republican St., Seattle).
Architect—Beeb & Gould, Hope Bldg., Seattle.

Bids Wanted—To Close March 3, 10:30 A. M.
HALL OF RECORDS Cost, \$300,000
MARTINEZ, Contra Costa Co., Cal.
Three-story Class A steel frame and concrete Hall of Records (hollow tile and metal lath partitions, steel sash, heating plant).
Owner—County of Contra Costa.
Architect—E. Geoffrey Bangs, 411 30th St., Oakland.
Structural Engineer—F. H. Tibbitts, Alaska Commercial Building, San Francisco.
Mechanical Engineer—G. M. Simonson, Call Bldg., San Francisco.

Bids are wanted on the following portions of work: Brick and hollow

tile, stone, terra cotta, roofing, sheet metal, furring, lathing, plastering, miscellaneous metal, carpentry, miscellaneous work, painting, plumbing, heating, ventilating and electric work.

On previous bid opening following contracts were awarded:
Elevators to Otis Elevator Co., 1 Beach St., San Francisco, at \$4349; steel erection to J. T. Walsh, 251 Kearny St., San Francisco, at \$8650; glass and glazing to W. P. Fuller & Co., 301 Mission St., San Francisco, at \$2,945; structural steel to Golden Gate Iron Works, 1541 Howard Street, San Francisco, at \$33,264; concrete to Geo. Hudnutt, 1015 S St., Sacramento, at \$72,500.

Plans Being Figured — Bids Close March 7, 2:30 P. M.

MEMORIAL BLDG. Cost, \$50,000
SANTA CRUZ, Santa Cruz Co., Cal.
Two-story and basement Veterans' Memorial Building (60x128 feet); (concrete exterior walls, frame interior, tile roof, wrought iron balconies, Spanish style).
Owner—County of Santa Cruz.
Architect—Davis-Pearce Co., Grant & Weher Sts., Stockton.

LOS ANGELES, Cal.—W. E. Cooper Co., 2035 E. Fifteenth St., awarded contract at \$18,770 (excluding lacquer) by Bureau of Purchases at Sacramento to furnish and lay linoleum in State Building under construction on First St. The contract calls for the use of Fabco brand linoleum.

RESIDENCES

Contract Awarded.
RESIDENCES Cost, \$25,000 each
PALO ALTO, Santa Clara Co., Cal.
Copper Street.
Two one-story and basement frame, stucco and brick residences (12 rooms and garage each; tile roof, gas hot air heating system, electric refrigeration, hardwood floors, colored tile baths and kitchens, etc.)
Owner—Louis Stern.
Architect—Birge M. Clark, 310 University Ave., Palo Alto.
Contractor—Wells P. Goodenough, 310 University Ave., Palo Alto.
Second low bid was submitted by W. H. Weedon, Palo Alto.

DAILY NEWS SERVICE

If you are interested in a daily construction news service featuring all types of building and engineering construction, send for free sample copies of Daily Pacific Builder. Subscription price, \$150 per month or \$15.00 per year when paid in advance.

Daily Pacific Builder features in each issue, timely reports on work contemplated, bids wanted, bids opened and contracts awarded for all types of building and engineering construction, machinery and equipment, Government work, supplies and equipment, business opportunities, etc.

Daily Pacific Builder is the only publication publishing listings of building permits, building contracts, mechanics liens, etc., in Northern and Central California.

Send for sample copies today or phone GA 6744.

Daily Pacific Builder

545 Mission St.
San Francisco, Calif.

Plans Being Figured.
RETREAT HOUSE Cost, \$100,000
LOYOLA, Los Angeles Co., Cal. Sunset Blvd. and Holly Vista Drive.
Concrete and frame retreat house (54 rooms, master's home, 20 rooms; offices, etc.)
Owner—Loyola Retreat Association.
Architect—Ross Montgomery, Chamber of Commerce Bldg., Los Angeles.

Contract To Be Awarded.
RESIDENCE Cost, \$35,000
PIEDMONT, Alameda Co., Cal.
Two-story and basement frame, stucco and brick veneer residence (English type).

Owner—J. J. Hollenbeck.
Architect—Newsom Bros., Russ Bldg., San Francisco.
Contractor—F. C. Stoitte, 3449 Laguna Ave., Oakland.

SCHOOLS

Bids Wanted—To Close Feb. 24.
SCHOOL ADDITION Cost, \$144,000
LOS ANGELES, Los Angeles Co., Cal. Griffith Park Blvd.

Three-story reinforced concrete and brick high school addition (24 classrooms); 64x168 feet.

Owner—Los Angeles City School Dist.
Architect—George M. Lindsay and E. P. Elden, Union Insurance Bldg., Los Angeles.

Contracts Awarded.
ADDITION Cost, \$—
LOS ANGELES, Los Angeles Co., Cal. Campus of the University of Calif.
Three-story and basement Class A reinforced concrete, brick and terra cotta physics building addition (64 by 130 feet).

Owner— Regents of the University of California.
Architect—Allison & Allison, California Reserve Bldg., Los Angeles.
Contractor—Clinton Const. Co., Spring Arcade Bldg., Los Angeles, \$122,400.

Electric—Moore Electric Co., 321 W. Third St., Los Angeles, \$10,564.

Refrigeration and Air Conditioning—Carrier Engr. Co., 743 E. Washington Blvd., Los Angeles, \$28,900.

Plumbing—Pacific Pipe & Supply Co., 1002 Santa Fe Ave., Los Angeles, \$29,488.

Laboratory Furniture—E. H. Sheldon Co., Corte Madera, \$34,707.
Heating and ventilating bids are under advisement.

To Ask Bids In About One Week.
TRAINING SCHOOL Cost, \$160,000
ARCATA, Humboldt Co., Calif. State Teachers' College.

Three-story reinforced concrete training school (assembly hall, stage, manual training room, dining room, cooking and sewing room, library, art and general science, gymnasium, kindergarten section, 11 classrooms, administration section, boiler room, etc.)

Owner—State of California.
Architect—F. T. Georgeson, 516th and C Streets, Eureka.

Plans Completed.
SCHOOL ADDITION Cost, \$84,000
LOS ANGELES, Cal. 450 S Pickett Street.

Two-story Class A reinforced concrete and brick addition to high school (10 classrooms); 60x108-ft.)

Owner—Los Angeles City School Dist.
Architect—Sumner P. Hunt, Laughlin Bldg., Los Angeles.

Plans Completed.
SCHOOL ADDITIONS Cost, \$100,000
 LOS ANGELES, Cal. 1521 N Highland Avenue.
 Two-story reinforced concrete school (22 classrooms; 87x141-ft.) and alterations to auditorium and library.
 Owner—Los Angeles City School Dist. Architect—Marsh, Smith and Powell, Architects' Bldg., Los Angeles.

Plans Being Completed.
DORMITORY Cost, \$100,000
 OAKLAND, Alameda Co., Cal. Mills College Campus.
 Two-story reinforced concrete dormitory (sixty rooms) tile roof, steam heating system.
 Owner—Mills College.
 Architect—W. H. Ratcliff, Jr., Chamber of Commerce Bldg., Berkeley.
 Mgr. of Const.—John Brown, Mills College.
 Owner will take segregated bids shortly.

AUSTIN, Texas.—Robt. E. McKee, 1918 Texas St., El Paso, Texas, and Central Bldg., Los Angeles, awarded contract at \$224,746 to erect home economics building and at \$227,297 for architecture building at Austin for University of Texas.

Plans Completed.
ADDITIONS Cost, \$165,000
BEVERLY HILLS, Los Angeles Co., Cal. No. 241 Morena Drive.
 Class B brick and concrete high school additions (gymnasium, 12 unit classroom, additional equipment, etc.)
 Owner—L. A. City School District.
 Architect—A. S. Nibecker Jr., Los Angeles.
 Heating Engineer—Elliott Lee Ellingwood, Los Angeles.

Plans Being Prepared. Cost, \$—
MERRILL, Oregon.
 One-story fireproof school (180x120-ft.; 9 classrooms, auditorium and gymnasium).
 Owner—Merrill School District.
 Architect—Tourtelotte and Hummel, Post Bldg., Portland.
 An election will be called shortly to vote bonds to finance construction.

Contracts Awarded.
LIBRARY Cost, \$—
FRESNO, Fresno Co., Calif. State Teachers' College.
 Library building (reinforced concrete floors and foundations, brick walls structural steel and wood frame roof covered with clay tile roof).
 Owner—State of California.
 Architect—Swartz and Ryland, Brix Bldg., Fresno, and Spazier Bldg., Monterey.

General Work
 H. Mayson, 9315 S Hooper Ave.
 Los Angeles\$123,953
Heating and Ventilating
 Thos. Haverty, 8th and Maple
 Sts., Los Angeles.....\$14,759
Plumbing
 J. A. Fazio, 402 Castro St., Oak-
 land\$3,230
Electrical Work
 Guilbert Bros., 236 West Santa
 Clara, San Jose\$16,300

Plans Completed.
SCHOOL ADDITIONS Cost, \$150,000
BEVERLY HILLS, Los Angeles Co., Cal. 241 Morena Drive.
 Class B brick and concrete high school additions (12 classrooms; tile roof, steam heat, etc.)
 Owner—Los Angeles City School Dist. Architect—A. S. Nibecker, Jr., Los Angeles.

Plans Being Figured—Bids Close Feb. 17.
SCHOOL Cost, \$70,000
KIRKLAND, Wash.
 Two-story and basement frame and masonry (18-classrooms) school, 170x70 feet.
 Owner—Union High School District "A" of King County, A. B. Newell, Clerk.
 Architect—Wm. Mallis, Lyon Bldg., Seattle, Wash.
 Plans obtainable from the architect.

BANKS, STORES & OFFICES

Contract Awarded.
STORE Cost, \$100,000
 LOS ANGELES, Cal. 425-29 S Broadway.
 Two-story, basement and mezzanine floor Class A reinforced concrete store (60x160-ft.)
 Owner—W. T. Grant Co., 1441 Broadway, New York City.
 Plans by Eng. Dept. of Owner (H. T. Williams, Chief Engineer, New York City).
 Contractor—Herbert M. Baruch Corp., Lincoln Bldg., Los Angeles.

Preliminary Sketches Being Prepared.
TELEPHONE EXCHANGE Cost, \$—
MONTEREY, Monterey Co., Cal. Franklin and Pierce Sts.
 Two-story Class C concrete or brick telephone exchange.
 Owner—Pacific Telephone & Telegraph Co., 140 New Montgomery St., San Francisco.
 Architect—Engr. Dept. of Owner (E. V. Cobby, in charge).

Contract Awarded.
STORE Cost, \$140,000
HONOLULU, T. H.
 Two-story and penthouse store (brick construction, hardwood and cement floors, plate glass, steam heat, steel sash, etc.)
 Owner—S. H. Kress Co., Western Pacific Bldg., Los Angeles.
 Architect—Eng. Dept. of Owner.
 Contractor—Ralph E. Wooley, Castle and Cook Bldg., Honolulu, T. H.

Contract Awarded.
MEDICAL BLDG. Cost, \$50,000
PALO ALTO, Santa Clara Co., Cal. Homer Ave. and Bryant St. (150x150 feet).
 One and two-story reinforced concrete medical building (tile roof, steel sash, steam heating system).
 Owner—Drs. Russell Lee, B. Wilbur, E. F. Roth and M. H. Saler, 440 Foothill Ave., Stanford University, Palo Alto.
 Architect—Elrge M. Clark, 310 University Ave., Palo Alto.
 Contractor—Wells P. Goodenough, 310 University Ave., Palo Alto.
 Construction will start today.

Preparing Plans.
STORE Cost, \$100,000
 LOS ANGELES, Los Angeles Co., Cal. Hollywood Blvd. near Whitley Avenue.
 Four-story brick, concrete and steel store building.
 Owner—S. H. Kress Co., New York City, New York.
 Architect—Eng. Dept. of Owner.

Contract Awarded.
TELEPHONE EXCHANGE Cost, \$150,000
 LOS ANGELES, Cal. Fourth and D Lorena Streets.
 Three-story Class A steel frame, concrete and hollow tile telephone exchange.
 Owner—Southern California Telephone Company.
 Architect—Eng. Dept. of Owner.
 Contractor—R. Westcott Co., 536 S. Broadway, Pasadena.

Contract Awarded.
'PHONE EXCHANGE Cost, \$101,464
 LOS ANGELES, Cal. 3434 E 4th St.
 Three-story Class A reinforced concrete telephone exchange (84x133-ft.; brick filler walls, concrete floors, etc.)
 Owner—Southern California Telephone Co., 740 S Olive St., Los Angeles.
 Plans by Eng. Dept. of Owner.
 Contractor—R. Westcott Co., 536 So. Broadway, Pasadena.

Contract Awarded. Cost, \$25,000
ALTER BLDG.
SACRAMENTO, Sacramento Co., Cal. Tenth and J Sts.
 Extensive alterations to 14-story Class B concrete office building.
 Owner—California Western State Life Insurance Company.
 Architect—George Sellon, California State Life Bldg., Sacramento.
 Contractor—Campbell Const. Co., 800 R St., Sacramento.
 Construction will start February 15.

THEATRES

Contract Awarded.
REMODEL THEATRE Cost, \$40,000
MADERA, Madera Co., Cal. C Street and Yosemite Ave.
 Alterations and additions to theatre (100x150-ft.; class B brick construction) to seat 800, interior decorating, new mechanical equipment, etc.
 Owner—National Theatre Syndicate, 25 Taylor St., San Francisco.
 Plans by Contractor.
 Contractor—Wieland Bros., McHenry Road, Modesto.

Contract Awarded. Cost, \$45,000
THEATRE
BOULDER CITY, Nevada.
 Two-story brick and concrete theatre (60x160) tile and composition roof, cement and wood floors, hot air heating system, metal fronts, etc.
 Owner—Capitol Theatres, Inc., Long Beach.
 Architect—Not Given.
 Contractor—Nevada Const. Co., 3 Fremont St., Las Vegas.

Preparing Plans.
THEATRE Cost, \$—
LAS VEGAS, Nevada. Second St.
 Two-story reinforced concrete or concrete block theatre (40x120 feet) to seat 600.
 Owner—Roscoe Thomas, City Commissioner, and Arthur Brick, Las Vegas, Nevada.
 Architect—A. L. Worswick, Las Vegas

**CAPITAL CITY
 TITLE COMPANY**

▼

J. C. PALEN,
Manager

▼

914 Seventh Street
 Sacramento :: California

Plans Being Prepared.
THEATRE Cost, \$140,000
WOODLAND, Yalo Co., Cal. Main Street.
 Modern theatre (stadium type) to seat 1000.

Owner—National Theatre Syndicate, (L. R. Crook, President), 25 Taylor St., San Francisco.
 Architect—Bliss & Fairweather, Balboa Bldg., San Francisco.

More definite information will be given at a later date.

WHARVES AND DOCKS

SANTA CRUZ, Santa Cruz Co., Cal.—City Engineer Roy Fowler is preparing preliminary plans for a 535-ft. extension, 16-ft. wide, to the side of the outer end of the Municipal Wharf. The plans are being prepared at the request of City Commissioner Alvin Weymouth. No action regarding the contemplated work has been taken by the city council.

Preparing Working Drawings.
PIER SHED Cost, \$50,000
SAN FRANCISCO, On waterfront. Shed for Pier No. 44.
 Owner—State of California (Harbor Commission), Ferry Bldg.
 Engineer—Frank G. White, Ferry Building.

Preparing Working Drawings.
WHARF Cost, \$225,000
SAN FRANCISCO, Islais Creek. Extend Outer Islais Creek Wharf 900 feet, timber construction.
 Owner—State of California (Harbor Commission), Ferry Bldg.
 Engineer—Frank G. White, Ferry Building.

MISCELLANEOUS CONSTRUCTION

Preparing Working Drawings.
MORTUARY Cost, \$85,000
MODESTO, Stanislaus Co., Cal. Two-story frame and stucco mortuary (18 rooms; Spanish type; some concrete work, tile and composition roof.

Owner—Carl Shannon, 921 12th Street, Modesto.
 Architect—Russell Guerne De Lappe, 374 17th St., Oakland.
 Plans will not be ready for bids for ninety days.

LOS ANGELES, Cal.—Until Feb. 23, 2 P. M., bids will be received by the County Supervisors to construct telephone line from Rincon Ranger Station to the San Gabriel Dam No. 2. Project involves:

- (1) 41 A frame, 18-ft. crossarms;
- (2) 24 15-ft. do;
- (3) 31 poles with 6-ft. crossarms;
- (4) 204 concrete anchors;
- (5) 334 guys;
- (6) 3 miles of clearing line of trees and brush;
- (7) 96 trails from road to telegraph station;
- (8) 7 miles stringing wire.

MISCELLANEOUS SUPPLIES AND MATERIALS

OAKLAND, Cal.—Carl S. Noel (Hydraulic Development Corp.) 1 Front St., San Francisco, at \$4470 awarded contract by East Bay Municipal Utility District to furnish 30 tons of joint compound for cast-iron pipe. Complete bids published in issue of Feb. 6.

QUANTITIES LISTED FOR DENVER SEWER WORK TO COST \$1,324,177

DENVER, Colo.—Albian K. Vickery, city engineer, is completing plans and bids will be asked shortly by the Department of Improvements and Parks of the City and County of Denver, to construct main and sub-main sewers in the Park Hill Storm Sewer District; estimated cost, \$1,324,177. Bids will probably be asked for the work under five units, the approximate quantities of materials involved being listed as follows:

PROJECT NO 1

4461 ft. 120-in. brick, reinf. conc.;
 10,400 ft. B. M. lumber;
 28,447 cu. yds. excavation;
 543 cu. yds. reinf. conc., spec. struc.;
 16 storm manholes;
 58 No. 8 inlets;
 58 12-in. slants;
 1300 ft. 12-in. pipe concrete;
 700 ft. curb, replace;
 9500 sq. yds. macadam;
 25 cu. yds. extra Class A conc.;
 10 cu. yds. extra Class B conc.;
 10 cu. yds. extra Class C conc.
 600 ft. wood piling;
 160 cu. yds. rip-rap.

Sanitary Sewer Reconstruction

12-ft. 24-in. C. I. P.;
 12-ft. 18-in. C. I. P.;
 20-ft. 8-in. C. I. P.

PROJECT NO 2

67 lin. ft. 2 sections, 114x120-in. reinforced conc. box sewer, special construction;
 5128 ft. 114-in. brick-reinf. conc.;
 2000 ft. 114-in. brick in cradle, reinf. concrete;
 2616 ft. 102-in. brick-reinf. conc.;
 2000 ft. 12-in. sub-drain;
 6300 ft. 8-in. sub-drain;
 10,000 ft. B. M. lumber;
 24,892 cu. yds. excavation;
 343 cu. yds. reinf. conc. structure;
 22 storm manholes;
 52 No. 8 inlets;
 52 12-in. slants;
 1475 ft. 12-in. pipe connect.;
 1300 ft. curb replacement;
 11,145 sq. yds. macadam;
 2150 sq. yds. oiling;
 25 cu. yds. extra Class A conc.;
 10 cu. yds. extra Class B conc.;
 10 cu. yds. extra Class C conc.
 300 cu. yds. rip-rap.

Sanitary Sewer Reconstruction

50 ft. 12-in. V. C. P.;
 375 ft. 8-in. V. C. P.;
 6 sanitary manholes;
 56 ft. 27 $\frac{1}{2}$ -in. steel pipe;
 12 ft. 12-in. C. I. P.;
 48 ft. 8-in. C. I. P.

PROJECT NO 3.

1398 ft. 72-in. 3-ring brick, mon. pre-cast;
 728 ft. 66-in. 3-ring brick, reinf. conc. pre-cast;
 4607 ft. 66-in. 2-ring brick, mon. pre-cast;
 2080 ft. 63-in. do;
 1713 ft. 60-in. do;
 747 ft. 57-in. do;
 678 ft. 54-in. do;
 620 ft. 51-in. do;
 2642 ft. 48-in. do;
 690 ft. 36-in. single-ring brick, mon. pre-cast;

8060 ft. B. M. lumber;
 46 storm manholes;
 229 No. 8 inlets;
 200 12-in. slants;
 5725 ft. 12-in. pipe connect.
 2500 ft. curb replacement;
 11,835 sq. yds. macadam;
 1235 sq. yds. oiling;
 25 cu. yds. extra Class A conc.;

10 cu. yds. extra Class B conc.;
 10 cu. yds. extra Class C conc.
Sanitary Sewer Reconstruction
 58 ft. 27-in. V. C. P.;
 330 ft. 10-in. V. C. P.;
 1051 ft. 8-in. V. C. P.;
 8 sanitary manholes.

PROJECT NO. 4

2124 ft. 78-in. 3-ring brick, reinf. conc. pre-cast;
 640 ft. 72-in. 3-ring brick, mon. pre-cast;
 388 ft. 66-in. 2-ring do;
 1728 ft. 60-in. do;
 992 ft. 54-in. do;
 487 ft. 51-in. do;
 988 ft. 48-in. do;
 461 ft. 45-in. do;
 100 ft. 33-in. single-ring brick, mon. pre-cast;
 2080 ft. 8-in. sub-drain;
 4000 ft. B. M. lumber;
 20 storm manholes;
 79 No. 8 inlets;
 60 12-in. slants;
 1975 12-in. pipe connect.
 320 ft. curb replace;
 1200 sq. yds. paving;
 6675 sq. yds. macadam;
 1100 sq. yds. oiling;
 25 cu. yds. extra Class A conc.;
 10 cu. yds. extra Class B conc.;
 10 cu. yds. extra Class C conc.

Sanitary Sewer Reconstruction

90 ft. 27-in. V. C. P.;
 175 ft. 15-in. V. C. P.;
 160 ft. 10-in. V. C. P.;
 326 ft. 8-in. V. C. P.;
 3 sanitary manholes;
 24 ft. 8-in. C. I. P.

PROJECT NO. 5

2450 ft. 90-in. 3-ring brick, reinf. conc. pre-cast;
 815 ft. 84-in. 3-ring do;
 951 ft. 60-in. 2-ring brick mon. pre-cast;
 580 ft. 57-in. do;
 527 ft. 51-in. do;
 638 ft. 48-in. do;
 622 ft. 42-in. do;
 542 ft. 36-in. single-ring brick, mon. pre-cast;
 802 ft. 27-in. V. C. P., pre-cast;
 824 ft. 24-in. do;
 5525 ft. 8-in. sub-drain;
 4000 E. M. lumber;
 1400 cu. yds. rock excavation;
 100 cu. yds. loose rock excavation;
 21 storm manholes;
 72 No. 8 inlets;
 60 12-in. slants;
 2056 ft. 12-in. pipe connect.
 200 ft. curb replacement;
 500 sq. yds. paving;
 8055 sq. yds. macadam;
 8055 sq. yds. oiling;
 25 cu. yds. extra Class A conc.;
 10 cu. yds. extra Class B conc.;
 10 cu. yds. extra Class C conc.

Sanitary Sewer Reconstruction

480 ft. 24-in. V. C. P.;
 3 sanitary manholes.

A highway construction program for 1932 which allocated Federal and State funds aggregating \$8,943,040 was approved by the Oregon State Highway Commission last Wednesday.

Unfilled orders of the United States Steel Corporation fell \$7,203 tons to a total of 2,648,150 tons during January, the lowest volume of unfilled business since the latter part of the year 1909. On December 31, 1931, unfilled tonnage stood at 2,735,353; on November 30 at 2,933,891, and on January 31, 1931, at 4,132,351.

CALIFORNIA STATE HIGHWAY PROGRAM FOR 1932 SUMMARIZED

CALIFORNIA.—The program of the Division of Highways for this year as announced by Colonel Walter E. Garrison, Director of the Department of Public Works contemplates improvements in every county of the State, as set up in the budget passed by the last Legislature. Some of the major projects of this program that will be placed under way by April 1 and some that will be advertised between that date and the end of the year are shown in the following table:

Work to be placed under way by April 1, 1932 SOUTHERN COUNTIES

| County | Location | Type | Miles |
|-----------------|---|-------------------|-------|
| Imperial | Coyote Wells to Dixieland | Gr. & A. C. Pave. | 14.7 |
| San Luis Obispo | Cambria to San Simeon | Gr. and Surf. | 8.6 |
| Tulare | Lemon Cove to Three Rivers | Gr. and Surf. | 10.6 |
| Kern | Plaza Garage to Goshen and Plaza Garage to 3 of a mile westerly | Gr. and Pave. | 5.8 |
| Los Angeles | Las Flores Canyon to Santa Ynez Canyon | Gr. and Pave. | 7.4 |
| Orange | Dana Point to Laguna Beach | Gr. and Pave. | 5.6 |
| Orange | Newport to Corona Del Mar | Gr. and Pave. | 3.7 |
| San Diego | El Cajon to Las Coches Cr., ptns. | Gr. and Pave. | 3.5 |
| Los Angeles | Tujunga to La Canada | Gr. and Bridges. | 5.0 |
| Los Angeles | Canton Creek to Piru Creek | Bridges | — |
| San Bernardino | Baker east 10 miles | Gr. and Surf. | 10.0 |
| Riverside | Mecca-Blythe Road, portions | Gr. and Surf. | 16.0 |
| Riverside | 6 mi. N Imperial Co. line to Av. 62 | Gr. and Pave. | 8.3 |
| Riverside | Imperial Co. line to 6 mi. north | Gr. and Pave. | 6.0 |
| Los Angeles | Sepulveda Blvd. to Calabasas | Pavement | 10.5 |

NORTHERN COUNTIES

| | | | |
|----------------|------------------------------------|-----------------|------|
| Mendocino-Son. | Cloverdale to Hopland | Grade and Surf. | 13.9 |
| Shasta | Hat Cr. Summit to Fall River Mills | Grade and Surf. | 8.9 |
| Calaveras | Near Angles Camp | Grade and Surf. | 1.6 |
| Santa Clara | Ware Ave. to Stephens Cr. Road | Grade and Pave. | 3.4 |
| Santa Clara | Stephens Creek Bridge | Bridge | — |
| Lake-Colusa | Abbot Mine to 5 m. W. of Williams | Surface | 19.1 |
| Monterey | Rocky Creek | Bridge | — |
| Nevada | Navada City to Washington Road | Surface | 11.8 |
| Solano | City of Vallejo | Grade and Surf. | 9.3 |
| Alpine | Near Lake Alpine | Grade and Surf. | 5.0 |
| Solano | Cordelia to Fairfield | Grade and Pave. | 5.7 |
| Siskiyou | At Beaver Creek | Grade and Surf. | 0.5 |
| Sacramento | Cosumnes River to McConnell | Grade and Pave. | 1.5 |
| Humboldt | East branch Eel River to Bridge | Grade and Surf. | 0.5 |

Work to be advertised April 1, 1932, to December 31, 1932 SOUTHERN COUNTIES

| County | Location | Type | Miles |
|-----------------|-------------------------------------|-----------------|-------|
| Kern | Kern River | Bridge | — |
| Kern | Bakersfield to Beardsley Canal | Pavement | 2.9 |
| San Bernardino | In Fullerton | Pavement | 1.9 |
| Los Angeles | Santa Ynez Canyon to Santa Mon. | Pavement | 2.6 |
| Los Angeles | Pomona to Los Angeles | Pavement | 11.1 |
| Los Angeles | Pomona to Brea Canyon | Pavement | 6.0 |
| Los Angeles | Through El Segundo | Pavement | 2.0 |
| Los Angeles | Pasadena to Monrovia | Pavement | 3.6 |
| Los Angeles | Jefferson St. to El Segundo | Structure | — |
| Ventura | Ventura Northerly | Pave. & Bridge. | 1.0 |
| San Bernardino | End of pave. to Camp Waterman | Grade and Surf. | 5.0 |
| Riverside | Blythe to Colorado River | Grade and Surf. | 4.1 |
| Imperial | Sand Hills to 5 mi. west of Yuma | Pavement | 9.0 |
| Mono | Bridgeport to Sonora Junction | Oil Rock Surf. | 15.0 |
| San Luis Obispo | Between Cambria and San Simeon | Bridges | — |
| Orange | Anaheim Bay | Bridge | — |
| Los Angeles | In Montebello | Pavement | 1.5 |
| Los Angeles | Topanga Canyon to Las Flores Canyon | Pavement | 3.2 |

NORTHERN COUNTIES

| | | | |
|--------------|-----------------------------------|-------------------|------|
| Butte | Pulga to county line | Grade and Surf. | 8.0 |
| Santa Clara | Oregon Ave. to Alviso Road | Grade & bit, mac. | 6.2 |
| Santa Clara | Madrone Crossing | Grade separation. | — |
| Alameda | Dublin to Hayward | Pavement | 9.5 |
| Santa Clara | Saratoga Gap to Black Road | Grade & Surf. | 4.0 |
| Contra Costa | San Pablo Cr. to Carquinez bridge | Pavement | 9.6 |
| Santa Cruz | Inspiration Pt. to Vine Hill Rd. | Grade and Surf. | 6.5 |
| Monterey | At Soledad | Gd. Sep. & Ap. | 1.2 |
| Monterey | San Remo Divide to Carmel river | Grade and Surf. | 3.4 |
| Fresno | Fresno to Fancher Creek | Pavement | 3.1 |
| Sacramento | Sacramento to McDonnell | Grade widening | 11.0 |
| San Joaquin | Nile Garden | Grade separation | — |
| San Joaquin | Paradise Cut | Bridge | — |
| Stanislaus | Stanislaus River | Bridge and Ap. | — |
| Tuolumne | Sonora to one-half mile east | Grade and Surf. | — |
| Amador | Drytown to Martell | Bit. Surf. | 7.2 |

ENGINEERING SOCIETIES EMPLOYMENT SERVICE

Further information regarding positions listed in this column is obtainable from Newton D. Cook, Room 715, 57 Post St., San Francisco. (Phone Sutter 1684).

- W-3508 SALESMAN, experienced in insulating material. Salary. Apply by letter. Location, Middlewest.
- R-3747-S SALESMAN and agents who will take exclusive territory for sales of a new safety device for automobiles. Low sales price and universal application on cars everywhere. Commission. Headquarters, San Francisco.
- W-3491-C-S (K-392) MECHANICAL ENGINEER, thoroughly familiar with the manufacture of lead pencils from graphite to the finished product, also colored pencils. Must be capable of taking complete charge of manufacturing, including the buying or development of all necessary machinery. Position for about two years. Apply by letter giving full details of experience and salary expected. Location, China.
- W-3495-C-S SALES DIRECTOR, in the forties, accustomed to earning \$20,000 a year, to organize diversification of products and manage sales force, for large plant including Diesel engines and Diesel locomotives. Forceful executive rather than technician required. Apply by letter. Location, East Coast.
- W-3496-C-S PLANT EXECUTIVE, competent to direct manufacture of large plant, improve designs and manufacturing methods of present Diesel engines; also to develop and diversify products and reduce costs. Not over fifty years of age, with a record of achievement and earnings of \$20,000 yearly. Apply by letter. Location, East Coast.
- R-3708-S EXECUTIVE, preferably an engineer who has been accustomed to earning over \$6000 per year, to take charge of all details in connection with the sales and distribution of electrical transcription of programs for radio broadcasting and various other outlets for sound reproduction. Must be able to deal with all types of business executives and adapt himself readily to an expanding market, which will cover the entire U. S. A. Salary and share in earnings of company. Investment of \$20,000 required. Also, openings for an Assistant Sound Engineer and Assistant Production Director. Investment required. Location, San Francisco.
- R-3750-S ESTIMATOR, experienced on concrete dam construction and qualified to run the job if contract is secured. Only man with contractor experience considered. Salary open. Headquarters, San Francisco.
- W-3105 MAINTENANCE ENGINEER for airport. Graduate aeronautical engineer with air transportation experience. Must be a graduate engineer in aircraft design and engineering from one of the definite schools of air-craft connected with a well-known university. Must be familiar with design, maintenance, operation and repair work on both air planes and engines, and must have practical knowledge of the working of airways. Apply only by letter. Location, South.
- R-3771-S INSPECTOR, licensed, for part time employment on boilers and elevators. May develop into steady employment. Location, San Francisco.

MEMBERS OF THE ASSOCIATED GENERAL CONTRACTORS

PACIFIC COAST AND INTERMOUNTAIN TERRITORY

CALIFORNIA STATE BRANCH

206 Sansone Street—Garfield 7107—San Francisco

O. C. STRUTHERS, President

E. L. KIER, Vice-President

C. G. FITZGERALD, Secretary

MELVILLE DOZIER, JR., Secretary-Manager

SOUTHERN CALIFORNIA CHAPTER

1318 Pershing Square Bldg.—TRinity 9418
Los Angeles, Calif.C. G. FitzGerald, President Melville Dozier, Jr., Manager
Karl P. Lowell, Vice-PresidentThe address of the firm is the same city in which is located the
Chapter office unless otherwise shown in membership list.

Building Contractors

| | | |
|----------------------------|---|-------|
| Atkinson, J. F. | 1102 Story Bldg., VAndike | 7783 |
| Baruch Corp., Herbert M. | 1015 Lincoln Bldg., TRinity | 5473 |
| Baum Co., H. W. | 815 Central Bldg., VAndike | 2696 |
| Bavin & Burch Co. | 173 E. Jefferson St., ADams | 6175 |
| Bradley Constr. Co., K. R. | 1833 West Pico, WASHINGTON | 2786 |
| Burgin, W. Jay. | 1100 Redondo Ave., Long Beach, L. B. | 81103 |
| Byerts & Dunn | 7908 Santa Monica Blvd., CRestview | 9602 |
| Clinton Construction Co. | 1103 Spring Arcade Bldg., MADison | |
| Crowell, Wm. C. | 495 S. Bdwy., Pasadena, WAKEfield | 6692 |
| Crowell Co., Weymouth. | 2104 E. 15th St., WESTmore | 5708 |
| DeCamp-Hudson Co., Ltd. | 1277 W. 24th St., WESTmore | 3382 |
| Escherich Bros. | 234 W. 37th Place, ADams | 6294 |
| Hall, J. F. | 531 Douglas Bldg., MUtual | 6722 |
| Houghton & Anderson | 143 Rose St., MUtual | 5430 |
| K. P. Lowell & Co., Ltd. | 606 Union Bank Bldg., VAndike | 4072 |
| Lynch-Cannon Engr. Co. | C. C. Chapman Bldg., VAndike | 2807 |
| Lynch Construction Co. | 730 East Gate Ave., TWinoaks | 1393 |
| Macdonald & Driver | 311 Board of Trade Bldg., TUCKer | 6467 |
| McKee, Robert E. | 1128 Central Bldg., TRinity | 0291 |
| Miller, Geo. E. | 401 N. Canon Dr., B. H., OXFord | 7404 |
| Simpson Construction Co. | 1007 Architects Bldg., MUtual | 7261 |
| Snell, Fred C. | 339 N. Beverly Dr., Beverly Hills, OXFord | 6409 |
| Willard-Brent Co. | 254 E. 27th St., RICHmond | 2101 |

Bridges, Foundations

| | | |
|---------------------------|---------------------------------|-------|
| Ledbetter Co., W. M. | Box 1264, Arcade St., CApitol | 13415 |
| Oberg Brothers | 707 San Fernando Bldg., ANgelus | 8759 |
| Raymond Concrete Pile Co. | 1008 Washington Bldg., VAndike | 6536 |

Highways, Paving, Grading

| | | |
|-----------------------------|---|--------|
| A. A. Alexander | 1721 E. 20th St., WESTmore | 2553 |
| Basich Bros. | Torrance, Gardena | 446 |
| Beck, Geo. J. | 1007 S. Harvard, EMpire | 7614 |
| Donovan & Sons, J. G. | 4031 Goodwin Ave., OLYmpic | 0423 |
| Ferry, Peter L. | San Fernando Rd. and Bdwy., Glendale, OL. | 0164 |
| Fleming Construction Co. | Pomona | |
| General Engineering Co. | 1026 McCadden Pl., TRinity | 9381 |
| Griffith Company | L. A. Railway Bldg., WESTmore | 9343 |
| Hall-Johnson Co. | P. O. Box 387, Alhambra, ELiot | 1855 |
| Herz & Co., Geo. | 310 Platte Bldg., San Bernardino, S. B. | 241-42 |
| Heuser, Chas. U. | 316 Allen Ave., Glendale, DOUGlas | 3965 |
| Hudson, Chas. H. | 408 Rives-Strong Bldg., VAndike | 3374 |
| Jahn & Bressi. | 701 Lane Mortgage Bldg., TRinity | 8674 |
| Lang Transportation Co. | 5501 Santa Fe Ave., JEFerson | 3104 |
| Lewis Construction Co. | 300 S. Juanita St., WASHINGTON | 1407 |
| Packard & Tanner. | 905 W. Latham St., PHoenix, ARiz. | |
| Pearson & Dickerson. | 4485 Cypress, Riverside, 1600 | |
| Ross, M. S. | 4011 Goodwin Ave., CApitol | 7603 |
| Southwest Paving Co. | 711 Lankershim Bldg., TUCKer | 9288 |
| Wells & Bressler. | P. O. Box 596, Santa Ana, 227 | |
| Willis, C. G., & Sons, Inc. | 2119 E. 25th St., LAfayette | 9826 |

Pipe Lines, Water Works

| | | |
|----------------------------|----------------------------------|------|
| American Concrete Pipe Co. | P. O. Box 1428, Arcade Sta., JE. | 4211 |
| Haverty Co., Thos. | 316 E. 8th St., VAndike | 1171 |

Subways, Conduits

| | | |
|------------------------|------------------------------|------|
| Delta Construction Co. | P. O. Box 79, Compton | |
| Lake, Frank S. | 1761 N. Indiana St., ANgelus | 1290 |

General Engineering

| | | |
|--------------------------------|-------------------------------------|------|
| Atkinson, Lynn S. | 609 S. Grand, TRinity | 7451 |
| Bartmus, Peter. | Hollywood Riviera, Redondo, Redondo | 6404 |
| Bent Bros., Inc. | 418 S. Pecan S., ANgelus | 7510 |
| Campbell-Reichert Co. | 4000 Whiteside Ave., ANgelus | 0598 |
| Cox, R. L. | 1100 Westminster, ALhambra | 1699 |
| EmSCO Conc. Cutting Corp. | 1517 Santa Fe Ave., VAndike | 7168 |
| Fitz-Gerald Eng. & Constr. Co. | 216 Rowan Bldg., TRinity | 5088 |
| Kemper, Geo. W. | 3701 Overland, Los Angeles | |
| Kemper Const. Co., Ltd. | 3701 Overland, Los Angeles | |
| Macco Construction Co. | Hynes, JEFerson | 1148 |
| Merritt-Chapman-Scott Corp. | P. O. Box 507, San Pedro, | 2880 |
| Mittry Bros. Construction Co. | 722 Detwiler Bldg., VAndike | 0210 |
| Robinson-Roberts Co. | 706 Rives-Strong Bldg., TRinity | 2889 |
| Spicer, C. A. | 818 Financial Center Bldg., TUCKer | 9570 |
| Standard Dredging Co. | 325 Central Bldg., TRinity | 3253 |
| Star House Movers, Inc. | 2230 Silver Lake Ave., OLYmpic | 1976 |
| Wattson, R. A. | 1026 N. McCadden Pl., GRANite | 4121 |

Affiliates

| | | |
|------------------------------|---------------------------------------|-------|
| Brashears & Co., G. | 501 Security Bldg., TRinity | 5091 |
| Consolidated Rock Prod. Co. | 656 S. Los Angeles St., TRinity | 0241 |
| Gilmore Oil Co. | 2423 E. 28th St., JEFerson | 1211 |
| Graham Brothers. | 1215 W. 7th St., Long Beach, L. B. | 65251 |
| Hartford Accident & Ind. Co. | 548 S. Spring St., MADison | 1471 |
| L. A. Brick Co. | 1078 Mission Road, ANgelus | 5684 |
| Sun Lumber Co. | Crescent Drive, Beverly Hills, OXFord | 6191 |
| Union Oil Co. | Union Oil Bldg., TUCKer | 7211 |

ALAMEDA COUNTY CHAPTER

354 Hobart St., Rm. 410—GLencourt 7400—Oakland, Calif.

S. G. Johnson, President H. J. Christensen, Treasurer
Geo. J. Maurer, Vice-President W. E. Hague, Manager

| | | |
|---------------------------|---------------------------------|------|
| Brennan, J. P. (B) | 2820 Regent, Berkeley, BE. | 0346 |
| Christensen, H. J. (B) | 1924 Broadway, Oakland, LA. | 7164 |
| DeVelbiss, C. Dudley (B) | 369 Pine St., S. F., GA. | 3225 |
| Dyer Construction (B) | 337 17th St., Oakland, GL. | 3203 |
| Furlong, Thos. H. L. (B) | 460 Jerome Ave., Piedmont, HU. | 0620 |
| Jacobs & Pattiani (BP) | 337 17th St., Oakland, GL. | 3203 |
| Johnson, S. C. (B) | 4652 Dolores Ave., Oakland, FR. | 6650 |
| Keating, W. C. (B) | 925 Forum Bldg., Sacramento | |
| Lesure, E. T. (B) | 87 Ross Circle, Oakland, OL. | 0389 |
| Littlefield, R. W. (B) | 337 17th St., Oakland, HI. | 0994 |
| Lyons, W. E. (B) | 354 Hobart St., Oakland, HO. | 5325 |
| Maurer, George J. Co. (B) | 50 York Drive, Oakland, HU. | 3457 |
| Nordstrom, David H. (B) | 354 Hobart St., Oakland, GL. | 7400 |
| Pedgrift, James H. (B) | 4106 Broadway, Oakland, HU. | 1300 |
| Petersen, George (B) | 1841 Bancroft, San Leandro, TR. | 2043 |
| Petersen, James B. (B) | 4021 Agua Vista, Oakland, FR. | 9887 |
| Schultz, Herbert (B) | 811 Mendocino, Berkeley, AS. | 2360 |
| Sullivan & Sullivan (B) | 2653 Best Ave., Oakland, AN. | 4724 |
| Thornally, W. G. (B) | 354 Hobart St., Oakland, GL. | 8476 |
| Westlund, Fred J. (B) | 354 Hobart St., Oakland, GL. | 7400 |

Class of Construction: (B) Building; (H) Highway; (P) Public Works; (R) Railroad.

Associate Members

| | |
|-------------------------------------|---------------------------------------|
| Berkeley Building Materials Co. | Masonic and Brighton, BE. 2280 |
| Central Building Material Co. | 915 Antioch, IR. 9326 |
| Contra Costa Building Materials Co. | 808 Gilman St., BE. 3462 |
| Cowell, Henry, Lime & Cement Co. | 81 Franklin, HI. 3398 |
| Davis Co., Jas. A. | 517 Fairmont, BE. 9360 |
| Lannon Bros. Mfg. Co. | 5th and Magnolia, GL. 3663 |
| Makin & Kennedy, Inc. | 101 Fourth St., HO. 0626 |
| Melrose Building Materials Co. | Tidewater Ave., FR. 5787 |
| Oakland Building Material Co. | 5000 Broadway, HU. 6300 |
| Oakland Planning Mill Co. | 2nd and Washington, LA. 5530 |
| Pacific Const. Aggregates, Inc. | 1000 Broadway, SA. 4200 |
| Powell Bros., Inc. | Harrison and Pearl, Alameda, AL. 0630 |
| Sunset Lumber Co. | 400 High St., AN. 1000 |
| Tilden Lumber Co. | Foot of University Ave., BE. 0697 |
| Transite Concrete Co. | 401 Water St., TE. 0720 |

SAN DIEGO CHAPTER

Spreckels Theater Bldg.—Main 4289—San Diego, Calif.

R. E. Hazard, President M. A. Mathias, Manager
Fred Jarboe, Vice-President

| | |
|--------------------------------|--|
| Carroll, B. C. | 4396 Maryland St., Hillcrest 5274. M |
| Daley Corporation (HP) | 440 Broadway, Berkeley, AS. 6722 |
| Fennis Constr. Co., V. R. (HP) | Box 183, Sta. A, Hillcrest 8293 |
| Ford, E. Paul (HP) | Box 201, E. San Diego, Randolph 5101 |
| Golden, M. H. (B) | 404 California Bank Bldg., Franklin 7983 |
| Grove, Cecil B. | 4316 Island Ave., Franklin 7474 |
| Hazard Constr. Co. E. (HP) | 2508 Kettner Bldg., Franklin 6315 |
| Jarboe Constr. Co. (B) | 208 Spreckels Theater Bldg., Franklin 3792 |
| Kier Const. Co., W. E. (B) | First National Bank Bldg., Main 2427 |
| Larsen, B. O. (B) | 1340 E. St., Main 4752 |
| Miracle Const. Co. (HP) | Box 601, E. San Diego, Main 2525 |
| Hazard Constr. Co. E. (HP) | Box 643, 354 Hobart St., Oakland 1136 |
| Watson & Sutton (HP) | P. O. Box 396, Hillcrest 4842 |

NORTHERN CALIFORNIA CHAPTER

206 Sansome St.—Garfield 7107—San Francisco, Calif.

C. W. Wood, President Geo. G. Pollock, Vice-President
Floyd O. Booe, Secretary-Manager

| | |
|--------------------------------------|---|
| Atkinson, Lynn S. (HPR) | 1316-17 Edwards & Wilsey Bldg., L. A., Tr. 7451 |
| Atkinson, Guy F., Co. Inc. (BHPR) | 601 Russ Bldg., S. F., Sut. 3629 |
| Bail, N. M. (HP) | 1869 Yosemite Bldg., Berkeley, AS. 6722 |
| Basalt Rock Co., Inc. (H) | 900 8th St., Napa, Napa 1050 |
| Bechtel Co., W. A. (BHPR) | 155 Sansome St., S. F., Ga. 4780 |
| Bevanda, M. J. (HP) | 319 Elks Bldg., Stockton 7470 |
| Bishop, E. B. (HP) | 900 Forum Bldg., Sacramento, Capitol 2500 |
| Bodenhamer Const. Co. (HP) | Box 643, 354 Hobart St., Oakland 1136 |
| Calif. Const. Co. (BHPR) | 715 Standard Oil Bldg., S. F., DO. 4820 |
| Casson, Jack A. (HP) | Hayward, Calif., Hayward 4856 |
| Clark & Henry Const. Co. (HP) | 564 Market St., S. F., DO. 2903 |
| Colley, W. L. (HP) | 35 Northampton Ave., Berkeley, Ashbury 1233 |
| Conner, J. L. (HP) | P. O. Box 863, L. Monterey 1137. M |
| Connolly, T. E. (BHPR) | 461 Market St., S. F., Kearny 6406 |
| Coney, R. A. (HPR) | 1043 38th St., Oakland, Olyn 9391 |
| Currie, James (HPR) | 1100 Peninsula Ave., Burlingame, Burl. 3497 |
| Delin, C. M. (HPR) | 206 Sansome St., San Francisco, Gar. 7107 |
| Dodge Bros., Inc. (HP) | Fallon, Nevada, Main 1761 |
| Drumm, A. D., Jr. (HP) | Fallon, Nevada, Main 1348 |
| Eaton & Smith (HPR) | 715 Ocean Ave., San Francisco, DE. 6700 |
| Fairbanks, A. J. & J. L., Inc. (HPR) | Linden Ave., So. S. F., 436 |
| Fitzmaurice, J. H. (HP) | 2857 Hannah St., Oakland, Hight 2490 |
| Force Construction Co. (HP) | 70 Bellevue, Piedmont, Calif. |
| Frederickson Bros. (BHP) | First Natl. Bank Bldg., Stockton, 5974 |
| Frederickson & Watson Const. (BHP) | 873 81st Ave., Oakland, SW. 1264 |
| French, George J., Jr. (HP) | P. O. Box No. 675, Stockton, 6676 |
| Gerwick, Ben C., Inc. (HP) | 112 Market St., S. F., SU. 8454 |
| Granfield, Farrar & Carlin | 67 Hoff St., HE. 4760 |
| Granite Construction Co. (BHPR) | Watsonville, California, 988 |

PACIFIC NORTHWEST BRANCH

West 515 First Avenue—Main 6822—Spokane, Wash.

JAS. MURDOCK, President H. V. BOGERT, Rec. Secretary J. B. WARRACK, Treasurer
J. C. COMPTON, Vice-President P. L. CROOKS, Vice-Pres. and Secretary

PORTLAND CHAPTER

Multnomah Hotel Lobby—Atwater 7883—Portland, Ore.

Paul L. Crooks, President Pbilip Hart, 2nd Vice-President
Ross B. Hammond, 1st Vice-President J. A. Lyons, Treasurer
G. B. Herington, Executive Secretary

| | |
|-------------------------------|--------------------------------|
| Anderson Construction Co. | 682 E. 69th St., N., Gar. 0474 |
| Andrews Construction Co. (BH) | 102 N. Broadway, Br. 5521 |
| Atkinson, Guy F. & Co. (BHP) | Yeon Bldg., Atw. 3961 |
| Badrnan, J. J. (HP) | 681 E. 42nd St. N., Gar. 3945 |
| Baker Construction Co. (B) | 202 Multnomah Hotel, Atw. 7441 |
| Christensen, Fred, Inc. (BHP) | 187 E. 34th St., At. 8934 |

| | |
|---------------------------------------|---|
| Hanrahan Co. (HP) | Hobart Bldg., San Francisco, CA. 1639 |
| Heafey-Moore Co. (HP) | 344 High St., Oakland, AN. 0466 |
| Hemstreet & Bell (HP) | 411 G Street, Marysville, 433 |
| Hodgman & Macvicar (HP) | 714 Plymouth, Pasadena, Ter. 1563 |
| Holland, J. P., Inc. (HPR) | 1834 McKinnon Ave., S. F., MI. 5400 |
| Isbell Const. Co. (HP) | Carson City, Nev., Ph. 1754 (Also Fresno) |
| Jenkins, M. A. (HP) | 3560 Y St., Sacramento Capital 442 |
| Jones & King (HPR) | 1111 G Street, Hayward, Calif. |
| Kaiser Paving Co. (BHPR) | Latham Square Bldg., Oak., HI. 2614 |
| Kern & Kibbe (HPR) | 290 E. Salmon St., Portland, Ore., East 4116 |
| | also Crescent City, Calif., Phone 6863 |
| Knapp, J. F. (HPR) | 916 Financial Center Bldg., Oak., GL. 1620 |
| Larsen Bros. (HP) | 10059 Carpenter St., San Leandro, Sweet. 1717 |
| Lee, U. B. (HP) | 122 Moss Ave., Stockton, 471 |
| Le Tourneau, R. G. (HPR) | Native Sons Bldg., Sacramento, Main 3981 |
| Lord & Bishop (HPR) | 3433 "N" St., Sacramento, Capital 1900 |
| Lovelace, Nat. (HPR) | 204 23rd St., Sacramento, Cap. 1806 |
| McDonald, D. (HPR) | Box 927, Sacramento, Capital 2170 |
| McGillivray Const. Co. (HPR) | 2088 Howard St., San Francisco, MA. 3876 |
| McMillan, W. K. (HP) | 2088 Howard St., San Francisco, MA. 3876 |
| Mercer Fraser Co. (BHPR) | Eureka, Eureka 808 |
| Nevada Contracting Co. (HPR) | Fallon, Nevada, Phone 1851 |
| Nevada Rock & Sand Co. (HP) | Reno, Nevada, Reno 5291 |
| Nighbert, Fred W. (HP) | No. 10 "H" St., Bakersfield |
| Phillips Co., John (HP) | 582 Market St., San Francisco, KE. 4471 |
| Pollock Co. Co. (HPR) | P. O. Box 903, Sacramento, Main 1457 |
| Rohl, H. W. | 4351 Alhambra Ave., Los Angeles |
| Six Companies, Inc. (BHPR) | Financial Center Bldg., S. F., Gar. 3842 |
| Skels & Graham Co. (HPR) | P. O. Box 576, Roseville, Calif. |
| Sims Helmers, Inc. (BHPR) | 206 Sansome St., San Francisco, GA. 5235 |
| Tedford, J. N. (HP) | Fallon, Nevada, Main 6586 |
| Teichert, A. S. & Son, Inc. (HP) | 1846 37th St., Sacramento, Main 6586 |
| Tieslau Bros. (HP) | 2819 Grove St., Berkeley, BE. 7709. J |
| Ulrich Const. Co., Geo. J. (BHP) | Modesto, Modesto 921 |
| Valley Paving & Construction Co. (HP) | 405 Bank of America Bldg., Fresno, 3-7418 |
| Von der Hellen & Pierson (HPR) | Castaic, Calif. |
| Ward Engr. Co. (HP) | 315 Montgomery St., S. F., DAV. 8984 |
| Wood & Co. (HP) | P. O. Box 1435, Stockton, 743 |
| Young, Clarence (HP) | 5250 Broadway Ter., Oakland, LO. 3743 |
| Young & Son Co., Ltd. (HP) | 599 Colusa Ave., Berkeley, Berk 5551 |

Associate Members

| | |
|--|--|
| American Bitumuls Co. (Bitumuls) | 200 Bush St., San Francisco |
| Anderson Bros. Supply Co. (Commissary) | Boulder City, Nev. |
| Andrews, F. T., Co. (C. P. A.) | 1630 Russ Bldg., S. F., GA. 7712 |
| Asphalt & Concrete Co. (H) | 79 N. Mont'y St., S. F., KE. 4800 |
| Austin Western Road Machinery Co. (Road Machinery) | 435 Brannan St., San Francisco, DO. 2183 |
| Autocar Sales & Service Co. (Autocar Trucks) | 326 Howard St., S. F. |
| Bacon, Edward R., Co. (Road Machinery) | Folsom & 17th Sts., S. F. |
| Blake Bros. Co. (Crushed Rock) | Balboa Bldg., San Francisco |
| Calaveras Cement Co. | 315 Montgomery St., San Francisco |
| Calif. Corr. Culvert Co. (Corr. Pipe) | 5th & Parker, W. Berkeley |
| Cement Gun Construction Co. (Cement Guns) | 58 Sutter St., S. F. |
| Contractors Insurance Agency (Insurance) | 206 Sansome St., S. F. |
| Cowell Lime & Cement Co. (Cement) | 2 Market St., San Francisco |
| Davis, Norris K. (Equipment) | 400 7th St., San Francisco |
| Garfield & Co. (Equipment) | Heard Bldg., Stockton |
| Geiger Iron Works (Equipment) | P. O. Box 423, Stockton |
| Granite Rock Co. (Crushed Rock) | Watsonville, California |
| Harneschfer Sales Corp. (Equip.) | 82 Beale St., San Francisco |
| Harron, Rickard & McCone Co. (Equip.) | 1600 Bryant St., S. F. |
| Link-Belt Co. (Equip.) | 400 Paul Ave., San Francisco |
| Murray & Ready (Labor Agency) | 784 Howard St., S. F. |
| Northwest Engineering Co. (Northwest Shovel) | 23 Main St., S. F. |
| Pacific Coast Aggregates | 700 Wells Fargo Bldg., S. F., DA. 7210 |
| Pacific H. B. A. Steel Co., Inc. | 540 Brannan St., San Francisco |
| Pacific Portland Cement Co. (Golden Gate) | Hunt-Dulin Bldg., S. F. |
| Pland-Evans (Commissary) | Merchants Ex. Bldg., S. F., GA. 5923 |
| Robinson Tractor Co. (Caterpillar Tractors) | 1705-09 E. 12th, Oak. |
| Santa Cruz Portland Cement Co. (Santa Cruz) | Crocker Bldg., S. F. |
| Shell Oil Co. (Shell Products) | 100 Bush St., San Francisco |
| Soule Steel Co. (Reinforcing Steel) | 150 Army St., San Francisco |
| Spears-Wells Machinery Co. | 9th and Cedar Sts., Oakland |
| Standard Oil Co. of Calif. (Stand. Prod.) | Standard Oil Bldg., S. F. |
| Union Oil Co. of Calif. (Union Products) | L. A. and S. F. |
| United Commercial Co., Inc. | 234 Steuart St., San Francisco |

| | |
|-------------------------------------|-------------------------------------|
| Cochrane Construction Co. (HP) | 65th & Ainsworth, Tr. 5944 |
| Compton, J. A. (HP) | McMinnville, Ore., McM. 106 |
| Crooks, P. L., Inc. (HPR) | Henry Bldg., Atw. 7767 |
| Dann, J. J. (PHR) | 424 Third St., Atw. 5873 |
| Dougan-Hammond Constr. Co. (B) | 307-8 Studio Bldg., Bea. 4444 |
| Douglas, R. B. (B) | 112 Public Service Bldg., Atw. 2159 |
| Edlefsen-Weygandt Co. (HP) | Foot of Jefferson, Atwater 4090 |
| Endicott, Wm. | Yachato, Oregon |
| Gates, E. L. (HPR) | Kamela, Oregon |
| Gilpin Construction Co. (HPR) | Worcester Bldg., Atw. 6220 |
| Grays Harbor Constr. Co. (BHPR) | Hoquiam, Wash. |
| Greenwood, A. C. (HPR) | 500 N. Front St., Br. 3030 |
| Griffin, K. C. (BHR) | 826 E. Caruthers, Lan. 2479 |
| Guthrie & Co., A. Inc. (BHPR) | 552 Sherlock Bldg., Atw. 8316 |
| Hammond, Ross B. (B) | 112 Public Service Bldg., Atw. 2159 |
| Hauser Bros. Construction Co. (PHR) | Multnomah Hotel, Atw. 7441 |

Class of Construction: (B) Building; (H) Highway; (P) Public Works; (R) Railroad.

| | |
|------------------------------------|---|
| Hoffman, L. H. (BP) | Public Service Bldg., Atw. 3181 |
| Jacobson Construction Co. (BP) | McKee Bldg., Atw. 5027 |
| Jacobsen-Jensen Co. (PH) | 407 Stanton, Gar. 3313 |
| Johnson Contract Co. (HPR) | 414 Exchange Bldg., Atw. 0678 |
| Johnson-Gardner Co. (HPR) | 414 Exchange Bldg., Atw. 0678 |
| Kern & Kibbe (HPR) | 290 W. Salmon St., Ea. 4116 |
| Kuckenberg & Wittman (BPR) | 226 Board of Trade Bldg., Br. 1999 |
| La Pointe Constr. Co. | 629 E. 54th St. N., Gar. 8312 |
| Lindstrom & Feigenson (BPHR) | 421 Rlwy. Exch. Bldg., Atw. 2662 |
| Lyons, J. A. (BPHR) | 1001 Halsey St., Tr. 2841 |
| McNerney Bros. (BPHR) | 201 Worcester Bldg., Atw. 6444 |
| Midstate Contract Co. (HP) | Box 33, Yakima, Wash. |
| Milne & Dussault (PH) | 1853 E. Broadway, Tab. 7277 |
| Morrison & Knudsen (BHPR) | 319 Broadway, Boise, Idaho |
| Morgan, T. M. (B) | 3410 Wilson Blvd., Los Angeles |
| Morrison Trucking Co. (BPHR) | 391 E. 6th St., Ea. 8327 |
| Newport Construction Co. (PHR) | 317 Exchange Bldg., Atw. 7209 |
| Pacific Bridge Co. (BPHR) | Ft. of E. Salmon St., Ea. 2164 |
| Parker & Banfield (BP) | 984 E. 17th St., Sel. 6182 |
| Parker-Schram Co. (PHR) | Couch Bldg., Atw. 4375 |
| Peck, E. C. & Co. (PH) | Drain, Oregon |
| Puckett, W. H. Co. (PHR) | 319 Broadway, Boise, Idaho |
| Purdin, Sandebug, Elk & Lind (P) | 55 W. Humboldt, Tr. 7964 |
| Quinn, J. L. (B) | 1107, Klamath Falls, Or. 7825 |
| Rebman, J. (PH) | 343 Vancouver Ave., Tr. 0825 |
| Robertson, Hay & Wallace (B) | 605 Weatherly Bldg., Ea. 3613 |
| *Saxton & Looney | Corvallis, Ore. |
| Seed, John S. (B) | 201 Worcester Bldg., Atw. 6444 |
| | Honorary Member and Director of Chapter |
| Silbaugh, C. E. (BPH) | Burns, Ore. 2435 |
| Shea & Co., J. F. (PHR) | 211 Henry Bldg., Atw. 6444 |
| Stebinger Bros. | Worcester Bldg., Atw. 6444 |
| Sullivan & Doyle (PHR) | Ft. of Curry St., Atw. 5297 |
| | Box 104, Portland, Ore. |
| Traver, L. N. (B) | Corvallis, Ore. |
| Umpqua Dredging & Constr. Co. (PH) | Portland, Ore. |
| United Contracting Co. (BPHR) | 309-10 Stock Ex. Bldg., Atw. 5296 |
| von der Hellen & Pierson (HR) | Naches, Wash. |
| White, Ernest & Co. (B) | Twin Falls, Idaho |
| Wolfe, O. D. (HR) | Washington, Wash. 9742 |
| Worren & Greenwood (PHR) | 1037 Ch. of Com. Bldg., At. 9882 |
| Wright Constr. Co. (BPH) | Aberdeen, Wash. |
| Young, I. L. (BPH) | 524 Henry Bldg., At. 0097 |

Associate Members Portland Chapter

| | |
|-------------------------------------|----------------------------------|
| Balzer Machinery Co. | 275 Pine St., Atw. 9391 |
| Beall Pipe & Tank Co. | 85 Columbia Blvd., Wa. 3171 |
| Bitumuls Asphalt Sales Co. | 210 Thompson St., Tr. 1193 |
| Cascade Investment Co. | 309 E. Main St., Ea. 8315 |
| Clyde Equipment Co. | 595 Thurman St., Br. 0885 |
| Columbia Brick Works | 301 E. Madison, Ea. 1101 |
| Concrete Pipe Co. | 169 Thompson St., Tr. 1164 |
| Electric Steel Foundry | 475 N. 24th St., Bea. 6344 |
| Feenoughty Machinery Co. | 309 E. Yamhill, Ea. 2187 |
| Grand Sheet Metal Works | 60 E. Third N., Ea. 2181 |
| Howard Cooper Corporation | 361 Hawthorne, Ea. 8188 |
| Latture, J. L. Equip. Co. | 312-314 E. Madison St., Ea. 8166 |
| Loggers & Contractors Machy. Co. | 345 E. Madison St., Ea. 4128 |
| McCraken-Ripley Co. | 65 Albina Ave., Wal. 7650 |
| McMillan, A. Co. | 350 E. Ankeney, Ea. 0178 |
| Metropolitan Casualty Ins. Co., The | Wilcox Bldg., Atw. 7521 |
| National Hospital Assn. | 400 Mohawk Bldg., Atw. 5291 |
| Nicolai-Neppach Co. | 227 Davis St., Berk. 0685 |
| Oregon City Sand & Gravel Co. | Oregon City, Oregon |
| Oregon Portland Cement | 321 E. Madison, Ea. 3116 |
| Pomeroy Iron Works | 360 Hawthorne, Ea. 0029 |
| Pomeroy, J. H., & Co. | Box 48, Seattle, Wash. |
| Pure Iron Culvert & Mig. Co. | 763 Gladstone, Sel. 2275 |
| Rodgers, Hart, Banks | Railway Exch. Bldg., Atw. 8496 |
| Santa Cruz Portland Cement | 45 Fourth St., Atw. 9884 |
| Snow, L. A. & Co. | 244 Union Ave., Ea. 6482 |
| Standard Oil Co. | Pacific Bldg., Bea. 4161 |
| Steel Tank & Pipe Co. | 404 Columbia Blvd., Wal. 2401 |
| Swigert, Hart & Yett | Ft. of E. Salmon St., Lan. 1125 |
| Union Oil Co. of California | Yeon Bldg., Atw. 9521 |
| Wallace Bridge & Structural Steel | P. O. 404, Seattle, Wash. |
| Western Road Machinery Co. | 220 E. Water, Ea. 4862 |
| Zimmerman, Wells & Brown | Ft. of Sheridan, At. 0221 |

Affiliated Builders Division, Portland Chapter

| | |
|------------------------------|------------------------------|
| Alt, Fred W. | 1118 Mallory Ave., Wal. 2083 |
| Allyn, B. T. | 7 E. 60th St. N., Tab. 0194 |
| Blackman, D. R. | 1140 Powell Blvd., Sel. 7408 |
| Corson Construction Co. | 222 10 Oak St. |
| Chandler Const. Co. | 400 C. of C. Bldg., Tr. 8034 |
| Dewitt Building Co., Geo. W. | 585 E. 41st N., Gar. 3412 |
| Duncan, J. A. | 319 Railway Exchange Bldg. |
| East Side Building Co. | 1595 Sandy Blvd., Gar. 5512 |
| Eklund, N. O. | Abington Bldg., Atw. 1675 |
| Goldenberg, C. C. | 449 E. 44th N., Tr. 9942 |
| Goddridge, D. A. | 308 E. 2nd, Tr. 7184 |
| Greiling, F. H., Director | Weatherly Bldg., Gar. 2828 |
| Hurlbert, Russell S. | 1193 Garfield, Lan. 1266 |
| Irwin, A. H. | 375 E. 52nd St., Tab. 7727 |
| Johnson & Neubert | 1170 Mallory Ave., Wal. 5223 |
| Kiecher, Wm. | 24 E. 81st St., Tab. 7214 |
| Knot & Rogers Machinery Co. | 457 E. 15th N., Gar. 1783 |
| Krause, Rudolph K. | 775 E. 14th N., Gar. 4902 |
| Leistner, C. | 1444 Sand Island, Gar. 8260 |
| Moore, J. Bryson | 488 Raleigh St. |
| Murphy, John | |

| | |
|------------------------------|------------------------------|
| Nelson, Herman | 385 E. 11th N., Gar. 2508 |
| Nilson, Emil | 449 E. 48th N., Tr. 6433 |
| Quigley, Wm. A. | 56 E. 52nd, Tab. 9057 |
| Ryan, Wm. F. | 1211 E. Kelly St., Tab. 1860 |
| Schenk, A. J. | 1275 Prescott, Tr. 7432 |
| Schmitt, H. A. | 2610 52nd St., Sun 7865 |
| Seed, J. S., Honorary Member | Worcester Bldg., Atw. 6444 |
| Stuart, Peter | 755 Irving, Bea. 3673 |
| Twitche, W. A. | 567 E. 35th St., Tr. 1379 |
| Winship, T. B. | 461 E. 48th N., Tr. 7706 |
| Henkel-Sheffield | 1040 Minnesota, Univ. 0904 |
| V. D. Reverman | 353 E. Burnside |
| L. H. Hickok | 1111 Sandy Blvd. |
| Fred Sandstrom | 201 Worcester Bldg. |
| C. W. Christiansen | 445 Multnomah |

SPOKANE CHAPTER

West 515 First Avenue—Main 6822—Spokane

Max J. Kunej, President I. C. Anderson, Vice-President
Nick Norman, Vice-President Dan Hannah, Secty-Treas.

| | |
|----------------------------------|-------------------------------|
| Alloway & Georg (B) | Hutton Bldg. |
| Applegate, W. E. (H) | 7 Buckingham Apts., Salt Lake |
| Auld & Shinn (B) | 1121 Indiana |
| Boudrye, Sam R. (H) | Seward, Alaska |
| Burnette, C. A. (H) | 1118 Ide Ave. |
| Byers, W. A. (H) | W. 1204 Mansfield |
| Clifton, Applegate & Toole (HPR) | Hutton Bldg. |
| Collins, J. H. & Co. (H) | Colville, Wash. |
| Colonial Building Co. (BH) | Hutton Bldg. |
| Crick, James (H) | Realty Bldg. |
| Degerstrom, N. A. (HPR) | Peyton Bldg. |
| Edwards, J. E. (H) | S. 1423 Adams |
| Geist, W. L. (H) | W. 444 23rd Ave. |
| Gumaer, Robt. M. (H) | Copeland, Idaho |
| J. T. Halin | Sun Life Bldg. |
| Hansen Construction Co. | W. 1517 Jackson |
| Harding, Geo. (H) | Walla Walla, Wash. |
| Hargrave Construction Co. (H) | W. 418 Twentieth |
| Hewett, F. R. (H) | W. 420 Twenty-second |
| Huetter Construction Co. | N. 1101 Division |
| Josilich & McAllister (H) | Realty Bldg. |
| Kuney, Max J. (H) | Hutton Bldg. |
| Lafferty, A. B. (H) | Coeur d'Alene, Idaho |
| Larson Bros. (B) | Hyde Bldg. |
| Lorenz, J. J. (B) | Paulsen Bldg. |
| Long, Oliver J. (H) | W. 1924 Mansfield |
| Lyons & Price (H) | W. 503 Forteenth |
| March Construction Co. | W. 1315 12th |
| Martin, F. E. (B) | Galax Hotel |
| McLellan, A. (B) | E. 932 Ermlina |
| Meddy, M. C. (B) | S. 3614 Arthur |
| Meyers, G. C. (H) | S. 221 Leboa, St. |
| Morin, S. C. (B) | Paulsen Bldg. |
| Norman, Nick (B) | 231 Waverly Place |
| Nyberg, Carl (H) | Realty Bldg. |
| Orino, Sam (H) | Realty Bldg. |
| Powder, G. (H) | 17 Grand |
| Siems, Spokane Co. (BPHR) | Realty Bldg. |
| Standard Asphalt Paving Co. (HP) | Chronicle Bldg. |
| Teretling, J. A., & Sons (HP) | 511 Sound Ave. |
| Traylor, G. & Son (H) | W. 116 |
| Triangle Construction Co. (H) | W. 1220 Ide |
| True-Home Construction Co. (B) | N. 119 Wall |
| Webster, E. A., & Co. (HPR) | S. 2008 Oneida |
| Young, Peter J. (B) | S. 111 Cedar St. |

Associate Members

| | |
|---|----------------------------------|
| Beall Pipe & Tank Corp. | Realty Bldg. |
| Beardmore Transfer Line | S. 162 Post St. |
| Brandt Bros. | W. 14 Main Ave. |
| Candry & Foundry | W. 740 Division Bldg. |
| Commercial Importing Co. | 617 Western Ave., Seattle, Wash. |
| Consolidated Supply Co. | W. 1310 Ide Ave. |
| Construction Equipment Co. | 1118 Ide Ave. |
| Elmendorf-Anthony Co. | Sherwood Bldg. |
| Feenoughty Machinery Co. | N. 717 Division St. |
| W. P. Fuller & Co. | N. 229 Post St. |
| General Machinery Co. | E. 3501 Riverside |
| Gladling-McBean & Co. | 524 Old National Bldg. |
| Hawes Fuel Co. | N. 740 Division Bldg. |
| Hofus-Ferris Equipment Co. | W. 728 Mallon |
| Holley-Mason Hardware Co. | S. 157 Howard |
| International Portland Cement Co. | 1124 Old National Bldg. |
| Jones & Dillingham | N. 717 Division Bldg. |
| Jones & Mitchell | Hutton Bldg. |
| Lehigh Portland Cement Co. | 1316 Old National Bldg. |
| Long Lake Lumber Co. | N. 348 Wall St. |
| Hayes Fuel Co. | 212 Peyton Bldg. |
| J. E. McGovern Co. | 550 Peyton Bldg. |
| Nott-Atwater Co. | S. 157 Monroe St. |
| Old National Insurance Agency | Old National Bank Bldg. |
| L. A. Snow Co. | 134 International Right-of-Way |
| Spokane Concrete Pipe Co. | W. 717 Division Bldg. |
| Spokane Culvert & Tank Co. | N. End Division Street Bridge |
| Spokane Woodworking Co. | N. 1249 Atlantic |
| Union Iron Works | E. 217 Montgomery Ave. |
| Union Oil Co. | 611 Chronicle Bldg. |
| Washington Brick, Lime & Sewer Pipe Co. | S. 151 Washington St. |

Class of Construction: (B) Building; (H) Highway; (P) Public Works; (R) Railroad.

PACIFIC

SKILL - INTEGRITY



RESPONSIBILITY

25
per Cop

CONSTRUCTOR

CONSOLIDATED WITH

Building and Engineering News

IN THIS ISSUE



Alameda Creek Diversion Dam

Alameda Creek Tunnel

By Spencer B. Lane

Priority of Mechanics' Liens

By George N. Crocker, Attorney

Gas Tax Diversion

A. G. C. and Builders' Exchange Activities

Miscellaneous Articles of General Interest

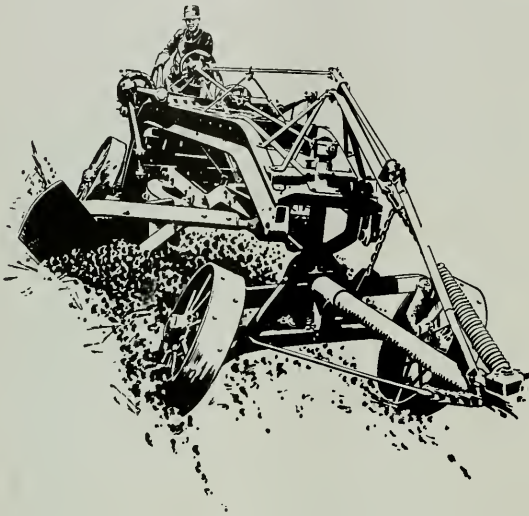
Unit Bid Prices — Construction News

ROBINSON TRACTOR COMPANY

Establishes Headquarters in
SAN FRANCISCO

"Caterpillar" Dealers

San Francisco, San Mateo, Alameda and Contra Costa Counties



"Caterpillar" Sixty
Leaning Wheel Grader
Cutting Heavy Furrow
With Back-
Sloper



"Caterpillars" have kept pace with the demands of the modern highway. Whether they are carving a brand-new road through wilderness, or patrolling a long-used stretch for the public's safety, "Caterpillar" track-type Tractors and "Caterpillar" Graders lick the job with unsurpassed thoroughness.



ROBINSON TRACTOR COMPANY

CATERPILLAR

Reg. U. S. Pat. Off.

Track-Type Tractors ~ Combines ~ Road Machinery

SAN FRANCISCO
1175 Howard St.

OAKLAND
1705-09 East Twelfth St.

PACIFIC CONSTRUCTOR

With which is Consolidated Building and Engineering News

Official Publication of the Associated General Contractors of America
for the Eleven Pacific Coast States

J. P. FARRELL, *Editor*

SPENCER B. LANE, *Assoc. Editor, Assoc. M. Am. Soc. C. E.*

VOL. 15

SAN FRANCISCO, CALIF., MARCH 1, 1932

No. 4

Editorial Comment

A study of the January report of Col. Carlos Huntington, State registrar of contractors, cannot help but convince one that the Contractors' License Law is being enforced from the Oregon State line, down to the Mexican border and from the Pacific Ocean back into the border lines of Nevada and Arizona.

The success of the license law leaves no room for doubt as to the worth of the statute nor should it cause one to wonder why other States are following in the footsteps of the land of "Sunshine, Fruit and Flowers" in adopting a similar measure to regulate the contracting business.

In Reno, Nevada, the building contractors recently organized a Builders' Exchange for better protection. The first step of the new organization is to have the city council adopt a license ordinance for contractors with a view to "preventing fly-by-night contractors from California and other points" from entering the city.

And well they may. We are particularly proud of the fact that the Reno contractors specify California in naming localities. The so-called "fly-by-nighters" have no place in this State with Colonel Huntington and his staff on the job—particularly so when the courts are prepared to back them up.

We are not interested where the "fly-by-nighter" goes, just so long as he remains outside the confines of California. And we are sure he will do just that.

Knowledge of the real worth of the California Contractors' License Law, however, is not confined to the Pacific Coast. The New York Legislature is being asked to pass a law based upon and following very closely the California law. The organization sponsoring the bill in New York is one of a quasi-public nature which recently undertook and successfully completed a revision of New York's antiquated lien laws.

The California State license law is a good law—good for everybody except those who attempt to get around it—for reasons outside the law.

The prevailing wage law, contractors' license law and promotion of new construction will be among the many topics of discussion at the next semi-annual convention of the California State Builders' Exchange, Ltd., to be held in Bakersfield March 18th and 19th.

Officers, directors and committee chairmen of the State organization have been very active during the past six months with a view to making this meeting the biggest in the history of the State body due to the fact that it comes at a time when unified action on the part of the building industry is necessary to correct the many evils now existing in the field and to further promote organization work through which such evils may be entirely

wiped out.

The past two years have given individuals in every line of industry a chance to think about the real value of organization work.

During these depressed times, the fellow who previously ignored his craft organization is now anxious to learn why his particular organization does not do something about "it." The "it" refers to something that is bothering him in his line of business. He realizes that "it" must be fought if he or his business associates are to perform for a profit. "It" is something that must be fought continuously. The individual realizes that. He knows that it will require the unified efforts of his industry to eliminate the "it" in business.

There are many "its" in the building business. Some are bad, others not so bad—and those that remain—**ROTTEN**.

Harvest time has arrived. Let us gather in the crop. That which is "bad" let us weed out. That which is "not so bad" let us see what we can do with it—probably it can be made to fit where before, for some reason or other, it just couldn't. That which is **ROTTEN** let us eliminate once and for all time.

The channel through which to work is the California State Builders' Exchange, Ltd. The time to start operations is March 18 and 19. The place is Bakersfield.

LET'S GO!

The National Prevailing Wage Law, known as the Bacon-Davis Bill, adopted by Congress in February, 1931, has received several proposed amendments and is now being considered by the present Congress. Some opponents of the law are urging its repeal.

During the past two or three months the Supreme Courts of Illinois, Arizona and Oklahoma have rendered opinions declaring the Prevailing Wage Laws of those States to be unconstitutional.

The City of Los Angeles, following an opinion by the City Attorney, is not making use of the Prevailing Wage Law in its construction departments, on the grounds that the terms of the City Charter of Los Angeles provide that the Charter provisions of the city take precedent over general laws of the State where the former are specific.

The city of Pasadena has recently brought suit to determine whether or not Pasadena, a chartered city, is subject to the general State law regarding Prevailing Wage. The city of San Marino, an unchartered city, and the Metropolitan Water District of Southern California have entered briefs in this case in order to develop points regarding constitutionality. (Continued on Page 4)

Limit Stakes and Levels

By THE EDITOR

Attorney General U. S. Webb has ruled that neither Senate Constitutional Amendment No. 22, nor any other constitutional Amendment now pending can appear upon the May primary election ballot, or upon any other special election ballot prior to the regular November election.

This serves to defer until November a vote of the people on the question of diversion of a portion of the franchise carrier tax from the highway fund to the general fund of the state.

The principle involved in this question is the same as that of the gas tax diversion, namely, whether a tax raised for a special purpose shall be preserved for this exclusive purpose.

The taxes levied against motor trucks and auto stages are in effect, a tax on the privilege of using the roads and highways and was so levied by the Legislature and is so understood by the people at large. The income therefrom should be used exclusively for the construction and maintenance of the roadbed over which they operate. Operating in competition with the railways, over a roadbed which is furnished them free by the state, the only proper policy should be a continuance of the use of the taxes from this source in the upkeep and maintenance of the highways which they help to wear out.

The argument that the general fund of the state is supported exclusively by the tax on utilities and that the franchise highway carrier is in the same category does not hold water for the reason that the utilities struck a bargain with the people of the state in agreeing to this exclusive form of taxation in lieu of all others. The highway carrier has been a development of recent years, in effect a somewhat destructive one, and as such should bear a fair share of the burden of maintenance of their operating facilities.

With the defeat in the Senate on February 24 of the La Follette-Costigan Federal relief bill in which was proposed an appropriation of seven hundred and fifty million dollars to be one-half direct relief to the unemployed through the states and the other half in Federal aid to highway construction in the states, Congress seems to have gotten around to a more sane consideration of the problem of Federal appropriations as a means of unemployment relief.

This is especially notable in the case of Federal Highway appropriations, for on February 27 the House Roads committee reported out with a clear right of way on the House calendar a substitute bill carrying Federal road appropriations of \$132,500,000 in the form of an emergency fund. These funds would be allocated to the states in the same manner as was last year's fund of eighty million dollars and would require no watching of funds by the states. It is also probable that no expenditure time limit will be set as was done before.

There are several other emergency Federal highway aid appropriation bills pending in Congress but it appears that some such bill as this stands the best chance of quick passage and thereby the loosening of the Federal purse strings on work that can be quickly gotten under way.

As a relief agency the U. S. Bureau of Public Roads and the state highway departments of all states amply demonstrated last season how quickly and efficiently they can function to place appropriated funds in actual con-

(Continued on Page 8)

CONSTRUCTION INDUSTRIES JOINT COMMITTEE FORMED

The Construction Industries Joint Committee of California has completed its organization and has begun active operations as of February 1, 1932. The present Joint Committee is patterned after a former committee which operated in 1924 and 1925, and the charter organizations are the Associated General Contractors, the Surety Underwriters Associations and the Builders Exchanges of the State. Other branches of the Construction Industry have indicated their desire to participate in the Committee as in past years.

The Joint Committee is organized with one object in view, namely, opposition to the extension of government activities in business, particularly where such activities adversely affect the proper development of economic construction.

The work of the Construction Industries Joint Committee seven years ago demonstrated to taxpayers and public officers throughout the State the advantages of the competitive bid contract system guaranteed by corporate surety bonds over the frequently attempted day labor method in public construction.

Mr. Lynn S. Atkinson, a general contractor of national reputation, has been elected Chairman of the Joint Committee, Mr. D. W. Porter, Superintendent of the Bond Department of the Metropolitan Casualty Insurance Company, has been elected Vice-Chairman, and Mr. Ralph E. Homann, Chairman of the Advisory Committee of the Builders' Exchanges of Southern California, has been elected Treasurer. Attorney Arthur M. Ellis, an accepted authority in construction legal matters throughout the State, has been retained as Counsel, and Melville Dozier, Jr., Manager of the State Branch and of the Southern California Chapter of the Associated General Contractors, has been retained as Manager of the Joint Committee.

EDITORIAL COMMENT

(Continued from Page 3)

The Metropolitan Water District of Southern California recently awarded a contract for road construction near the aqueduct alignment, and the officers of the district refused to execute the contract on the grounds that the Prevailing Wage Law, as used in the call for bids, is unconstitutional. As a result, the district is contemplating bringing suit to enforce the signatures of its officers, thereby determining points of constitutionality regarding the Prevailing Wage Law.

Attorney Arthur M. Ellis, who has had extensive experience in legal matters pertaining to construction, has been requested by the City of San Marino and the Metropolitan Water District to assist in presenting briefs to the Supreme Court of the State in these suits brought to establish points of constitutionality and unconstitutionality of the law.

The contractors of Illinois, who were constructing public works at the time the Prevailing Wage Law was declared unconstitutional, are facing severe losses on account of the withholding of construction payments which could not be made after the Supreme Court's opinion was rendered declaring the law invalid.

It is the hope of all concerned that the constitutionality of the California Prevailing Wage Law shall be determined before public construction work is again undertaken in quantities approaching normal volume.

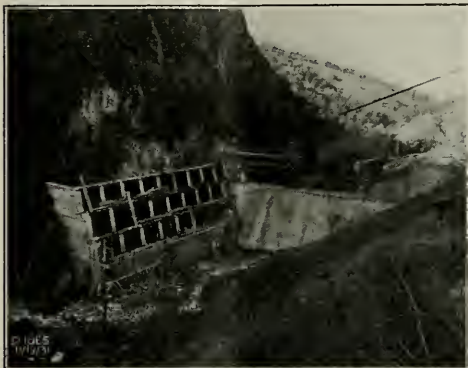
Alameda Creek Diversion Dam Alameda Creek Tunnel

By SPENCER B. LANE

ALAMEDA CREEK DIVERSION DAM

THE NATURAL CHANNEL of Alameda Creek brings its waters into Arroyo Honda below Calaveras Dam. Alameda Creek has a drainage area of about thirty square miles. The city of San Francisco wanted to add this runoff to its water supply. In order to do this the city drove a tunnel through a mountain range; built a diversion dam to turn the waters of the creek into the tunnel.

The Alameda Creek Diversion Dam is located in Alameda County, about ten miles south and east of Sunol.



Dam Nearing Completion. Hollow Dam, Overflow Section, on Right. Trash Racks Shown on Left. (Photo by Geo. F. Fanning.)

At this point Alameda Creek flows through a narrow valley with steep sides. The tunnel portal is in a solid rock cliff on the south side of the valley. The north side of the valley is a steep slope, but there is no solid rock available. Part of the dam is on solid rock, the balance is on a gravel foundation. As the dam is not built for storage purposes, and as it has a maximum height of thirty feet above the bed of the stream, this is not a serious matter. It was necessary, however, to use every precaution to cut off seepage under or around the structure.

Where solid rock was available for a foundation, a gravity design was used. Except for a very low wing on the north side, such construction was limited to the vicinity of the tunnel portal. The remainder of the structure, that part on a gravel foundation, was designed and built as a hollow dam. At the upstream edge of this structure a concrete cutoff wall was extended at least eighteen feet into the underlying gravel, except for the few feet on the south end where solid rock was encountered before that depth was reached. In addition to this cutoff wall, the gravel was thoroughly impregnated with grout.

Air under a pressure of 100 pounds was used to do this grouting. A Ransome grout mixer was used. A row of pipes was set in the cutoff wall when it was poured. Holes were drilled through these pipes to a depth of thirty feet. Grout was then forced down into these holes. Another row of holes was drilled a little upstream from the cutoff wall. These holes were also carried to a depth of thirty feet. Grout was forced into these holes by

means of a long pipe which was perforated for the five feet near the bottom. Other holes were grouted under the floor of the sluiceway. About seventy holes were grouted along the cutoff wall; about fifty under the sluiceway.

A total of 3909 sacks of cement was used in this grouting. The amount required for each hole varied greatly. A few holes took only two or three sacks. Several holes took more than one hundred sacks. One hole required 440 sacks before it was filled. Each hole was filled—as much grout as it would take was forced in.

The hollow section of the dam is the overflow section. A heavily reinforced foundation slab was first laid. This slab varied from 22 inches thick to 15 inches thick. Above this slab the dam was built in panels. Each panel was heavily reinforced, and was tied to the foundation slab with hooked bars. Each panel was reinforced as a unit; there was no connection between the reinforcing of a panel with those on either side of it. Heavy buttresses supported the slabs. No attempt was made to connect the slabs with the buttresses. As each panel was poured as a unit, there was a construction joint at each buttress. These construction joints were closed on the upstream side of the dam by copper water seals. A walk was provided through the hollow part of the dam. This makes it possible to cross the creek when water is flowing over the dam.

The gravity sections form one side of the sluiceway channel. Extensive trash racks were provided to prevent drift from entering the tunnel. Two 5 ft. x 7 ft. gates control the flow of water from the sluiceway into the tunnel. The bottoms of these gates are six feet above the floor of the sluiceway. Another gate, 4 ft. x 6 ft., is provided at the downstream end of the sluiceway. This gate is at the level of the sluiceway floor. Sediment can be flushed from the sluiceway by opening this gate. Another 4 ft. x 6 ft. gate is provided at a lower level. This gate makes it possible to flush out the stream bed above the dam.

The work involved the placing of 4400 cubic yards of concrete. The cement and aggregate were furnished by the city of San Francisco. They were delivered to the site by truck. The contractor, Barrett & Hilp, of San Francisco, installed a central mixing plant on the hill above the site. All concrete was mixed at this plant. It was handled to the work by a chute which was suspended from an overhead cable.

The mixing was done in a $\frac{3}{4}$ -yard Koehring mixer, which was operated by an electric motor. The material was handled from stock piles to bins by a crane mounted on a truck body. This crane was furnished by the Western Crane Service Company of San Francisco. It was equipped with a $\frac{5}{8}$ -yard bucket. Buggies handled the material from the bins to the mixer. This method of handling material was found to be economical and quite satisfactory.

This dam forms a part of the water supply for the City and County of San Francisco. It was designed and built by the Water Department of the city. N. A. Eckart is general manager and chief engineer of the Water De-

PACIFIC CONSTRUCTOR

Consolidated with
BUILDING AND ENGINEERING NEWS

J. P. FARRELL, Editor SPENCER B. LANE, Assoc. Editor
Assoc. Mem. Am. Soc. C. E.
H. BAILY BRUNS, Advertising Manager

Publication Office: 545-547 Mission St., San Francisco
Telephones: GARfield 6744-6745

PACIFIC CONSTRUCTOR is the official publication of the Associated General Contractors of America for the eleven Pacific Coast states, issued on the first and fifteenth of each month. Printed and published by the Stark-Rath Printing and Publishing Co., 545-547 Mission Street, San Francisco. Subscription Price: \$5.00 per year, payable in advance. Single copies, 25c.

partment. T. W. Espy is engineer of water production and was in active charge of the project. The dam was designed by Carl A. Lauenstein, under the supervision of I. E. Flaa, hydraulic engineer for the Water Department. Mr. Lauenstein was resident engineer during construction.

The contractor was Barrett & Hilp of San Francisco. The contractor's superintendent was Frank Atkinson.

Work was begun in August, 1931, and was completed December 15, 1931.

* * *

ALAMEDA CREEK TUNNEL

The waters of Alameda Creek were formerly kept out of the reservoir behind Calaveras Dam by a rocky spur which runs north and west from Mount Hamilton. In order to add the runoff from this thirty square miles of watershed to its storage, the City of San Francisco drove a tunnel through the mountain barrier.

This tunnel is 9709 feet long. It is shaped like an inverted horseshoe. It is 6 feet 6 inches high in the center; 5 feet 6 inches wide in the widest part. It is lined with concrete for its entire length. This lining is not reinforced. It is two feet thick on the bottom; one-foot thick on the sides and top.

The tunnel is in rock for its entire length. This rock varied greatly in texture and hardness. In many places it swelled very badly when exposed to the air; in one instance the floor of the tunnel rose three feet in one hour. It was found to be quite impossible to control this swelling by timbering, so the timbers were spaced far apart and the material which swelled into the bore was removed. The rate of swelling decreased rapidly as time passed. It apparently stopped entirely after the lining was in place. There appears to be no internal pressure in the mountain. The swelling of the rock seems to have been due to the chemical action of the air on the rock.

Serious trouble was caused by gas. This gas was methane (CH₄). It was encountered in pockets 300 to 400 feet long, and was present in dangerous quantities for three-quarters of the entire length of the tunnel. There was one explosion of the gas, which took the lives of seven men.

In order to get rid of this gas menace a ventilating system was installed at each heading. An electrically driven Root exhaust fan—capacity 2500 cubic feet of air—was installed at each portal. An exhaust pipe of 16-gage riveted sheet steel was run from the fans to the headings. The small size of the tunnel bore made it necessary to limit the size of these pipes to 14 inches. This exhaust system of ventilation removed all serious trouble from the gas.

The headings were driven in the usual manner. Drill-

ing was done by the usual jack-hammers. The material was mucked by hand into ½-yard steel dump cars. These cars were operated on an 18-inch gage industrial track laid on the floor of the tunnel. Trains of six cars were handled by a Baldwin-Westinghouse electric locomotive, one at each end of the tunnel. These locomotives were powered with Ironclad Exide storage batteries, 30 cells to each. The locomotives were two-ton Permissible Midgets—a type approved by the United States Bureau of Mines for use in gas. All excavated material was wasted down the side of the mountain.

Timbering followed close behind the excavation. As rapidly as possible this timbering was replaced by the permanent concrete lining. The floor was poured without forms. Steel forms were used for the sides and top. As the tunnel was straight from one portal to the other, these forms were readily handled.

There was a concrete mixing plant at the west portal. It was equipped with a ½-yard concrete mixer, electrically operated. All concrete for tunnel lining was mixed at this plant. Aggregate was obtained locally. The concrete behind the forms was placed by a Hackley concrete gun. This gun was mounted on railroad trucks. It was charged with 2½ yards of concrete at the mixing plant at the west portal. It was then run into the tunnel



Interior of Tunnel Showing Timbering Spaced to Allow Rock to Be Removed as It Swells. (Photo by Geo. F. Fanning.)

by the electric locomotive, which placed it in position. The concrete was then forced into place by 100 pounds of air pressure. Concrete placed in this way was found to be very dense and quite satisfactory. The gun made from 20 to 25 trips during a single eight-hour shift; placed from 50 to 65 yards of concrete in that length of time.

Compressed air for the drilling and for the concrete gun was supplied by two electrically driven Chicago Pneumatic Tool Company's compressors. One compressor

was located at each portal. Each had a capacity of 500 cubic feet of air. Due to the inaccessible location of the project, electrically driven equipment was used to the greatest possible extent. In order to get power to the site, 13 miles of transmission line were built. Motor generator sets were installed for charging the storage batteries of the locomotives. About two and a half miles of road were constructed to reach the west portal; about five miles of road were built or repaired to reach the east portal.

The project was begun in 1926 by the Spring Valley Water Company. During the progress of the work this company was taken over by the City and County of San Francisco; became the Water Department of the city. This did not involve any change in the personnel engaged in the work. The project was completed by the city in November, 1931.

The tunnel is capable of handling 88 per cent of the runoff of upper Alameda Creek. Its capacity is the same as the capacity of the Hetch Hetchy tunnels—400,000,000 gallons per day. It has a uniform slope of 1 per cent from portal to portal. The velocity of the water in the tunnel is 18 feet per second.

The diversion dam on Alameda Creek is described in the accompanying article. There are no gates or other headworks at the discharge end of the tunnel.

PERSONNEL: The entire project was done by company forces. N. A. Eckart is general manager and chief engineer of the Water Department of the city. T. W. Espy, engineer of water production, was in active charge of the entire project, both under the Spring Valley Water Company and under the City of San Francisco. J. H. Rankin was resident engineer for the entire project, both under the company and under the city.

STATE WILL ISSUE NEW LICENSE DIRECTORY SHORTLY

An official directory of licensed contractors of California will be ready for distribution early this month, it is announced by Carlos W. Huntington, State director of the Department of Professional and Vocational Standards, charged with enforcement of Contractors' License Law.

The directory will contain an alphabetical, geographical and a classified listing of contractors, a reprint of the Contractors' License Law and a brief discussion of the functions of the Contractors' Division of the State Department of Professional and Vocational Standards. It will also contain important information concerning the various State laws regulating construction of vital interest to contractors, material dealers and others closely allied to the construction industry.

The directory will be supplemented at regular periods with lists of additional licenses issued as well as notices of suspensions, revocations and reinstatements of licenses.

The State printing plant is now working a double shift on the publication. The directory will be sold by the State for a price to be determined upon the receipt of costs from the State printer.

A. P. DAVIS ADDRESSES SOUTHERN CALIFORNIA CHAPTER, A. G. C.

The Southern California Chapter, Associated General Contractors of America, held its monthly meeting in the Gold Room of Victor Hugo's, Los Angeles, Thursday evening, February 25, 1932. The guest of honor was Engineer Arthur P. Davis who told of his experiences in Russia where he was engaged by the Soviet Russian government in 1929 and 1930 as a consultant upon irrigation matters.

Mr. W. A. Bechtel, past president of the National A. G. C. and president of Six Companies, Inc., was also a guest at the meeting, and spoke at length upon the progress and status of construction at Hoover Dam, answering the questions which were asked by many of the fifty contractors present, all of whom are vitally interested in this great project.

Engineer Davis, Mr. Bechtel and Contractor Lynn S. Atkinson had just returned to Los Angeles from a visit to Hoover Dam where they had made a careful inspection of the progress of the work and the methods of construction. As representative of the government many years ago, Mr. Davis conceived and planned the great flood control and water storage development which is now known as Hoover Dam, and after an extended address upon Soviet Russia, Mr. Davis was prevailed upon by unanimous and enthusiastic request to give to the contractors the early history of the Boulder project, with the conditions and problems which led up to its conception and adoption.

The experience and accomplishments of Engineer Arthur P. Davis have made him an accepted authority as an international engineer upon irrigation, hydraulic and other water problems.

Engineering Record of Mr. Davis

For over twenty years prior to 1923 he was connected with the United States Reclamation Service, during the last eight years of which Davis was Director of the Service. During this period of governmental representation he advised upon hydraulic matters in Panama and was called to various foreign countries for advice and consultation. In 1911 Mr. Davis was borrowed temporarily by the Imperial Russian Government for consultation on irrigation matters in Turkestan.

Between 1923 and 1929 Mr. Davis was chief engineer and general manager of the East Bay Water District in charge of the development of domestic supply for Oakland, Berkeley and Alameda. This project included the construction of the Pardee Dam and the pipe line and tunnels leading from the Mokelumne River—east of Stockton—to the Bay region. This work was so handled by Mr. Davis that several million dollars of the bond issue were saved to the taxpayers of Alameda County.

For two years, beginning in the Summer of 1929, Mr. Davis acted as consultant for the Soviet Russian government in irrigation matters, principally in Turkestan and Trans-Caucasia, and since his return to his California home in Oakland, in the Fall of 1931, he has delivered

(Continued on Page 10)

Contractors Machinery Exchange

Rentals a Specialty

1135 - 57th Avenue

OAKLAND, CALIF.

Fruitvale 0715

NORTHERN CALIF. CHAPTER, A.G.C. MEETING MARCH 18

The Board of Directors of the Northern California Chapter have called a special meeting of all members to be held in the main room of the Engineers' Club, 206 Sansome Street, San Francisco, at the hour of 6. p. m., Friday, March 18th, 1932.

A special invitation has been extended by President Clyde W. Wood, to all associate member firms, and every regular member is being specially urged to be present and take part in the discussions of the many important matters that will be brought before the meeting.

This will be the first general members meeting that has been held since the annual convention in December and it is the intention of the officers and board of directors to make a progress report to the members.

A special address will be delivered by National Vice-President Henry J. Kaiser on the national A.G.C. convention at Milwaukee and he will also tell of the program for 1932 and particularly will he discuss pending federal legislation which affects the construction industry and the work that is being done along the line by our Washington office.

The speaker of the evening will be Hon. William H. Worden, director of public works of the City and County of San Francisco. Director Worden has agreed to tell us of the manner in which his department will carry on its work under the new charter, and he will undoubtedly give us many interesting side lights on the San Francisco public improvement and construction program.

The chairman of the various chapter committees will also make brief reports of their activities and President Clyde W. Wood will have some important messages.

Various subjects which will be covered include the following:

Day Labor and public utility construction through the contract method, by Geo. Pollock, chairman of the Public Relations Committee.

Credit in the construction industry, by Adolph Teichert, Jr., chairman of the credit committee.

Diversion of the gasoline tax, by President Clyde W. Wood.

Membership progress, by R. D. Watson, chairman of the membership committee.

Cooperation under the San Francisco city charter, by A. J. Crocker, vice-chairman of the special San Francisco charter committee.

No member can afford to miss this important meeting and the officers and directors are anxious to have the benefit of the advice and counsel of the members which will come out through full and free discussions. Therefore lay your plans to attend and send in your reservation card to the chapter office.

POWER BOND ISSUE PROPOSED

The city council of Los Angeles contemplates a bond issue for \$34,400,000 for power development. The proposal, if approved, would be placed on the May 3 ballot.

The money, if voted, would finance construction of a transmission system to handle the Boulder power project, involving the construction of transmission lines from Boulder Canyon to Los Angeles, the estimated cost of which is placed at \$17,500,000. For a steam plant at Los Angeles harbor, comprising two 60,000 K.W. units, \$11,240,000 would be required. Necessary extensions and betterments to the electrical system in Los Angeles would require an additional \$5,660,000.

CITY OFFICIALS TO STUDY COSTS OF STREET BUILDING

A decided saving in the cost of street building is considered possible by municipal officials in the action taken by all of the leading city officials' organizations of the country at a joint meeting of their representatives in Detroit during the recent twenty-ninth annual convention and road show of the American Road Builders' Association.

"A cost system is in course of preparation to aid city officials in determining just when city streets should be repaved and the kind of pavements economical for different types of streets and traffic conditions," states Geo. B. Sowers, commissioner of engineering and construction, Cleveland, and chairman of the joint committee. "Cuts made for service connections in city streets will be studied. A laboratory method of testing proposals made by the joint committee will involve experimental installations in cities of different size."

Associations co-operating in this work are:

International City Managers' Association, C. C. Ludwig, Albert Lea, Minn.; National Committee on Municipal Standards, Col. H. M. White, Cincinnati; American Society of Civil Engineers, J. E. Root, Cincinnati; American Society of Municipal Engineers, P. L. Brockway, Wichita, Kan.; International Association of Public Works Officials, Robert B. Brooks, St. Louis; International Association of Comptrollers and Accounting Officers, C. H. Chatters, Detroit; American Municipal Association, W. J. Locke, San Francisco; Governmental Research Association, R. M. Goodrich, Duluth; American Road Builders' Association.

Activities will be under the National Committee on Street Maintenance Economics, which is the name adopted, and will be financed by member associations, according to P. F. Seward, executive engineer of the American Road Builders' Association.

LIMIT STAKES AND LEVELS

(Continued from Page 4)

struction channels, and these same agencies stand ready at a moment's notice to place a huge volume of road construction actually under way. Their experience of last year taught them all the short cuts and the importance of having plans and specifications ready in advance, hence an even greater national program can now be gotten under way with less delay and confusion than previously.

Through no other means could a relief program be so far-reaching and effective as a continued emergency Federal Aid road program for eighty-five cents of every dollar spent in this manner reaches the pockets of labor, reaching clear back through the mills and factories thus adding to and stabilizing employment all along the line. This activity last year provided direct employment for one million men, and with their families and dependents, undoubtedly affected the welfare of at least five million people.

There are also pending the current regular Federal Aid highway appropriations for the next fiscal year amounting to \$125,000,000. These are carried in the current Agricultural Appropriation Bill which has passed the House and has been reported to the Senate calendar by the Senate Appropriations Committee. This bill should pass within the next few weeks and will assure the continuance of the regular Federal Aid program beginning July 1, 1932.

Extensive hearings on the pending bills were held through January by the Senate Committee on Post Offices and Post Roads, of which Senator Tasker L. Oddie of Nevada, is Chairman.

THE LEGAL PAGE FOR CONTRACTORS

BY GEORGE N. CROCKER, Attorney for Associated General Contractors of America, California Branch, Russ Building, San Francisco

(Mr. Crocker will discuss in future issues of the Pacific Constructor any legal points which may be of particular interest to the subscribers to this publication. Address your request to Mr. Crocker at the above address.)

THE PRIORITY OF MECHANICS' LIENS

The law is very generous in the protection it affords to contractors, sub-contractors, materialmen, laborers, etc. who are involved in the construction of buildings or other improvements. Either the owner of the property must see that all the claims are paid, that all those who have furnished labor, services, equipment, or material are duly compensated, or his property itself must answer for the deficiency. This is the purpose of the so-called mechanics' lien laws, which are of the utmost importance and benefit to all who are engaged in the construction or material industries, as well as to laborers and artisans of all kinds.



To be sure, there are occasions when the work is done not at the instance of the owner, but at the instance of some other party, as for example a lessee of the owner, or

one who is purchasing the property from the owner but has not yet made sufficient payments to acquire clear title. In such cases the owner may file a notice of non-responsibility and thereby shield himself against mechanics' liens arising out of the improvement of the property. The writer will deal with this particular phase in a later issue of the Pacific Constructor.

Of vital interest to anyone who is entitled to a mechanics' lien is the question of whether or not his lien places him in a prior position as to others who may have some charge against the property.

In these days of dwindled resources, when bonds and deeds are far more plentiful than money, it is, one may almost say, a rare piece of property which is not subject to a mortgage or a deed of trust or some other encumbrance. A contractor or a sub-contractor, or a materialman, who is contemplating performing services or furnishing materials for the erection of a building or other improvement upon a piece of land, must consider very deliberately where his money is to come from. He will be entitled to his mechanics' lien as against the owner,

but if the owner has already encumbered the property "up to the hilt," the mechanics' lien will hardly suffice as a real protection. If the property should later be foreclosed upon and sold, how will the proceeds be distributed as among the various creditors of the owner, and just where in the picture will the builder, or the materialman, stand?

If a builder has begun work in the construction of the building which is to be erected, or such other improvement as is to be made, and thereafter the owner executes a mortgage or a deed of trust upon the property, the lien of the builder will take precedence over the rights of the creditor for whose protection the mortgage or the deed of trust has been executed. The lien of a sub-contractor will likewise take precedence over the rights of the secured creditor; so will the lien of any materialman who furnishes materials used in the actual construction, and the lien of any workman or artisan, architect, machinist, teamster, drayman or laborer. Likewise, if there has been a previous mortgage or deed of trust ante-dating the commencement of the work, which mortgage or deed of trust has never been recorded, and the builder, materialman or workman has no notice of such previous encumbrance, his mechanics' lien will take precedence over the claim of the secured creditor, and in the event a foreclosure and sale of the property become necessary, the mechanics' lien claimants will receive first payment out of the proceeds of the sale.

However, if at the time of the commencement of the work there is already on public record a mortgage or a deed of trust upon the property involved, the party secured by that mortgage or deed of trust has a prior claim upon the property, and the rights of the builder, the materialman or the workman, who thereafter engages in the construction of the building, will be secondary only.

There seems to be an impression in the minds of many engaged in the building or material industries that a mechanics' lien is always the first and foremost charge upon the property. This is distinctly not so. If there is a prior mortgage or deed of trust, the mechanics' lien becomes secondary. For this reason, it very much behooves the wary builder or materialman, who wishes to be certain that his compensation will be safeguarded him, to examine the state of the title of the property for the purpose of ascertaining whether or not there are any prior encumbrances on record. Such an examination will often prove to be effort well-spent, especially where the owner for whom the work is being done is of questionable financial responsibility. Furthermore, it must be remembered that the mere assurance of the owner that there are no outstanding mortgages or deeds of trust is not sufficient unless such assurance is known to be perfectly trustworthy. If there actually are on public record any mortgages or deeds of trust, everybody will be presumed

(Continued on Page 12)



HERCULES EXPLOSIVES

THE CONTRACTORS' FAVORITE

HERCULES POWDER CO.

Standard Oil Building

San Francisco

DOuglas 2330



A. P. DAVIS ADDRESSES SOUTHERN CALIFORNIA CHAPTER, A. G. C.

(Continued from Page 7)

more than thirty addresses upon his experiences under the Soviet regime.

Mr. Davis' Experiences in Russia

Upon reaching Russia Mr. Davis was told that the Russian government desired to accomplish in five years as much irrigation and reclamation development as the United States had accomplished in the preceding twenty-five years. In all development and construction the present Russian government desires to build the largest plant or structure or development of its kind in the world. Frequently the large plants are established without due regard being given to the location of the materials to be handled in the plant, and other factors which should be given due consideration in development.

The contractors were told that all development and construction is handled by the government and not through any private ownership and that the expense is very great; at first day-labor was employed but this has been replaced by piece work which is less expensive than day-labor, but is far more expensive than machine and regulated work would be handled under private initiative and ownership.

All work in Russia, including such construction and development as that handled by Mr. Davis, has to be ultimately passed upon by members of the Communistic party, hence all things that are done must be finally considered with a view to their political effect. The orders of the Communistic party are enforced by virtue of the strength of the army, which numbers about 900,000 men, whose loyalty is assured by the somewhat superior privileges, in the way of food, clothing, etc., which are granted to the soldiers.

The Soviet government held very high respect for the opinions and recommendations of Engineer Davis, but the carrying out of his recommendations by the Russian representatives was greatly hampered by the excessive amount of red tape, and particularly by the fact that the pioneering work, in the way of roads, communications, equipment, etc., had not been provided, notwithstanding the fact that the Russians desired to have irrigation systems constructed in an unusually short space of time.

Mr. Davis gave a history of the principal accomplishments and setbacks under the Soviet regime in the last ten years, and expressed the opinion that the exports of grain, lumber and other products from Russia would not now, and probably will not in the future, seriously endanger the industrial markets now enjoyed by the United States and some of the larger European countries.

In closing, Mr. Davis deplored the state of affairs in the United States whereby citizens and taxpayers criticize many things in our own government and talk in a very careless manner, while at the same time they do not devote their time, energy and influence to securing and placing in office leaders who will cause the United States to realize its ideals in our form of government.

The Boulder Project

In speaking of the history of the Boulder project, Engineer Davis stated that the danger of floods in Imperial

Valley and the uncertainties connected with irrigation waters, due to the fact that the canals pass through Mexico before reaching the Imperial Valley, resulted in the adoption of a law intended to solve and correct these troubles and menaces. The studies indicated that storage would be necessary in the lower river, and in 1918, Engineer Davis undertook to find the proper site for such storage, resulting finally in the location of the Boulder Dam.

Mr. Davis spoke briefly upon the desilting of the water, and particularly upon the much discussed problem of sediment deposit. According to Engineer Davis, the sediment carried by the Colorado River amounts to about one hundred thousand acre feet per annum. The reservoir which will be formed by the construction of the Boulder Dam will have a capacity of thirty million acre feet; from which it can be deduced that it would require at least three hundred years for sediment deposit to fill the reservoir above the dam.

Dr. Davis stated that the storage area back of the dam, in engineering considerations, had been divided into three parts, as follows:—the upper one-third of the reservoir is intended for flood control, which naturally should be emptied rapidly after floods and high waters in order that the storage area may be ready to take care of the next flood; the middle one-third of the storage area is intended for power, irrigation, domestic supply, etc., and would be used as needed; and the lower one-third of the storage area is intended for holding the sediment which will be deposited from the stored waters. Hence, according to Engineer Davis, even if all of the waters behind the dam, including flood waters which are rapidly emptied, should deposit the total amount of silt mentioned above, one hundred years would elapse before the sediment would reach an elevation which might in any way affect the amount of storage waters which the present dam is intended to hold for irrigation and flood control purposes. Mr. Davis added that even if hundreds of years from now the present reservoir should be entirely filled with silt, the power development would continue without being affected because of the great drop of the water at the dam site.

Engineer Davis, in closing, paid tribute to the manner in which the construction work is being handled by the Six Companies, Inc., and also spoke very highly of Construction Manager Crowe for the Six Companies, and Engineer Young for the Federal Government.

The contractors of Southern California were so impressed and pleased with the addresses of Engineer Davis that he was given a standing vote of thanks and a rousing cheer at the close of his talk.

OREGON ENGINEER RESIGNS

Roy A. Klein, Oregon State Highway Engineer, has submitted his resignation to the State Highway Commission, effective March 1. The resignation has been accepted. R. H. Baldock, assistant state highway engineer, has been appointed to succeed Mr. Klein, who will remain with the highway department in an advisory capacity until April 1.

The commission has ordered salary reductions of 12.5 per cent, affecting all department employees.

Union Tank and Pipe Co., Ltd.

STEEL PLATE AND SHEET METAL PRODUCTS

Phone Jefferson 2251

2801 Santa Fe Avenue

Los Angeles, Calif.

San Carlos Feed & Fuel Company

SAND, ROCK AND GRAVEL ROAD AND BUILDING MATERIALS

PHONE SAN CARLOS 250

Old Highway

San Carlos, Calif.



Here To There And Back Again



BLACK MAGIC

Senors y Senoras, there is dirty work at the cross-roads!!

We started to write a nice little blurb about the ASPHALT INSTITUTE, and before we got half-way thru we ran into the damndest bunch of complications you could possibly figure out!

First, there is KARL KNEISS of the Associated. Then BILL JULIER, who is still trying to teach the Gilmore Lion to fly. Then comes JOHN McSWAIN, playmate of Sir Henri W. A. Deterding, K.B.E., of the Royal Dutch Shell Trading and Transport Company, closely followed by Mr. Kingsbury's own JIM BLOOD of the Standard. The fellow at the end of the line is FRANCIS SMITH of the Union.

And if you eggs don't like the way we have you lined up, you can go jump in a lake . . . of asphalt. The companies are ASPHABETICAL . . . and that is that!

These boys all started out with a smattering of Chemistry and a firm conviction that their own company was the ONLY Oil Company in the country worth mentioning. Eventually they all made the same discovery.

They discovered the Gin-Twins. They found a common denominator in the GIN-ger ale family. They found that OXY-GIN is pure GIN, and HYDRO-GIN is one part water and one part gin.

The next discovery was that ASPHALT, regardless of name or brand, is black and sticky. With that as a common ground, they found that much could be done toward Standardization and Simplification of Specifications.

Road Builders have thought of paving just as our Mother thinks of Biscuits. Our Mother (and may her years be many) thinks that biscuit-making is a matter of hereditary instinct, when it is a matter of physics and chemistry!

Miller and his crowd have now taken on the job of convincing the road-builders (and road buyers) that there is One Best Way of producing and using Asphalt Cement, and it is toward the proper use of Asphalt from the Professional Angle that the ASPHALT INSTITUTE is shooting.

Miller has a bunch of statistics that are utterly boring. He can tell you that if all the asphalt used in a given year was laid end to end, it would make a road from here to some place and back again—and it would be some place you are not all interested in visiting.

In writing a page, you sometimes need a line like this, to make it fit.

The thing of interest we learned about this business is that the tank-cars in which asphalt is shipped are insulated, and are kept steam-heated during transit.

The shippers of fruits and vegetables have their cars cooled with ice. It is utterly stupid! Why can't these boys get together?

We started to write about "Dan" Miller, and then ran into this Asphalt crowd. We worked them down, and when we finally got to Dan, we found that it is his brother Kirk we want to talk about.

Washington, D. C., is known to have some hot-spots. Dan's brother "Kirk" at one time occupied what was perhaps the hottest berth in Washington.

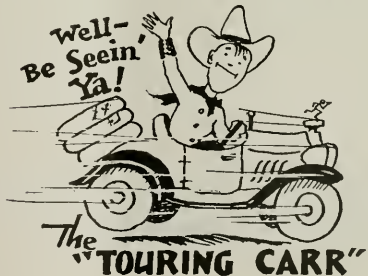
Kirk Miller worked on the Washington Times during the day and ARTHUR "BUGS" BAER worked on the same paper at night. These boys slept in the same bed. Kirk used the bed at night, getting up in time to let "Bugs" go to bed in the morning.

It isn't recorded How, When and IF Mother Miller changed the sheets. Perhaps that is how these boys developed their liking for newspaper work, asphalt and the like.

There is something funny in this asphalt story. The same boys that are trying to simplify and standardize the production and application of asphalt cement belong to a Family who have just marketed a THIRD grade gasoline!

THERE IS A REASON! The Engineer and Road-builder have finally reached the conclusion that there is one best way of producing and applying asphalt cement. The automobile owner will always be an experimenter, and ever trying to find some way to make his "heap" run on nothing net.

*Toujours Gai, Archy, Toujours Gai!
W'otthehell, Mehitabel!*



GAS TAX DIVERSION— THREE PROPOSALS — UNDESIRABLE

Of major interest to the construction industry at this time is the proposal that income from the gasoline tax be diverted to other uses. The first of these is that a portion of such funds be applied to meeting interest and redemption requirements of the highway bonds issued prior to the inauguration of the gas tax principal in this state. Another proposal is that a greater proportion be returned to the counties, thus reducing the proportion allocated to state highways. This proposal in theory would permit the counties to reduce the local road tax an equivalent amount as an offset of the added income received from the state. A still further proposal is that the gasoline tax be increased one cent, this additional cent to be allocated to the counties as an offset for reduction of local property taxes.

To the uninitiate, each one of all these proposals may sound desirable. Carefully analyzed, however, in the effect that they would have on the state's development we find that none of them are wholly desirable or should be supported by the thinking citizens.

The first proposal, that of diverting gas tax income to state highway bond interest and redemption would afford relief only to the General Fund of the state, and this fund is supported wholly by the tax on the public utilities and corporations, therefore through such a plan only these public utilities would benefit. Granting that the state is facing a large general fund deficit, the remedy should lie in a reduction of expenditures for unnecessary government refinements instead of attempting to take for this purpose funds that are paid in by a special class of taxpayer and for a special and specific purpose only. The roads built by the old highway bonds have been largely replaced by later investments, and further than that, these obligations were incurred by a vote of the people and were to be paid in a certain manner, and there has arisen no just reason for a change at this late date.

In theory, the allocation of a greater proportion to the counties would permit a like reduction in the county road tax, but would this actually occur? Experience has shown that in every case of an increased income to the county from state sources, there has not taken place an equivalent reduction in the county rates, but on the other hand, it usually means only increased expenditures by the county, with less efficiency and less returns than like expenditures directly by the state.

An increase in the tax would seem to be undesirable at this time, and especially so should such funds be proposed for administration through the counties. The only excuse for an increase should be that of more rapid completion of the state system, but under the ten-year plan of the state, the completing of a well balanced system is in prospect with the present revenues. Experience in other states where the tax has been increased beyond three cents demonstrates that bootlegging and tax evasion becomes so profitable that there is slight increase in state revenues resulting from such an increase.

There can be no denial of the fact that the gasoline tax represents a pledge of faith with the people to devote such funds exclusively to the up-building of the state and county highway systems, and its diversion to other purposes will not be countenanced in view of the great need of all available funds to keep pace with actual traffic needs.

PRIORITY OF MECHANICS' LIENS

(Continued from Page 9)

to have had knowledge of them, for the law gives the act of recording the effect of constructive notice to the world at large. Many are the contractors and materialmen who have suffered substantial losses by reason of the fact that their mechanics' liens upon property have been frustrated by the prior rights of the secured creditors of the owner.

The cases hold that when a building is constructed by a general contractor under a contract with the owner, all mechanics' liens arising out of the construction of the building date back as of the time of the commencement of actual construction. Therefore, even though a materialman may at a later date furnish materials which are used in the building, or a sub-contractor may at a later date perform certain branch of the work, the lien which accrues to him will be treated as having come into existence at the time of the commencement of the entire project, thereby prevailing over the right of any intervening encumbrancer.

However, in this respect, there has been a distinction drawn between cases in which the building is constructed by a general contractor and cases in which the building is constructed by the owner himself. In the latter type of cases it has been held in California that the liens do not date back to the time when the project was commenced, but simply date as of the date when the particular materials were furnished or the particular piece of work performed out of which each lien arose. This rule was reaffirmed four months ago in the California District Court of Appeal in the case of *K. & K. Brick Co., et al, v. W. S. Brooke, et al*, 67 Cal. App. 655. However, in that decision, the court called attention to the fact that because of certain changes in the statutes made by the last session of the State Legislature, it is very possible that a different construction of the law would be made by the court if a case should present itself arising under facts occurring subsequently to the time the 1931 amendments took effect. Although we cannot prophesy this with absolute certainty, we may reasonably expect, therefore, that in the future it will be held that all mechanics' liens date back to the time of the commencement of the building regardless of whether the building is being constructed under a general contract or is being constructed by the owner.

Although the law, as has been said, is very generous in the protection which it affords to contractors, materialmen and others by means of the mechanics' lien, it nevertheless requires that one who desires to take advantage of that protection conform to the specified method prescribed by the Code of Civil Procedure for the perfecting of mechanics' liens. A mechanics' lien is, therefore, unenforceable unless a claim of lien is filed with the County Recorder of the county in which the property is situated within certain time limits. Too long delay in taking this step will render the lien valueless.

In a subsequent issue of the Pacific Constructor the writer will discuss the related subject of stop notices, which constitute a very important and practical weapon in addition to mechanics' liens. Stop notices are of particular importance in cases of public improvements, for mechanics' liens are not available in such work.

POSITION WANTED—Expert Concrete Engineer, 8 years' practical experience in Design, Construction and Technology in supervisory capacity. Would appreciate interview. Local references. Reply Pacific Constructor, Box 175.

A. G. C. Chapter Activities

SECRETARIES OF A.G.C. CHAPTERS THROUGHOUT THE PACIFIC COAST
ARE REQUESTED TO SUBMIT ITEMS FOR PUBLICATION IN THIS DEPT.

ALAMEDA COUNTY CHAPTER—S. G. Johnson, newly elected president of the Alameda County Chapter, A. G. C., after paying glowing tribute to the successful administration of W. E. Lyons, retiring president, and commending the membership for its unified support in all Chapter activities during the past year, delivered an interesting address at the annual meeting, extracts of which are published herewith.—Editor.

The president's report on the conditions of our Chapter is encouraging. It shows a small group of men, working together, wrestling with problems that the individual, alone, cannot approach. It proves the value of organization. Such questions as stabilization of credit and wages are too large for one man to deal with. Legislation is another riddle before which the individual, representing to one but himself, stands helpless. Our association has dealt with these problems with a great deal of success.

As usual, the independent contractor who refuses to assume the obligations of his business organization shares all the benefits resulting from organized action. It is safe to say that without the organized effort of our Association the wage scale, established by the impartial Wage Board, would have broken down completely in the east bay. The Contractors' License Law, a measure sponsored by the A. G. C., would not have passed the Legislature without the sustained push exerted by the combined efforts of our Chapters. The good resulting from this kind of work is general, enjoyed by even those who should help but remain detached, watching others do their work.

We are convinced, more than ever, that one of the worst evils in the building business lies in unsound credits. Our plan, sponsored by the head office, is an effective remedy and should be applied consistently. Through a sound system of credit stability on the road should be paved for the modification of the lien law, which has proved an inadequate instrument as a substitute for a defective credit system.

Our attention to legislation affecting the building business must not slacken. Much good can be done for the industry by taking a stand either for or against certain measures as they affect the general contractor. The Contractors' License Law is still inadequate in dealing with dishonest and incompetent contractors. New amendments designed to put an end to fraudulent practices still engaged in are needed.

The wage conditions present another problem for which we must assist in finding some solution. We are not so much interested in the reduction of wages as we are in a more stabilized wage condition. We are obliged to obtain work by competition in the open market. An established rate of wages from which no reduction can be anticipated without a corresponding loss would eliminate the disgusting practice of wage-cutting and wage-gambling.

The general contractor of today is dependent on the sub-contractor for the successful prosecution of his work. The contractor for the successful prosecution of his work must be benefited derived from their business associations must be making a "Fair play" should not be a motto only but a sure gauge for their dealings. Feeding of bids is not fair play. This old, tried and true method is getting sick of its own ugliness, but it is not dead yet. It is still a disturbing factor in the building industry. The general contractor, though partly responsible, should not be blamed altogether. Yet retaliatory measures, moral and legal, are now in the making against him. Should these measures be adopted for public and private work the general contractor will find himself with nothing left but the lumber. It would mean segregation of work, which would be of no help to the sub-contractor and would work a definite harm and great injustice to the master builder. We must take a firm stand against these proposals. But our stand will be weak unless we lend our support in trying to find a solution for the problem.

I believe that no element is more important for the success of our business than the friendly relationship with the architect and engineers. This relationship, much improved in recent years, can be elevated to still higher levels. Mutual confidence and respect is the safest foundation for any business or association to rest upon. These attributes, so fundamental, cannot be replaced with contracts and specifications. The protection for the owner, architect and contractor provided by the builder's contract is essential, of course. The Associated General Contractors for thirteen years has emphasized the importance of the contract. But when all the legal and technical machinery known to man has been employed, a contract is still a weak instrument unless it is sustained by "Skill, Integrity and Responsibility" plus mutual

confidence on the part of both the architect and the contractor.

With reference to contracts and specifications, we feel the need of a closer co-operation between the architect and the general contractor. Both are suffering for want of a better understanding of each other's problems. Contracts are often unfair to the contractor. Specifications with twenty or thirty alternates compelling the contractor to estimate the same plans many times in competition against as many bidders as there are alternates, place an unnecessary and unjust burden on the contractor. We are looking for a more standardized and just form of both contracts and specifications. I am also against the unfair competition often endured by both crafts when each encroaches on the other's business. When the architect eliminates the general contractor and the general contractor eliminates the architect the road is being paved for the elimination of both.

NORTHERN CALIFORNIA CHAPTER CONDEMNS CONVICT LABOR CAMPS

Northern California Chapter, Associated General Contractors of America, is not in favor of convict labor on State highways while free labor is walking the streets in search of employment.

Declaring the continuance of convict road camps is "un-American in principle and contrary to the best interests of the taxpayers of the State," the Chapter at its thirteenth annual convention adopted the following resolution, copies of which were forwarded to all State officials and members of the Prison Board:

WHEREAS, in a time such as the present, when the matter of unemployment relief is occupying the attention of officials and communities and the actual need of employment of so many of our citizens is becoming so acute, all forms of convict labor which are in competition with free labor should be discontinued, and

WHEREAS, it is wrong in principle at all times to have convict labor in competition with free labor and it is also wrong in principle to make it necessary for one to go to prison in order to get employment, and

WHEREAS, the actual cost of all work performed by convict labor is far in excess of that performed by free labor under modern methods employing modern equipment, and

WHEREAS, this is particularly true of the convict road camps being maintained by the State of California, wherein are maintained at public expense an average of 600 prisoners who are doing work which could be used as employment for an equal or greater number of free citizens at a less cost to the taxpayers, and

WHEREAS, the continuance of such a system is un-American in principle and contrary to the best interests of the taxpayers of the State, who are entitled to a dollar's worth of value for every dollar expended in public works, and

WHEREAS, the unit costs of work so performed by convict labor are unjustified under present economic conditions and represent a definite burden to the taxpayer which should be immediately relieved,

THEREFORE BE IT RESOLVED, that we go on record as opposed to the further continuance of convict labor camps on State highway work as economically unsound and unjustified under present conditions and particularly uncalled for at such a time when free citizens are in such dire need of employment, and

BE IT FURTHER RESOLVED, that we do by this resolution point out to the duly charged public officials the desirability of taking prompt action to discontinue the policy of convict labor on State highway construction, and

BE IT FURTHER RESOLVED, that copies of this resolution be forwarded by our president to Governor Rolph and other State officials who are in charge of this work.

Phone TRinity 0241 for —
Rock-Sand-Gravel-Plaster
Cement-Mixed Mortar-Stucco
Lath-Lime Putty-Reinforcing Steel

**Consolidated Rock
Products Co.**

656 S. Los Angeles St.

Los Angeles, Calif.

Around The Builders' Exchanges

SECRETARIES OF BUILDERS' EXCHANGES THROUGHOUT THE PACIFIC COAST ARE REQUESTED TO SUBMIT ITEMS FOR PUBLICATION IN THIS DEPARTMENT

CALIFORNIA STATE—The next semi-annual convention of the California State Builders' Exchange, Ltd., will be held in Bakersfield on March 18th and 19th.

The officers, directors and committee chairmen of the State body have been very active during the past six months and some very interesting reports can be expected.

The prevailing wage law, contractors' license law and promotion of new construction will be among the many topics of discussion. Entertainment and speakers of note will be features of the meeting.

All convention sessions will be held in the Spanish Ballroom at the Hotel El Tejon.

"Just now springtime in Kern County is a beautiful sight, as the annual wild flower festival will be in full swing. Thousands of people from all over the State attend this wild flower show each year, and this year, of all years, Kern County should have miles and miles of wild flowers," says G. A. Graham, convention chairman.

The following committees are in charge of arrangements: G. A. Graham, general chairman; H. C. Evans, ladies' entertainment; W. M. Fisher and Herman Ruby, banquet and entertainment; D. J. Turner and F. A. Greenough, registration and program; W. T. Drury and P. J. Stevens, refreshments; G. A. Graham and D. J. Turner, hotel and miscellaneous arrangements.

SANTA MONICA—The regular dinner meeting of the Bay Builders' Exchange was held February 15 at the exchange headquarters. Matters of local importance were discussed, including the proposed breakwater to be constructed by the city under a bond issue yet to be voted. Realizing the unemployment situation and the urgent need of work for local citizens, the exchange will join with the local American Legion post with a view to putting the bond issue over.

Officers and directors of the Bay Builders' Exchange are: J. E. Zehnder, president; L. H. Tyler, vice-president; R. E. Peterson, treasurer; D. E. Baird, Harry Allen, George Harrison, M. S. Jepsen, E. T. Kallgren and Charles Lovejoy, directors. Joseph S. Waugh is manager.

SANTA ANA—Arrangements have been made through the efforts of the Orange County Builders' Exchange for a more effective enforcement and application of the State Contractors' License Law in Orange County. Ray S. Hilsinger, deputy inspector for the registrar of contractors, will be in Santa Ana at the Builders' Exchange headquarters every Tuesday between the hours of 10 a. m. and 12 noon for the purpose of handling complaints and other matters pertinent to the application of the law.

LONG BEACH—Col. Carlos Huntington, State director of the Department of Professional and Vocational Standards, charged with enforcement of the Contractors' License Law, addressed the February 8th meeting of the Builders' Exchange of Long Beach. Colonel Huntington was accompanied by Glen V. Slater, assistant direc-

tor at Sacramento; Hal G. Stiles, chief investigator of Los Angeles, and Charles Hansman, Long Beach district inspector.

OAKLAND—Greater Oakland building activities during the ensuing year face the beginning of a new "boom," according to officers and directors of the Builders' Exchange of Alameda County, who have planned an intensive revival of building operations. The campaign will be carried on under the supervision of T. R. Ewart, newly elected exchange manager.

S. J. Bertelsen, president of the exchange, in speaking of the revival move, says:

"If we can successfully stimulate new building and relieve the credit pressure on various industrial projects, both new and old, through a movement directed at the further extension of credit by the banks, we should be able to help materially in reviving confidence in business generally."

ISRAEL ADVOCATES QUANTITY SURVEY AND ESTIMATING FEE

George W. Israel, secretary-manager of the Builders' Exchange of Pasadena and former executive secretary of the California State Builders' Exchange, in the current issue of his weekly bulletin advocates the Quantity Survey and an estimating fee for contractors. He says:

Have you checked the combined cost in time, labor, office overhead, phone calls, mileage, etc., to the many contractors who have figured the Armory Building in Pasadena? And does it occur to you the intangible loss—where the contractor is buried in a set of plans for many hours—may overlook and not give proper attention to new business? And does it occur to you what the comparatively small cost under the Quantity Survey Plan would be to each contractor, and again—this waste of time—for a "thank you" (maybe)? Does any contractor take the time of a lawyer in asking for advice, and pay with a thank you? Does a doctor diagnose your case on a thank you fee? Does the architect draw your plans in exchange for a pleasant smile? Does an expert appraiser set values "nonfee" just because he technically knows how? No! Why? Simply because they are all organized—they have used their "bean"—to the tune, "You Pay, or You Don't Get It." So you pay—expect to pay—and you like it.

Give me one intelligent reason why an experienced contractor—a contractor who is responsible in giving valuable advice and information—should not be paid a reasonable fee to cover his expense in submitting a bid. You hesitate! Now, let me tell you one: Make your Exchange, in importance, by your attendance and necessary support, what it should be, and your rye bread "cast on the waters will return to you" as it does to the doctors, lawyers, architects, appraisers, etc., and incidentally, every contractor in the United States would not be asked to figure a measly little job of thirty or forty thousand dollars' importance. Time was when people would walk a mile rather than risk the dangers in a street car—and I've heard of a man in the back hills of Kentucky, who for his first time watched the improved "sled" with the wheels going round, had to have the newfangled thing rolled backward until his brain became untwisted.

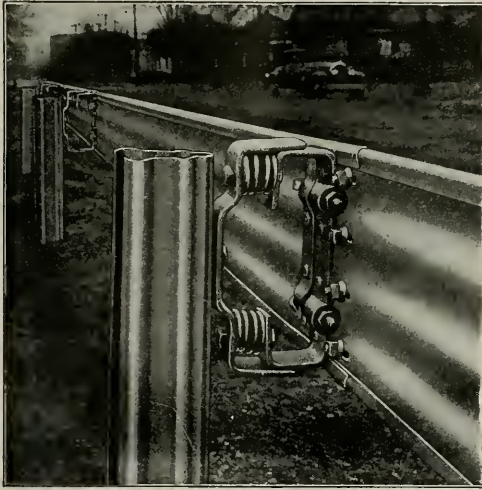
If ever a man was entitled to a fee for his hire, the contractor, who by his standing is privileged to figure a job, should come under this class; and the time is about here when contractors (and by contractors, I mean sub-contractors, and all down the line) will brush aside this "too busy" stanza and come together as they should, and when this time comes, you'll see things "a-poppin'."

Construction Materials and Equipment

TRADE NOTES—PERSONALS

CARSWELL METALFLEX GUARD RAIL NEW HIGHWAY DEVICE

Highway officials and others are manifesting considerable interest in a new type of metal guard rail known as the Carswell Metalflex Saf-tee Rail, developed by the engineering department of the Golden State Culvert Manufacturing Company of Los Angeles and Oakland.



This new rail, according to the manufacturers, offers safety and visibility, a combination which will make the highways safer for traffic. It is said that repeated tests prove a car traveling at ordinary speed can hit the Metalflex without serious damage to the car or occupants, or to the rail. Upon hitting the Metalflex, the spring action of the brackets at each post absorbs the shock and the tendency is for the car to skid parallel with the rail and slide along its smooth, corrugated surface until the driver can regain control.

Telescoping brackets with compression springs at top and bottom, as illustrated in the photograph, are mounted at each post. Each panel is slotted and telescopes into the adjoining panel, being connected with hook bolts. By tightening the hook bolts, positive tension can be applied the full length of the rail. Top and bottom of each panel are rolled to avoid any knife effect and to provide additional strength.

Panels are made of genuine Toncan copper Mo-lybdenum iron to insure permanency. Each panel is corrugated. The corrugations increase the strength as well as improve the visibility. The corrugations reflect high and low lights and, the manufacturers say, make the rail vis-

ible as far as the eye can see an object of its size. The construction of the rail is such that it is impossible for it to pocket or for an automobile to come in contact with any post as occurs with many other types of rail.

It is practically impossible for an automobile to hit the rail in such manner as to cause the car to overturn or to be bounced back in the road to become a hazard for passing cars.

The Metalflex can be attached to concrete, wood or metal posts. Two men can erect 200 feet or more in eight hours. The cost of the rail is considerably less than other types which do not seem to offer the safety and visibility, or the permanency, the manufacturers declare.

Full information may be obtained by writing the Golden State Culvert Manufacturing Company at Los Angeles or Oakland.

THACKABERRY OPENS BRANCH OFFICES IN SAN FRANCISCO

The electric hand tool business, as an aid to the contractor in speeding up construction, has proven itself a real factor in the building business. One of the outstanding firms engaged in this enterprise is that conducted by M. N. Thackaberry, who has made a careful study of the needs of the contractor along this line.

Established about ten years ago, the Thackaberry firm have been operating with such success in the Southern California section that they have recently opened offices in San Francisco for the purpose of better serving the local field.

This service enables the contractor to either purchase or rent such equipment as he may require. The principle products of the company are electric hand saws, drills and planes. Special shop facilities, however, enable them to construct special equipment to meet most any type of job or condition.

The Los Angeles office is located at 308 E. Third St., while the San Francisco office, in charge of W. A. McAuley, is located at 228 First Street.

TRADE LITERATURE

Wagner Electric Corp., 6400 Plymouth Ave., St. Louis, Mo., has issued a new 30-p. booklet describing a line of single-phase, polyphase and direct-current motors in fractional-horsepower ratings. The bulletin, known as No. 167, is in looseleaf form, and five of the ultimate eight sections of the book are now available.

A German patented system of construction which has been used extensively for roofs of dock sheds, garages, hangars, public halls and similar structures is described in a 24-p. pamphlet (Bulletin 138) issued by the Roberts & Schaefer Co., Chicago, which company has acquired the American rights for this system. Theory of design, tests and descriptions of structures are all included in the bulletin.

Pacific Clay Products

General Offices: 650 Chamber of Commerce Bldg.,
1151 SOUTH BROADWAY
Los Angeles, Calif.

NOrmandie 4303

NOrmandie 7715

LEO HONEK

EXCAVATING CONTRACTOR
CONCRETE PAVEMENT BREAKING
Compressed Air Equipment

2941 Denby Avenue

Los Angeles, Calif.

G. H. BUCHER ELECTED V. P. AND GEN. MANAGER OF WESTINGHOUSE

At a meeting of the Board of Directors of the Westinghouse Electric International Company, held in New York, George H. Bucher was elected vice-president and General manager.



G. H. BUCHER

Company. July 1, of the following year he was appointed assistant general manager which position he held until his recent appointment.

He is a member of the A. I. E. E. and vice-president of the New York chapter of the Westinghouse Veterans' Employees' Association.

He will make his headquarters at 150 Broadway, New York, N. Y.

General Construction Co., of Seattle, announces change in offices and re-organization of the firm, due to the withdrawal of J. W. Lawlor, R. E. Woodward and L. P. Lawlor from the company. J. A. McEachern remains as president, D. V. McEachern senior vice-president, and Ben Cook, who has been associated with the McEachern interests for many years and who has had charge of some of the company's largest projects, including the construction of the Owyhee dam for the U. S. Bureau of Reclamation, succeeds J. W. Lawlor as vice-president, in charge of all outside work. J. Samuelson remains as secretary, and J. E. Beardsley has been elected assistant secretary-treasurer. E. A. Webster remains in charge of all highway construction.

Tiffany, McReynolds and Tiffany, highway contractors, and Richard Grace are being sued for \$30,000 in the Superior Court at Sacramento by Chas. Ruth, a laborer, who claims his left foot was crushed while employed on a highway construction job between Perkins and Mills.

SMITH BROS. TRUCK CO.

"TRANSPORTATION SPECIALISTS"

Portable Crane Service—Rigging

1704 E. 16th St. Los Angeles WEstmore 3271

PROPOSED FEDERAL GAS TAX PROMPTS OPPOSITION

As a source of additional tax income to assist in meeting a huge deficit in the Federal Treasury, the new Secretary of the Treasury, Ogden L. Mills, on February 18 submitted a program of new Federal taxes which included the proposal for a 1 cent per gallon tax on gasoline which he estimates would raise for Federal purposes, approximately \$165,000,000 per year.

Such a proposal immediately brought forth a storm of protests from all states as this character of tax has been developed by the states and has always been considered a field of taxation inviolate to them. Prominent in prompt and vigorous protest to the proposal have been the wires of Senators Arthur H. Breed and of other prominent citizens and organizations of California.

As pointed out by Senator Breed, the motorist is already burdened with more than his fair share of taxation through personal property taxes, registration fees and gasoline taxes in every state, and that such a Federal gasoline tax would constitute an invasion of a field of taxation heretofore accorded to the states.

Prominent citizens, officials and motoring organizations of other western states have likewise protested such a tax to their representatives in Congress and it would seem that the storm of protest which has arisen should be effective in heading off the proposed Federal gasoline tax.

Cypress Lawn Memorial Park

COLMA, SAN MATEO CO., CALIFORNIA

Executive Office—995 Market St., San Francisco



VIEW OF NEW MEMORIAL COLUMBARIUM
(Largest and most beautiful Columbarium ever erected)

WE HAVE FACILITIES FOR:

Earth Interment Cremation
Mausoleum Entombment Columbarium Inurnment

Cypress Lawn is adequately protected by a
PERPETUAL CARE FUND.

"VISIT CYPRESS LAWN MEMORIAL PARK"

U. S. CENSUS BUREAU COMPILING 1931
CENSUS OF MANUFACTURERS

The Census Bureau is now mailing its 1931 Census of Manufacturers questionnaires to all manufacturers, with an urgent request that they be filled out and returned promptly. The value of manufacturers statistics is dependent largely upon their timeliness, which in turn, is dependent upon the promptness of the manufacturers in returning the reports.

Information given on the questionnaires should relate preferably to the calendar year 1931; but if more convenient to the manufacturer it can cover a business or fiscal year ending within the period from April 1, 1931, to March 31, 1932. In either case, however, it should cover a full year's operations, unless the plant was newly organized or went out of business within the year.

The 1931 questionnaire is considerably smaller than the one used for the 1929 canvass. This is due to the fact that the 1931 census is one of the regular biennial series and does not fall within the decennial series (as did the census for 1929, when the questionnaires were expanded considerably).

The major items covered by the 1931 questionnaires are only four in number, namely:

Wage earners employed, by months.

Wages paid.

Cost of materials, fuel, and purchased electric energy.

Products by quantity and value.

CONTRACTORS' LICENSE LAW
IS PROPOSED AT LONG BEACH

A new general contractors' license ordinance being considered by the Long Beach city council will be held in abeyance until a better understanding of the code is had generally, it is announced, although building contractors who understand the plan are reported as being enthusiastically in favor of it.

The ordinance calls for payment of a \$25 annual license fee, which would include the \$10 vocational tax. The date of expiration is fixed as the same as the state license, June 30 of each year. The measure follows closely the state contractors' license law. The chief city building inspector is named city registrar, and his powers of enforcement are practically identical with those of the state registrar of contractors. The city registrar and one investigator are exempted from the provisions of the civil service rules. Only persons thoroughly familiar with construction and building material qualities are eligible to appointment to the position of registrar or investigator.

All department rulings for enforcement are required to have the approval of the city manager, and all decisions of the registrar are subject to review by the city board of appeals. The state law has been revised, and does not require one to be licensed under the new ordinance to figure plans or submit bids on jobs. A license fee would not be required until a contract has been signed.

STATE OF OHIO TO REMODEL
ITS ROAD ADMINISTRATION

A bill providing for a highway commission of six relatively low-salaried members, which will have control of Ohio's road building reconstruction and repair program, will be introduced at the next regular session of the general assembly in accordance with a recommendation of a majority of the special Senate highway investigation committee submitted to Governor White.

The recommended plan calls for a commission of six members, holding office for six years, two to retire every two years. The commission would name the highway director and fix his salary.

The object of the plan is to remove political and commercial influence from the state highway department, stabilize state highway policies and insure proper expenditure of funds, attract outstanding men to the executive staff of the department, and assure these men of tenure of office free from political interference.

SAFEGUARD TO PUBLIC HEALTH

A bill introduced in the Legislature of New Jersey as a supplement to the existing law of 1918, provides that any person now holding the position of superintendent or operator in charge of a water-purification, water-treatment or sewage-treatment plant in any municipality, and holding a license as such, and who has held such position for five years continuously, shall not be removed except for cause and after a trial by the State Department of Health. The bill specifically provides that such persons shall hold office during good behavior, even though they were appointed for a fixed term, and shall not be removed for political reasons. An explanatory note appended to the bill states that the object of the proposed legislation is "to eliminate chaotic conditions which arise from placing inexperienced men in charge of water purification or treatment plants or sewage-treatment plants, thereby safeguarding the health of the people in the municipalities of this state."

COLTON CEMENT

Uniform Quality : Service : Satisfaction



Manufactured by

CALIFORNIA PORTLAND CEMENT COMPANY

1228 PACIFIC MUTUAL BUILDING

Mills at Colton, California

TR. 1271

Los Angeles

**MECHANICAL ENGINEERS SEEK
UNIFORM REGISTRATION LAW**

The Council of the American Society of Mechanical Engineers last month voted unanimously to co-operate officially with other organizations in the formation of a uniform registration law for engineers. The society has heretofore been represented at joint conferences by unofficial representatives, but the council believes the time has arrived when the society should take official action in order that it may assist in the formation of such laws as will carry out truly the essential purpose of such legislation, namely, the protection of life, health and property.

The committee on Registration of Engineers has been following this matter for some time, and will represent the A.S.M.E. in conferences with other societies. This committee not only will be very glad to receive suggestions from the members of the society, but it also hopes that they will keep in touch with this very important subject in their respective communities that the engineer may not be discriminated against by adverse legislation.

More than half of the states in the Union and the provinces of Canada have adopted engineers' registration acts, and it is to the interest of engineers to familiarize themselves with the provisions of the acts in the states or provinces where they practice. Some of these acts specifically mention mechanical engineering practice, while other acts cover engineering so vaguely that it is difficult to determine who must be registered.

BITUMINOUS PREMIXING PLANT

Bituminous or asphalt paving materials for either hot or cold application on low-cost roads can be mixed efficiently in the new model CM-2 premixing plant manufactured by the Chausse Oil Burner Co., Elkhart, Ind. The equipment comprises a complete asphalt plant built in two units, both mounted on steel wheels with solid rubber tires. One unit is the drier, equipped with oil burners. Aggregate is fed directly into a large hopper, from which it passes into a rotating drier. It is thoroughly dried, heated to 300 deg. F. and discharged into the bottom of an elevator attached to the second unit. From the elevator the heated aggregate is discharged through a self-measuring device into a continuous blade pug mixer. At the same time, bituminous oil or asphalt, previously heated in a 950-gallon tank equipped with oil burners, is pumped through a measuring device adjustable so that any amount of bitumen up to 12 per cent can be included in the mix. The two elements are thoroughly mixed in

the pug mill, which is 9 feet long, and then are dropped into a storage bin with a movable bottom gate, operated by the truck driver into whose truck the material is discharged.

The entire machine weighs 26,000 pounds, and can be set up for operation in about one day. Equipment includes two Hercules industrial-type gasoline engines of 30 and 40 h.p., Twin Disc clutches, Cotta reducing transmissions and Worthington air compressor. The manufacturer quotes figures indicating that this outfit will produce material for hard surface pavement at a cost of about \$5,000 per mile, or \$1,500 per mile per inch of compacted thickness 20 feet wide.

Although designed to mix hot materials for either cold or hot application, in cases where a paving mix is desired which is mixed cold, the heating and drying unit of the plant may be omitted and only the mixing unit used.

**THE PROSPEROUS CONTRACTOR
PROVIDES FOR ALL IN WILL**

The following is a specimen of a contractor's will, originating from an anonymous source, and will probably assist many members in the industry to provide for the disposition of their properties when they think the time is ripe for departure from this life:

"Judge," said the contractor to his lawyer, "Doctor says I got about a month to live. I want to make my will.

"Fix it so my overdraft in the Bank of the United States goes to my wife—she can explain it to them.

"My equity in my automobile I want to go to my son. He will have to work then to meet the payments.

"Give my unpaid bills to the bonding company; they took some awful chances on me, and are entitled to something.

"That new-fangled machine on the job, I want the resident engineer to have. He made me buy it; maybe he can make it work.

"My retained percentage, give the state. I never expected to get it, anyway.

"My equipment, give to the junk man. He has had his eye on it for several years.

"My keg I want to go to my bootlegger. I hope it costs him as much to keep wet as it has me.

"I want you to handle the funeral for me, Judge. Any undertaker will do, but I want these six material men to be pallbearers. They carried me so long, they might as well finish the job."—(San Diego Transcript.)

PACIFIC CONSTRUCTOR

Consolidated With

Building & Engineering News

547 Mission Street, San Francisco.



RATES

| | |
|---------------------|--------|
| One Year | \$5.00 |
| Two Years | \$8.00 |

Please enter my subscription to PACIFIC CONSTRUCTOR for year....
for which I enclose check in the sum of \$.....

NAME

P. O. ADDRESS

CITY AND STATE

Official Publication of Associated General Contractors of America for the Eleven Pacific Coast States.

**EMPLOYMENT OF CONSTRUCTION
LABOR IN ELEVEN STATES CITED
BY U. S. DEPARTMENT OF CENSUS**

Contractors in eleven States paid wages totaling \$410,107,000 in 1929, according to census of construction figures compiled from data in connection with the census of distribution. The 8,068 concerns which reported their monthly employment figures, paid wages amounting to \$387,586,869.

An average of 213,698 men were on the payrolls each month, with a minimum employment of 143,618 in January, or 67.2% of the average, while 269,965, or 126.3% of the average, were employed in August of that year.

The 1930 population of these eleven States of Vermont, Massachusetts, Connecticut, New Jersey, Delaware, Virginia, Michigan, Ohio, Missouri, Utah and Oregon, was 29,497,715, or 24% of the total population of the United States. On the basis that these eleven States furnished average figures, the total average monthly employment on construction work for the whole country was 883,463 men, with a high employment of 1,125,000 men, and a low of 598,408 men.

The seasonal employment in each State is given in the accompanying tables by months, for 8,068 general contractors and sub-contractors. The figures for general contractors are broken down into employment by building contractors and by engineering contractors. As measured by wages paid for the year, \$387,586,869 was the total wages paid, 66.5% of which was paid by general contractors and 33.5% by sub-contractors.

Of the \$257,674,270 wages paid by general contractors, 57.3% was by building contractors, and 42.7% by engineering contractors engaged in highway work, bridges and culverts, railroads, sewers, dams, dredging, foundation and similar work.

The value of the construction business for 1929 of the 8,891 reporting contractors in these 11 States who did a business of over \$25,000, was \$1,716,828,000. Of this amount, \$1,362,041,000 represented the work done under general contract or directly for the owner, and is a measure of actual construction work performed.

Of the \$1,716,828,000, \$410,107,000 went for wages; \$590,680,000 for materials, and \$378,100,000 for sub-contract work let, the balance, or \$337,941,000, being accounted for by the various overhead expenses and profit.

The following table gives the per capita value of construction business done by contractors located in the 11 States, arranged according to geographic distribution. This gives a fair cross-section of the United States except so far as the Southern States are concerned.

| STATE | Value of Construction | |
|---------------------|-----------------------|------------|
| | Total | Per Capita |
| Vermont | \$ 5,878,000 | \$16.35 |
| Massachusetts | 306,094,000 | 72.03 |
| Connecticut | 109,110,000 | 67.90 |
| New Jersey | 292,175,000 | 72.30 |
| Delaware | 18,696,000 | 78.43 |
| Virginia | 54,313,000 | 22.43 |
| Michigan | 329,380,000 | 68.02 |
| Ohio | 400,298,000 | 60.23 |
| Missouri | 152,664,000 | 42.06 |
| Utah | 17,350,000 | 34.16 |
| Oregon | 30,870,000 | 32.37 |
| Totals | \$1,716,828,000 | \$58.12 |

**DREDGING SAND AND GRAVEL
VIA HYDRAULIC JET DESCRIBED**

The use of a huge water ejector, or hydraulic jet, in dredging sand and gravel is the subject of a new report by the United States Bureau of Mines, Department of Commerce. This report, by Frederic L. Ward, is one of a series being prepared for and published by the Bureau, describing the technique of methods used and costs obtained at sand and gravel plants throughout the country.

The report is of particular interest to sand and gravel operators and hydraulic engineers in that it contains descriptions of many unique features in the construction and operation of the dredge, barge transportation, and washing and screening plant.

A brief history of the gravel industry in the Oxford, Michigan, area is followed by notes on the geology and characteristics of the deposits. The paper then describes the construction and equipment of the dredge in technical detail with appropriate line drawings.

Dredged material is transported to the unloading dock in steel barges of local design. These are of the self-unloading hopper type of steel construction, floated on cylindrical steel pontoons rather than the customary wood or steel hull.

Material is conveyed to and through the washing and screening plant by conveyor belts without the use of elevators.

Finished material is sent direct to storage piles and reclaimed therefrom for shipment.

Further details are given in Information Circular 6580, "Methods and Costs of Mining and Preparing Sand and Gravel at the Plant of the Ward Sand and Gravel Co., Oxford, Mich.," copies of which may be obtained free from the U. S. Bureau of Mines, Department of Commerce, Washington, D. C.

LE TOURNEAU STANDARD DERRICK

A standard derrick has been placed on the market by R. G. Le Tourneau, Inc., of Stockton, Calif. The derrick is operated with the cable controlled power unit now being used by many contractors on Le Tourneau equipment. It is particularly adapted for laying heavy pipe, loading and unloading heavy equipment and has a lifting capacity of 10,000 pounds. Boom can be removed from sub-frame in a few minutes by drawing two hinge pins. Entire sub-frame can be removed from caterpillars by removing six bolts. Price, less unit, \$985; price of power unit, \$750. A descriptive circular will be sent upon request.

Everett W. Mattoon, Los Angeles County counsel, in a statement to the public, announces he will sponsor a bill to repeal the Acquisition and Improvement Act of 1925, of which he was the author, and commonly known as the "Mattoon Act," because "the statute has been grossly abused." He stated the law had been used by promoters in a manner which he had never intended.

A law passed by the 1932 Legislature of Kentucky provides a maximum salary of \$5,000 a year to any employee of the State Highway Commission, commissioners being paid \$20 per working day, with maximum of \$3,000 annually. The act fixes the salary of the chairman of the commission at \$5,000. Opponents of the law claim that with his limitation it will be difficult to obtain the right type of engineer.

UNIT BID SUMMARY

Compiled from the Daily News Service of Pacific Constructor

GRADE—ASPHALT CONCRETE PAVE.—ORANGE COUNTY

ORANGE COUNTY, Calif.—Oswald Bros., 366 E 58th St., Los Angeles, at \$59,672 submitted low bid to the State Highway Commission, Sacramento, to grade and pave with asphalt concrete about 1.9 miles in Fullerton, involving:

- (1) 102 sta. clear and grub right-of-way;
- (2) 26,000 cu. yds. rdwy. excav. without class;
- (3) 2000 cu. yds. struc. excav.;
- (4) 42,100 sq. yds. subgrade for pave.;
- (5) 23,000 sq. yds. asph. paint binder;
- (6) 19,150 tons asph. conc.;

- (7) 705 cu. yds. Class A Portland cement concrete (bridge);
- (8) 620 cu. yds. do (curbs);
- (9) 31 cu. yds. Class A Portland cement conc. (catchbasins);
- (10) 220 cu. yds. Class B Portland cement conc. (bridge);
- (11) 25 cu. yds. Class E Portland cement conc. (bridge);
- (12) 75,000 lbs. bar reinf. steel;
- (13) 20 lin. ft. 18-in. corr. metal pipe;
- (14) 350 lin. ft. 24-in. do;
- (15) 80 lin. ft. 30-in. do;
- (16) 50 cu. yds. asph. conc. removed from existing pave.;

- (17) 0.1 mile move and reset property fence;
- (18) 102 sta. finish roadway. State will furnish corrugated metal pipe.

Complete bids follow:
 (A) Oswald Bros., Los Angeles \$ 89,672.00
 (B) Osburn Co., Pasadena.....\$ 92,799.00
 (C) Griffith Co., L. A.....\$ 95,328.00
 (D) Hall Johnson Co., Alhambra\$102,671.00
 (E) Los Angeles Paving Co., Inc., Los Angeles.....\$108,575.50
 Unit bids follow:

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) | (18) |
|-----------|--------|--------|--------|---------|---------|--------|---------|---------|------|---------|------|--------|------|--------|--------|--------|----------|------|
| (A) | \$6.50 | \$3.35 | \$7.70 | \$0.065 | \$0.015 | \$2.63 | \$14.60 | \$11.00 | \$17 | \$10.00 | \$57 | \$.028 | \$45 | \$6.60 | \$7.75 | \$2.85 | \$650.00 | \$2 |
| (B) | 6.00 | .22 | 1.00 | .09 | .02 | 2.80 | 16.00 | 12.00 | 20 | 15.00 | 35 | .03 | .70 | .50 | .50 | 2.00 | 1000.00 | 4 |
| (C) | 4.00 | .28 | 1.00 | .06 | .03 | 3.00 | 14.00 | 12.50 | 25 | 14.00 | 32 | .027 | .30 | .40 | .50 | 1.00 | 300.00 | 4 |
| (D) | 6.60 | .28 | .60 | .08 | .03 | 3.30 | 15.00 | 12.00 | 22 | 13.00 | 40 | .04 | .40 | .50 | .60 | 2.00 | 300.00 | 4 |
| (E) | 9.00 | .34 | .60 | .09 | .02 | 3.25 | 19.50 | 12.50 | 20 | 18.50 | 45 | .04 | .50 | .75 | 1.00 | 3.00 | 1060.00 | 5 |

GRADE—CEMENT CONCRETE PAVEMENT—SAN DIEGO COUNTY

SAN DIEGO COUNTY, Calif.—C. R. Butterfield, 1410 N Gaffey St., San Pedro, at \$66,218.10 submitted low bid to the State Highway Commission to grade and pave with Portland cement concrete about 0.8 mile between Sorrento Creek and Del Mar, involving:

- (1) 42 sta. yds. clear and grub right-of-way;
- (2) 177,000 cu. yds. rdwy. excavation without class;
- (3) 2,500,000 sta. yds. overhaul;
- (4) 700 cu. yds. struc. excavation;
- (5) 9050 sq. yds. subgrade for pave.;
- (6) 1880 cu. yds. Class A Portland cement concrete (pave.);
- (7) 20 cu. yds. Class A Portland ce-

- ment concrete (struc.);
- (8) 44,000 lbs. bar reinf. steel (pave and struc.);
- (9) 180 lin. ft. 18-in. corr. metal pipe
- (10) 170 lin. ft. 24-in. do;
- (11) 70 lin. ft. 36-in. do;
- (12) 1000 cu. yds. Port. cem. conc. to be removed from exist. pave.;
- (13) 4800 M. gals. water (embank.);
- (14) 1020 pounds misc. iron and steel (struc.);
- (15) 6 culvert markers in place;
- (16) 100 lin. ft. solid timber guard rail;
- (17) 42 sta. finish roadway;
- (18) 12 monuments complete in place. State will furnish corrugated metal pipe.

Complete bids follow:
 (A) C. R. Butterfield, San Diego\$66,218.10
 (B) Basch Bros., Torrance.....\$67,138.80
 (C) Frank Droran, San Diego.....\$69,640.20
 (D) Daley Corp., San Diego.....\$72,158.20
 (E) Yglesias Bros., S. D.....\$73,655.50
 (F) Maccio Const. Co., Clearwater\$76,490.60
 (G) Jahn & Bressi Const. Co., Los Angeles\$76,772.00
 (H) Oberg Bros., L. A.....\$77,047.20
 (I) Gist & Bell, Arcadia.....\$79,158.10
 (J) Griffith Co., Los Angeles.....\$79,946.30
 (K) V. R. Dennis Const. Co., San Diego\$83,139.60
 Unit bids follow:

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) | (18) |
|-----------|---------|---------|------------|---------|---------|---------|----------|----------|-------|---------|---------|---------|---------|--------|---------|---------|------|------|
| (A) | \$ 5.00 | \$ 1.18 | \$ 0.00475 | \$ 1.00 | \$ 0.08 | \$ 8.60 | \$ 77.50 | \$ 0.028 | \$ 40 | \$ 5.50 | \$ 7.75 | \$ 1.25 | \$ 2.25 | \$ 0.8 | \$ 2.00 | \$ 1.00 | \$ 5 | \$ 3 |
| (B) | 1.00 | .175 | .005 | .50 | .08 | 8.65 | 20.00 | .0386 | 20 | .25 | .35 | 1.25 | .50 | .12 | 2.00 | 1.50 | 3 | 2 |
| (C) | 10.00 | .21 | .004 | 1.00 | .07 | 8.00 | 20.00 | .0325 | .50 | .50 | .75 | 1.50 | .35 | .06 | 4.00 | 1.50 | 4 | 3 |
| (D) | 8.50 | .182 | .007 | .80 | .07 | 8.20 | 17.00 | .03 | .50 | .50 | .75 | 1.00 | .45 | .06 | 1.00 | .75 | 6 | 3 |
| (E) | 5.00 | .27 | .003 | 1.00 | .07 | 8.25 | 20.00 | .035 | .30 | .40 | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 1.00 | 5 | 3 |
| (F) | 5.00 | .21 | .005 | .60 | .08 | 9.00 | 20.00 | .04 | .50 | .60 | 1.00 | 2.00 | .70 | .08 | 2.50 | 2.00 | 10 | 4 |
| (G) | 5.00 | .265 | .0025 | .50 | .09 | 8.50 | 20.00 | .0375 | .50 | .75 | 1.00 | 1.50 | .40 | .15 | 2.00 | 1.00 | 5 | 2 |
| (H) | 10.00 | .21 | .006 | .50 | 10 | 8.74 | 20.00 | .045 | .40 | .50 | .60 | 1.00 | .50 | .15 | 1.50 | 1.50 | 10 | 5 |
| (I) | 10.00 | .24 | .005 | .75 | .08 | 8.32 | 20.00 | .03 | .50 | .75 | 1.00 | 2.00 | .50 | .10 | 2.00 | 1.00 | 5 | 3 |
| (J) | 10.00 | .27 | .003 | .75 | .09 | 9.10 | 20.00 | .065 | 1.00 | 1.00 | 1.00 | 1.00 | .15 | .04 | 2.00 | 2.00 | 10 | 3 |
| (K) | 5.00 | .22 | .0075 | .50 | 10 | 10.00 | 25.00 | .03 | .50 | .50 | 1.00 | 1.00 | .35 | .08 | 2.00 | 1.00 | 5 | 3 |

TELEPHONE LINE—LOS ANGELES COUNTY

LOS ANGELES, Cal.—T. G. Lewis, 2029 Main St., Santa Monica, submitted the low bid to County Supervisors, Feb. 23, at \$178,90 to construct telephone line from Lincoln Ranger Station to San Gabriel Dam No. 2, approximately 7 miles, all materials to be furnished by the district, involving:

- (1) 41, fabrication and erection of A-frames with 8-ft. cross-arms;
- (2) 24, fabrication and erection of A-frames with 10-ft. cross-arms;
- (3) 31, fabrication and erection of poles with 6-ft. cross-arms;
- (4) 204, installation of concrete anchors;

- (5) 234, placing of guys;
- (6) 3 miles of clearing of telephone line of all trees;
- (7) 96 trails to be constructed from road to telephone stations;
- (8) 7 miles stringing wire.

Bids follow:

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | Totals |
|------------------------------|----------|----------|----------|-----------|-----------|-----------|----------|----------|------------|
| T. G. Lewis..... | \$142.50 | \$ 96.00 | \$ 93.00 | \$ 163.20 | \$ 247.20 | \$ 150.00 | \$614.00 | \$280.00 | \$1,786.90 |
| Elec. Ltg. Sup. Co..... | 442.62 | 262.32 | 356.81 | 398.00 | 1292.91 | 172.50 | 288.00 | 281.75 | 3,495.91 |
| Interphone Elec. Co..... | 440.75 | 253.00 | 213.90 | 754.50 | 751.50 | 1080.00 | 792.00 | 595.00 | 4,885.90 |
| H. O. Bauerle..... | 676.50 | 396.00 | 232.00 | 969.00 | 417.50 | 375.00 | 1320.00 | 630.00 | 5,616.00 |
| Constructor Electric Co..... | 324.80 | 307.20 | 212.35 | 1071.00 | 1068.50 | 1005.00 | 720.00 | 836.00 | 5,805.15 |
| Bennett & Taylor..... | 302.00 | 600.00 | 372.00 | 1020.00 | 668.00 | 450.00 | 1440.00 | 420.00 | 5,872.00 |
| Bunch & Raufuss..... | 656.00 | 334.00 | 248.00 | 612.00 | 501.00 | 360.00 | 1920.00 | 1400.00 | 6,081.00 |
| Transmis. Constr. Co..... | 615.00 | 427.20 | 468.10 | 1754.00 | 784.50 | 576.00 | 931.20 | 609.60 | 6,165.80 |
| Quality Electric Co..... | 610.90 | 377.60 | 230.95 | 918.00 | 951.90 | 990.00 | 2400.00 | 525.00 | 6,984.35 |
| Dan Riddle..... | 738.00 | 430.00 | 327.00 | 1428.00 | 668.00 | 2160.00 | 672.00 | 700.00 | 7,218.00 |
| Newbery Elec. Corp..... | 1025.00 | 600.00 | 511.50 | 1530.00 | 634.60 | 564.00 | 2400.00 | 350.00 | 7,615.10 |
| Clark & Campbell..... | 697.00 | 408.00 | 403.00 | 2244.00 | 1336.00 | 900.00 | 2400.00 | 700.00 | 9,085.00 |

The five low bids were taken under advisement.

GRADE—ROCK SURFACE—SISKIYOU COUNTY

BIDS OPENED

SISKIYOU COUNTY, Cal.—Milton A. Purdy, 15 Spear St., San Francisco, at \$14,437, submitted low bid to State Highway Commission to grade and surface with untreated crushed gravel or stone about 0.4 mile near Beaver Creek, about 3 1/2 miles west of Gotsville, involving:

- (1) 17,400 cu. yds. rdwv. excav. without class;
- (2) 35,700 sta. yds. overhaul;
- (3) 350 cu. yds. struc. excav.;
- (4) 1230 cu. yds. untr. cru. gravel or stone surf.;
- (5) 83 M gal. water applied to surf.;
- (6) 8 cu. yds. Class "A" Port. cem. conc. (struc.);
- (7) 700 lbs. bar reinf. steel (struc.);
- (8) 324 lin. ft. 18" corr. metal pipe;
- (9) 10 lin. ft. 30" corr. metal pipe;

- (10) 24 lin. ft. corr. metal pipe, clean and relay;
- (11) 23 sta. finish rdwy;
- (12) 12 monuments complete in place. State will furnish corrugated metal pipe.

Complete bids follow:

- (A) Milton A. Purdy, San Francisco, \$14,437.00.
- (B) C. M. Chittenden, Napa 16,931.00
- (C) M. Chittenden, Napa, \$16,931.50.
- (C) J. P. Brennan, Redding, \$17,271.40
- (D) Clarence Young, Oakland, \$17,598.00.
- (E) A. Young, Yreka, \$17,642.00.
- (F) Brown & Baker, Klamath Falls, Ore., \$24,506.10.

Unit bids follow:

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
|-----|-------|-----|--------|--------|--------|---------|-----|------|------|------|---------|--------|
| (A) | \$.51 | .01 | \$1.00 | \$3.25 | \$1.00 | \$20.00 | .10 | .75 | 1.50 | .50 | \$10.00 | \$3.00 |
| (B) | .64 | .01 | 1.00 | 3.50 | 2.00 | 27.50 | .07 | .50 | .75 | .50 | 5.00 | 3.50 |
| (C) | .68 | .01 | 2.50 | 2.65 | 1.50 | 22.00 | .06 | 1.10 | 1.20 | 1.25 | 7.00 | 3.00 |
| (D) | .79 | .01 | 1.00 | 3.00 | 1.00 | 30.00 | .06 | 1.00 | 2.00 | 1.00 | 10.00 | 4.00 |
| (E) | .75 | .01 | 1.50 | 2.50 | 1.00 | 20.00 | .05 | .50 | .50 | .25 | 6.00 | 3.00 |
| (F) | 1.00 | .05 | 1.25 | 3.25 | 2.00 | 18.00 | .06 | .90 | 1.35 | .50 | 6.00 | 2.50 |

RECONSTRUCT CAUSEWAY—ALAMEDA—GOVT.

ALAMEDA, Cal.—M. E. McGowan, Call Bldg., San Francisco, at \$26,629 submitted low bid to District Engineer, U. S. Bureau of Public Roads, San Francisco, to construct Unit 11, reconstruction of existing causeway from Government Island, Alameda, to Oakland, involving major construction items as follows:

- (1) remove existing superstructure;
- (2) 11.6 M.B.M. untreated timber in place;
- (3) 292.7 M.B.M. treated timber in place;

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) |
|-----|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| (1) | \$3125.00 | \$2000.00 | \$1200.00 | \$2372.00 | \$1000.00 | \$1825.00 | \$1250.00 |
| (2) | 50.00 | 40.00 | 50.00 | 82.00 | 80.00 | 61.00 | 60.00 |
| (3) | 60.00 | 65.00 | 67.00 | 69.80 | 75.00 | 76.00 | 70.00 |
| (4) | 1.00 | 1.10 | 1.00 | .60 | .68 | .91 | .90 |
| (5) | .30 | .25 | .52 | .40 | .315 | .36 | .80 |
| (6) | .80 | .80 | .88 | .76 | .60 | .75 | .44 |

PAVING—LOS ANGELES COUNTY

LOS ANGELES, Calif.—J. L. McClain, 3452 W Slauson Ave., submitted low bid to board of public works February 17, at \$5934.04 for improving Denker Ave. bet. 61st St. and 62nd St., under cash contract, involving:

- (1) grading (277 cu. yds. excav., in-

- cluding 133 cu. yds. fill);
- (2) 20,956 sq. ft. 6-in. conc. paving;
- (3) 1400 sq. ft. rock and oil roadway;
- (4) 963 ft. unplastered light curb;
- (5) 2645 sq. ft. walk;
- (6) ornamental lighting system.

The bids were:

| | (1) | (2) | (3) | (4) | (5) | (6) | Totals |
|--------------------------|----------|-------|------|------|------|--------|-----------|
| J. L. McClain | \$425.00 | \$14 | \$12 | \$45 | \$13 | \$1500 | \$5934.04 |
| T. E. Shafer | 180.00 | 16.25 | 12 | .40 | .11 | 1450 | 5989.50 |
| T. E. Sherlock | 175.00 | 1.65 | 1.16 | .29 | .11 | 1449 | 6020.66 |
| Griffith Company | 500.00 | 1.58 | 1.0 | .37 | .13 | 1300 | 6081.21 |
| Karl Ehrhart | 100.00 | 18 | 10 | .35 | .10 | 1400 | 6113.63 |
| Campbell-Reichert Co. | 100.00 | 1.77 | 1.1 | .35 | .105 | 1550 | 6232.99 |
| T. T. Roach | 250.00 | 1.75 | .13 | .37 | .12 | 1400 | 6293.01 |
| Kresch Brothers | 294.00 | 1.75 | .13 | .40 | .11 | 1380 | 6309.45 |
| J. A. Thompson | 120.00 | 1.17 | .10 | .42 | .12 | 1700 | 6363.38 |
| Alex D. Chalmers | 175.00 | 1.18 | .04 | .42 | .12 | 1540 | 6384.94 |
| Arthur E. Pearson | 200.00 | 1.74 | 1.12 | .40 | .12 | 1650 | 6486.94 |
| George A. Shepard | 180.00 | 1.18 | 1.14 | .43 | .125 | 1500 | 6517.80 |
| Edwin G. Bowen Co., Ltd. | 800.00 | 1.14 | 1.12 | .40 | .125 | 1800 | 6542.67 |
| George H. Oswald | 425.00 | 1.17 | .09 | .45 | .12 | 1600 | 6584.27 |
| N. I. Fadel | 250.00 | 1.79 | .09 | .42 | .14 | 1675 | 6716.88 |
| P. V. Yarak | 600.00 | 1.95 | 1.15 | .45 | .16 | 1700 | 7612.97 |
| P. J. Akmadzich | 500.00 | 1.18 | 1.10 | .50 | .13 | 2400 | 7767.43 |
| A. A. Alexander | 154.01 | 1.24 | .18 | .45 | .16 | 1545 | 8081.00 |
| Martter & Bock | 250.00 | 1.18 | 1.12 | .50 | .14 | 3250 | 8431.83 |
| Engineer's estimate | | | | | | | 6774.00 |

NORTHERN CALIFORNIA.—Dee Strong, Rio Vista, at \$3,663.44 submitted low bid to District Engineer to apply Diesel oil to roadside vegetation over about 80 miles in the counties of San Mateo, Alameda, Santa Clara, Santa Cruz and Contra Costa.

Complete bids follow:

| | Unit | Total |
|--|--------|-----------|
| Dee Strong, Rio Vista | \$1.81 | \$3663.44 |
| Tiffany-McReynolds and Tiffany, San Jose | 1.95 | 3948.80 |
| C. V. Freeman, Palo Alto | 2.04 | 4114.10 |
| W. H. Larsen, Berkeley | 2.09 | 4230.16 |
| Skeels & Graham, Rese- | | |
| ville | 2.29 | 4634.96 |
| Oilfield Truck Co., Taft | 2.52 | 5100.48 |
| Air-O Spray Equip., San Jose | 2.52 | 5100.48 |

BIDS OPENED

IMPERIAL, SAN DIEGO, ORANGE AND LOS ANGELES, COUNTIES.—Square Oil Co., 916 Adobe St., Los Angeles, at \$2016 (\$2,520) submitted low bid to District Engineer, State Highway Commission, to apply Diesel oil for 32 miles in Los Angeles, Orange, Imperial and San Diego Counties. Complete bids follow:

- Square Oil Co., \$2016 (\$2.52).
- Consumers Oil Co., \$2368 (\$2.96).
- Gilmore Oil Co., \$2,936 (\$3.67).
- Pacific Tank Lines Co., \$3024 (\$3.78).

BIDS OPENED

MOUNTAIN VIEW, SANTA CLARA Co., Cal.—Union Paving Co., Call Bldg. San Francisco, at \$34,110.50 submitted low bid to city council to improve Moffett Blvd. in Acquisition and Improvement District No. 2, involving:

- (1) 3000 cu. yds. grading, excav.;
- (2) 52,300 sq. yds. grading, surface;
- (3) 1470 lin. ft. concrete curb and gutter;
- (4) 52,300 sq. ft. rolled rock base;
- (5) 46,400 sq. ft. asph. conc. pave.;
- (6) 500 lin. ft. 8-in. cast iron water main;
- (7) 70 lin. ft. 6-in. do;
- (8) 2 8-inch valves;
- (9) 2 6-inch valves;
- (10) 1200 lbs. cast iron fittings;
- (11) 500 lin. ft. 3/4-in. copper service pipe;
- (12) 2 catchbasins;
- (13) 30 lin. ft. 12-in. corr. iron pipe culvert;
- (14) 10 electroliers, complete;
- (15) 1600 lin. ft. 1-in. conduit;
- (16) 1700 lin. ft. electric conductor.

Complete bids follow:

- (A) Union Paving Co., San Francisco \$34,110.50
- (B) A. J. Raisch, San Jose \$34,938.00

Unit bids follow:

| | (A) | (B) |
|------|--------|--------|
| (1) | \$.85 | \$.60 |
| (2) | .01 | .02 |
| (3) | 1.80 | 1.50 |
| (4) | .069 | .08 |
| (5) | .157 | .17 |
| (6) | 2.00 | 2.50 |
| (7) | 1.50 | 2.00 |
| (8) | 35.00 | 55.00 |
| (9) | 30.00 | 35.00 |
| (10) | .10 | .15 |
| (11) | .70 | .40 |
| (12) | 75.00 | 35.00 |
| (13) | 2.50 | 2.00 |
| (14) | 185.00 | 200.00 |
| (15) | .30 | .30 |
| (16) | .14 | .15 |

Total estimated improvement, (A) \$21,110.50; (B) \$21,938.00. Immediate possession bonds (A) \$13,000.00; (B) \$13,000.00.

GRADE—SOLANO COUNTY—STATE

SOLANO COUNTY, Cal.—U. B. Lee, 1055 Carpenter St., San Leandro, at \$6570.60 submitted low bid to District Engineer, State Highway Commission, San Francisco, to grade and surface with bituminous treated crushed gravel or stone about 0.4 mile at Vallecjo, between Magazine St. and Lemon St., involving:

- (1) 1200 cu. yds. rdwy. excav. without class;
- (2) 76 cu. yds. struct. excav.;
- (3) 1320 tons crusher run base and borders;
- (4) 790 tons crushed gravel or stone bit. treated surf.;
- (5) 40 tons cut-back asphalt in place;
- (6) 100 lin. ft. 12-in. corr. metal pipe;

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|-----------|--------|--------|--------|--------|---------|-------|---------|-------|
| (A) | \$.30 | \$1.00 | \$2.25 | \$3.00 | \$17.00 | \$.50 | \$20.00 | \$.05 |
| (B) | .50 | .50 | 2.25 | 2.50 | 20.75 | .50 | 20.00 | .09 |
| (C) | .60 | 1.00 | 2.15 | 2.85 | 19.00 | .50 | 25.00 | .06 |
| (D) | .50 | 1.00 | 2.40 | 2.85 | 18.00 | .50 | 20.00 | .10 |
| (E) | .49 | .65 | 2.59 | 3.05 | 19.50 | .25 | 18.00 | .04 |
| (F) | .50 | 1.00 | 2.25 | 3.00 | 19.00 | .30 | 20.00 | .07 |
| (G) | .40 | .75 | 3.40 | 3.45 | 20.00 | .25 | 25.00 | .10 |
| (H) | .90 | 1.00 | 3.60 | 4.90 | 4.90 | .75 | 20.00 | .07 |

- (7) 3 cu. yds. class A concrete;
- (8) 90 lbs. bar. rein. steel (headwalls for culvert).

Complete bids follow:

- (A) U. B. Lee, San Leandro, \$6570.60.
- (B) Heafey-Moore Co., Oakland, \$6,764.50.
- (C) James Edward Johnston, Stockton, \$6775.90.
- (D) C. W. Wood, Stockton, \$6934.50.
- (E) Chas. M. Chittenden, Napa, \$7,328.30.
- (F) Lee J. Immel, Berkeley, \$7352.30.
- (G) J. V. Galbraith, Petaluma, \$8,659.50.
- (H) L. L. Page, Richmond, \$10,116.30

Unit bids follow:

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|-----------|--------|--------|--------|--------|---------|-------|---------|-------|
| (A) | \$.30 | \$1.00 | \$2.25 | \$3.00 | \$17.00 | \$.50 | \$20.00 | \$.05 |
| (B) | .50 | .50 | 2.25 | 2.50 | 20.75 | .50 | 20.00 | .09 |
| (C) | .60 | 1.00 | 2.15 | 2.85 | 19.00 | .50 | 25.00 | .06 |
| (D) | .50 | 1.00 | 2.40 | 2.85 | 18.00 | .50 | 20.00 | .10 |
| (E) | .49 | .65 | 2.59 | 3.05 | 19.50 | .25 | 18.00 | .04 |
| (F) | .50 | 1.00 | 2.25 | 3.00 | 19.00 | .30 | 20.00 | .07 |
| (G) | .40 | .75 | 3.40 | 3.45 | 20.00 | .25 | 25.00 | .10 |
| (H) | .90 | 1.00 | 3.60 | 4.90 | 4.90 | .75 | 20.00 | .07 |

BRIDGE—SANTA BARBARA COUNTY—STATE

SANTA BARBARA COUNTY, Cal.—Frederickson & Watson Co., 354 Hobart St., Oakland, at \$34,185 submitted low bid to State Highway Commission to construct a bridge across San Antonio Creek about one miles north of Los Alamos, consisting of eight 40-ft. steel beam spans with concrete deck on concrete pile bents and concrete abutments with wing walls on pile foundations, involving:

- (1) 360 cu. yds. struc. excav.;
- (2) 2900 lin. ft. reinf. conc. piles incl. test piles;
- (3) 50 cu. yds. Class "A" Port. cem. conc. (placed by tremie);
- (4) 610 cu. yds. Class "A" Port. cem. conc. (struc.);
- (5) 82,000 lbs. bar reinf. steel;
- (6) 280,000 lbs. struc. steel;
- (7) 630 lin. ft. timber railing;
- (8) 1 lot misc. items of work.

Complete bids follow:

- (A) Frederickson & Watson Co., Oakland, \$34,185.
- (B) M. J. Bevanda, Stockton, \$35,150.
- (C) Mead & Mead Const. Co., Sacramento, \$35,297.
- (D) Bodenhamer Const. Co., Oakland, \$35,725.
- (E) Gist & Bell, Arcadia, \$36,479.
- (F) M. B. McGowan, San Francisco, \$36,796.70.
- (G) Neves & Harp, Santa Clara, \$36,890.
- (H) Thos. M. Maino, San Luis Obispo, \$37,200.50.

- (I) Merritt-Champan & Scott, San Pedro, \$38,824.40.
- (J) Oberg Bros., Los Angeles, \$39,403.
- (K) Robinson-Roberts Co., Los Angeles, \$39,765.
- (L) Lynch-Cannon Eng. Co., Los Angeles, \$41,693.

Unit bids follow:

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|-----------|--------|--------|---------|---------|-------|-------|--------|----------|
| (A) | \$1.25 | \$3.00 | \$12.00 | \$14.00 | \$.04 | \$.04 | \$1.00 | \$450.00 |
| (B) | 1.25 | 3.00 | 10.50 | 14.00 | .035 | .045 | 1.00 | 500.00 |
| (C) | 2.50 | 2.75 | 10.00 | 16.00 | .035 | .04 | 1.00 | 724.00 |
| (D) | 1.50 | 2.75 | 8.00 | 17.00 | .04 | .043 | 1.00 | 200.00 |
| (E) | 1.40 | 3.25 | 9.00 | 16.00 | .04 | .042 | 1.00 | 350.00 |
| (F) | 1.56 | 2.87 | 11.90 | 16.25 | .0368 | .045 | 1.00 | 750.00 |
| (G) | 2.50 | 2.50 | 10.00 | 18.00 | .04 | .045 | 1.00 | 300.00 |
| (H) | 1.60 | 3.22 | 13.35 | 16.25 | .032 | .045 | 1.00 | 480.00 |
| (I) | .98 | 3.25 | 15.00 | 19.00 | .035 | .042 | 1.37 | 695.00 |
| (J) | 1.00 | 2.80 | 7.00 | 23.10 | .036 | .043 | 1.00 | 600.00 |
| (K) | 4.00 | 3.15 | 14.00 | 20.00 | .035 | .038 | 2.00 | 1000.00 |
| (L) | 4.00 | 3.50 | 10.00 | 21.50 | .035 | .025 | .85 | 550.00 |

FITTINGS—HETCH HETCHY WATER SUPPLY

SAN FRANCISCO.—O'Brien Iron Works, 497 5th St., at \$1293 submitted low bid to city purchasing agent to furnish and deliver cast iron and cast steel fittings for Hetch Hetchy Water Supply, involving:

- (1) 1 c.i. standard pressure 12x8-inch flanged reducing elbow;
- (2) 1 c.s. extra heavy pressure, 12-in. flanged pipe;
- (3) 1 c.s. extra heavy pressure 18-inch flanged pipe;
- (4) 1 c.s. extra heavy pressure 18-inch flanged long radius elbow;

- (5) 1 c.s. extra heavy pressure 18-inch 20-deg. flanged elbow;
- (6) 2 c.s. 20-in. do.;
- (7) 1 c.i. standard pressure flanged Y fitting;
- (8) 1 c.i. standard pressure flanged offset fitting.

Complete bids follow:

- (A) O'Brien Iron Works.....\$1293.00
- (B) Union Machine Co.....\$1672.50
- (C) United Iron Works.....\$1695.00
- (D) Felton Water Wheel Co.....\$1856.00
- (E) Grinnell Co. of Pacific.....\$2189.55
- (F) Joshua Hendy Iron Works.....\$2767.00

Unit bids follow:

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|-----------|----------|----------|----------|----------|----------|----------|----------|----------|
| (A) | \$ 41.00 | \$ 93.00 | \$106.00 | \$140.00 | \$140.00 | \$307.00 | \$280.00 | \$222.00 |
| (B) | 57.00 | 106.50 | 127.00 | 144.00 | 192.00 | 408.00 | 332.00 | 306.00 |
| (C) | 137.00 | 132.00 | 65.00 | 131.00 | 195.00 | 385.00 | 342.00 | 308.00 |
| (D) | 66.00 | 128.00 | 126.00 | 152.00 | 204.00 | 404.00 | 422.00 | 349.00 |
| (E) | 53.91 | 113.30 | 135.97 | 214.22 | 216.53 | 434.60 | 552.12 | 463.30 |
| (F) | 97.00 | 237.00 | 242.00 | 197.00 | 264.00 | 519.00 | 676.00 | 575.00 |

BIDS OPENED

LOS ANGELES, Cal.—Bids to furnish penstock and appurtenances under Spec. No. 2574, received by city council Feb. 17, follow:

- (1) riveted penstock and appurtenances;
- (2) electric welded penstock and appurtenances;
- (3) hammer welded penstock and appurtenances;
- (4) deduction from lump sum price, provided payments are on contractors' own terms;
- (5) cost per lineal foot of photographic tests of welds.

Newport News Shipbuilding & Dry Dock Co.—(1) \$47,430.
Petroleum Equip. Co.—(3) \$40,150 (4) \$401.50.

Westen Pipe & Steel Co.—(1) \$33,400 (2) \$33,700.

Hedges-Walsh-Weidner Co.—(1) \$29,337 (2) \$33,100 (5) 85c.

Standard Boiler & Steel Works—(1) \$47,534.

Consolidated Steel Corp. (terms 50% payment upon acceptance of material at plant, and 50% upon completion of shop work)—(1) \$23,713 (2) \$32,500 (4) \$500.

Southwest Welding and Mfg. Co. (amount bid if awarded before Feb. 24)—(1) \$32,020 (2) \$34,950 (4) 1% 30 days.

Southwest Welding and Mfg. Co. (amount bid if awarded after Feb. 24)—(1) \$33,200 (2) \$35,950 (4) 1% 30 days.

Crane Co.—(3) \$45,775.
Crane Co. (alternate bid)—(3) \$4,928.

Lacy Mfg. Co.—(1) \$26,852.

BIDS OPENED

SAN FRANCISCO.—U. S. Pipe and Foundry Co., Monadnock Bldg., submitted low bid to City Purchasing Agent, under Proposal No. 803, to furnish and deliver cast iron pipe for the municipal water department, involving:

- (1) 50,000 ft. 8-inch;
- (2) 40,000 ft. 8-inch.

Bidders were:

- (A) U. S. Pipe and Foundry Co.;
- (B) American C. I. Pipe Co.;
- (C) Pacific States C. I. Pipe Co.;
- (D) Utilities Equipment Corp.;
- (E) National C. I. Pipe Co.;
- (F) Central Foundry Co.

| | (1) | (2) |
|-----------|---------|---------|
| (A) | \$3,325 | \$5,975 |
| (B) | .38 | .53 |
| (C) | .39 | .56 |
| (D) | *.392 | *.535 |
| (E) | ** .38 | .52 |
| (F) | .40 | .54 |
| (F) | .43 | .595 |

*Ship after March 1. **Ship March 1.

BIDS OPENED

NORTHERN CALIFORNIA.—Chas. Kuppinger, Box 356, Lakeport, at \$5,580.30 submitted low bid to District Engineer to apply Diesel oil to roadside vegetation over a distance of about 106 roadside miles in the counties of Mendocino, Sonoma, Marin, Solano, Lake and Napa.

Complete bids follow:

| | Unit | Total |
|--------------------------------|--------|-----------|
| Chas. Kuppinger, Lakeport | \$2.09 | \$5580.30 |
| Basal Rock Co., Napa | 2.10 | 5607.00 |
| O. V. Freeman, Palo Alto | 2.43 | 6488.10 |
| C. F. Frederickson, Lower Lake | 2.48 | 6621.60 |
| Ohfeld Truck Co., Taft | 2.52 | 6728.40 |
| Helwig Const. Co., Sebastopol | 2.545 | 6795.15 |
| Skeels & Graham, Roseville | 2.67 | 7128.90 |

CLARK COUNTY HIGHWAY RECONSTRUCTION—NEVADA STATE

CLARK COUNTY, Nevada — Gibbons & Reed, 221 E. San Fernando St., Burbank, Calif., and Salt Lake City, Utah, at \$169,530.34 awarded contract by Nevada State Highway Commission to reconstruct a portion of the state highway system in Clark County, between Lower Virgin River Bridge and Mesquite, 10.58 miles in length, involving:

- (1) 499,000 cu. yds. rdwy. excav.;
- (2) 2890 cu. yds. struc. excav.;
- (3) 22,148 cu. yds. sel. borrow excav. in place;
- (4) 831,304 yds. sta. overhaul;
- (5) 10.58 mi. prepare subgrade and shoulders;
- (6) 14 demolish headwalls;
- (7) 7 cu. yds. demolish conc.;
- (8) 81,000 cu. yds. cr. rock or cr. gravel surf. in place;
- (9) furnish water equipment;
- (10) 2177 M. gal. apply water;
- (11) 1060 cu. yds. class "A" conc.;
- (12) 130 cu. yds. class "B" conc.;

- (13) 1204 lin. ft. 24-in. corr. metal pipe in place;
- (14) 332 lin. ft. 30-in. corr. metal pipe in place;
- (15) 1794 lin. ft. 36-in. corr. metal pipe in place;
- (16) 572 lin. ft. 48-in. corr. metal pipe in place;
- (17) 932 lin. ft. 60-in. corr. metal pipe in place;
- (18) 202 lin. ft. remove corr. metal pipe;
- (19) 238 lin. ft. remove and reset corr. metal pipe;
- (20) 36 corr. metal pipe culvert extensions;
- (21) 80 monuments;
- (22) 2 Federal Aid markers;
- (23) 10.58 miles finish rdwy.;
- (24) remove wooden culvert.
- (25) 1180 lin. ft. remove and reconstruct fence;
- (26) remove and reinstall gasoline pumps.

Complete bids follow:
 (A) Gibbons & Reed Co., Salt Lake

- City, Utah., \$169,530.34.
- (B.) Morrison - Knudsen Co., Boise, Idaho, \$189,980.52.
- (C) Merritt-Chapman & Scott Corp., San Pedro, \$198,114.34.
- (D) Nevada Contracting Co., Fallon, Nevada, \$199,980.69.
- (E) Olof Nelson, Logan, Utah, \$210,056.44.
- (F) Isbell Construction Co., Carson city, Nevada, \$210,936.62.
- (G) A. O. Thorn - Strong & Grant, Springville, Utah, \$214,832.76.
- (H) Mahoney - Cline Co., Las Vegas, Nevada, \$218,670.52.
- (I) Utah Constr. Co., Ogden, Utah, \$234,373.36.
- (J) Dodge Bros., Inc., Fallon, Nevada, \$241,111.59.
- (K) Healy - Tibbitt Constr. Co., San Francisco, \$247,662.74.
- (L.) Martin Bros. Trucking Co., Long Beach, \$269,715.53.
- (M) W. W. Clyde & Co., Springville, Utah, \$274,710.96.
- (N) Engineer's Estimate, \$190,552.54.

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) |
|------|--------|--------|--------|--------|--------|--------|--------|--------|---------|---------|--------|---------|--------|--------|
| (1) | 172 | 225 | 24 | 22 | 23 | 25 | 22 | 235 | 27 | 23 | 28 | 32 | 35 | 20 |
| (2) | 1.00 | .60 | .60 | .70 | .50 | .40 | .75 | 1.25 | .60 | .50 | .70 | 1.00 | .50 | .50 |
| (3) | 252 | .17 | .24 | .30 | .40 | .35 | .30 | .30 | .27 | .35 | .40 | .40 | .50 | .30 |
| (4) | .01 | .007 | .005 | .01 | .01 | .005 | .015 | .0175 | .02 | .01 | .01 | .02 | .015 | .01 |
| (5) | 100.00 | 75.00 | 70.00 | 60.00 | 50.00 | 50.00 | 100.00 | 100.00 | 75.00 | 75.00 | 100.00 | 100.00 | 75.00 | 75.00 |
| (6) | 10.00 | 10.00 | 2.00 | 5.00 | 2.00 | 3.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 | 2.00 | 2.50 |
| (7) | 10.00 | 5.00 | 3.00 | 8.00 | 2.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 | 1.50 | 5.00 |
| (8) | .55 | .55 | .70 | .50 | .60 | .62 | .69 | .60 | .65 | .70 | .80 | .68 | .70 | .60 |
| (9) | 750.00 | 500.00 | 500.00 | 500.00 | 200.00 | 500.00 | 300.00 | 300.00 | 2000.00 | 1000.00 | 700.00 | 1000.00 | 300.00 | 500.00 |
| (10) | 1.50 | .75 | .60 | 1.25 | 1.60 | 1.50 | 2.00 | 1.00 | 1.10 | 1.25 | 1.50 | 2.00 | 1.50 | 1.00 |
| (11) | 19.00 | 21.00 | 20.00 | 26.00 | 26.00 | 23.00 | 25.00 | 22.00 | 24.00 | 30.00 | 28.00 | 24.50 | 20.50 | 24.00 |
| (12) | 15.50 | 20.00 | 20.00 | 26.00 | 24.00 | 23.00 | 25.00 | 26.00 | 20.00 | 32.50 | 28.00 | 23.00 | 20.00 | 23.00 |
| (13) | 1.70 | 1.57 | 1.40 | 1.70 | 2.00 | 1.45 | 2.20 | 2.25 | 1.75 | 1.50 | 2.00 | 2.00 | 2.00 | 2.00 |
| (14) | 2.30 | 2.10 | 1.70 | 2.40 | 2.50 | 2.00 | 2.75 | 2.50 | 2.10 | 2.00 | 2.50 | 2.50 | 2.60 | 2.50 |
| (15) | 3.25 | 3.10 | 2.75 | 3.40 | 3.50 | 3.10 | 3.95 | 4.00 | 3.15 | 3.00 | 4.00 | 3.75 | 3.80 | 3.50 |
| (16) | 5.65 | 5.50 | 4.75 | 5.75 | 5.90 | 5.25 | 6.45 | 6.50 | 5.00 | 5.50 | 6.00 | 6.25 | 6.60 | 6.25 |
| (17) | 8.70 | 8.25 | 7.50 | 8.50 | 9.00 | 7.80 | 10.00 | 11.00 | 8.50 | 8.00 | 9.00 | 9.50 | 9.90 | 9.00 |
| (18) | .50 | .50 | .50 | .50 | .50 | .50 | .50 | .50 | 1.00 | .50 | .50 | .50 | .40 | .50 |
| (19) | .75 | 1.75 | 1.00 | 1.00 | .50 | 1.00 | 1.50 | 1.50 | 1.50 | 1.00 | 1.00 | 1.50 | .90 | 1.00 |
| (20) | 25.00 | 10.00 | .50 | 16.00 | 14.00 | 25.00 | 25.00 | 30.00 | 17.00 | 28.00 | 25.00 | 12.00 | 2.00 | 20.00 |
| (21) | 1.00 | 2.50 | 3.00 | 3.00 | 4.00 | 3.00 | 2.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 |
| (22) | 1.50 | 1.50 | 2.50 | 3.50 | 5.00 | 5.00 | 5.00 | 10.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 |
| (23) | 100.00 | 100.00 | 100.00 | 100.00 | 50.00 | 50.00 | 100.00 | 60.00 | 75.00 | 100.00 | 100.00 | 100.00 | 75.00 | 50.00 |
| (24) | 10.00 | 25.00 | 10.00 | 15.00 | 50.00 | 10.00 | 25.00 | 50.00 | 10.00 | 10.00 | 50.00 | 5.00 | 20.00 | 20.00 |
| (25) | .65 | .93 | .10 | .65 | .04 | .65 | .06 | .10 | .07 | .10 | .10 | .06 | .05 | .12 |
| (26) | 50.00 | 300.00 | 310.00 | 300.00 | 150.00 | 325.00 | 400.00 | 300.00 | 200.00 | 250.00 | 500.00 | 360.00 | 200.00 | 250.00 |

BELMONT AVENUE SUBWAY—FRESNO, CALIF.

FRESNO, Fresno Co., Cal.—As previously reported, Thompson Construction Co., 2150 G St., Fresno, at \$57,057.65 submitted low bid to city council to construct the Belmont Ave. Subway, involving:

- (1) 22,000 cu. yds. excav.;
- (2) 7750 lin. ft. piles;
- (3) 1612 cu. yds. mass conc.;
- (4) 990 cu. yds. reinf. conc.;
- (5) 145 cu. yds. conc. railing;
- (6) steel per lb.;
- (7) 32,000 sq. ft. conc. pave;
- (8) 185 lin. ft. conc. curb;
- (9) 276 do do;
- (10) 1125 do do;
- (11) Drainage system;
- (12) Electric work;

- Complete total bids follow:
 (A) Thompson Constr. Co., Fresno, \$57,057.65.
 (B) Geo. G. Wood, Fresno, \$60,135.15.
 (C) Fredrickson & Watson Constr. Co., Oakland, \$69,593.70.
 (D) G. A. Graham, Bakersfield, \$69,797.80.
 (E) Union Engineering Co., Huntington Park, \$73,137.53.
 (F) John Jurkovich, Fresno, \$73,213.50
 (G) Merritt-Chapman & Scott Corp., San Pedro, \$74,802.75.
 (H) C. D. DeVilbiss, San Francisco, \$75,444.25.
 (I) Floyd Hofner, Los Angeles, \$75,842.82.
 (J) Robert E. McKee, Los Angeles, \$77,160.24.

- (K) W. A. Bechtel & Co., San Francisco, \$79,481.65.
- (L) Oberg Bros., Los Angeles, \$82,585.65.
- (M) Fred F. Greenfield Co., Los Angeles, \$2,844.00.
- (N) Smith Bros. Co., Eureka, \$84,863.75.
- (O) Clyde W. Wood, Stockton, \$84,893.00.
- (P) MacDonald & Kahn, Ltd., San Francisco, \$86,969.10.
- (Q) Clark & Campbell, Clearwater, \$88,152.55.
- (R) Porter Bros. Corp., San Francisco, \$96,600.00.

Unit bids follow:

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
|-----|------|--------|---------|---------|---------|--------|--------|--------|--------|--------|----------|-----------|
| (A) | 3.27 | \$.65 | \$ 7.70 | \$10.00 | \$24.60 | \$.033 | \$.22 | \$.65 | \$.50 | \$1.10 | \$175.00 | \$3100.00 |
| (B) | .32 | .60 | 9.80 | 10.50 | 26.00 | .034 | .24 | 1.15 | .55 | 1.60 | 1700.00 | 3300.00 |
| (C) | .40 | .70 | 12.50 | 12.80 | 35.00 | .04 | .24 | .55 | .55 | .55 | 1680.00 | 3300.00 |
| (D) | .425 | .747 | 11.30 | 12.60 | 21.90 | .0374 | .295 | .92 | .56 | 1.32 | 973.00 | 3567.00 |
| (E) | .80 | .60 | 11.00 | 12.50 | 30.00 | .285 | .22 | .51 | .43 | .58 | 1700.00 | 3300.00 |
| (F) | .50 | 1.00 | 10.00 | 13.00 | 30.00 | .05 | .30 | 1.60 | 1.00 | .50 | 1500.00 | 3500.00 |
| (G) | .50 | .74 | 11.90 | 14.50 | 35.00 | .035 | .26 | .85 | .70 | .90 | 2000.00 | 4000.00 |
| (H) | .45 | .84 | 12.00 | 14.00 | 42.00 | .04 | .25 | 1.15 | .60 | 1.20 | 1500.00 | 4200.00 |
| (I) | .50 | .50 | 12.71 | 16.89 | 21.94 | .034 | .24 | .868 | .575 | .938 | 2983.00 | 3569.00 |
| (J) | .50 | .80 | 11.60 | 15.50 | 35.00 | .035 | .295 | 1.30 | .54 | 1.42 | 1900.00 | 3534.00 |
| (K) | .50 | .80 | 12.90 | 15.20 | 33.00 | .038 | .32 | .60 | .60 | .65 | 2210.00 | 4100.00 |
| (L) | .65 | .62 | 19.75 | 19.75 | 19.75 | .0315 | .22 | .80 | .40 | 1.00 | 1500.00 | 2500.00 |
| (M) | .65 | .96 | 13.00 | 15.50 | 24.00 | .05 | .30 | 1.00 | .55 | 1.30 | 1415.70 | 3100.00 |
| (N) | .56 | .90 | 13.00 | 16.70 | 59.00 | .036 | .27 | 1.00 | .50 | 1.35 | 1671.00 | 3520.00 |
| (O) | .70 | .50 | 15.00 | 17.00 | 40.00 | .04 | .24 | 1.00 | .50 | 1.00 | 1800.00 | 3500.00 |
| (P) | .72 | .95 | 13.25 | 17.00 | 46.00 | .0385 | .27 | .75 | .60 | 1.15 | 1300.00 | 3000.00 |
| (Q) | .65 | .90 | 14.25 | 16.30 | 35.00 | .038 | .33 | 1.40 | .80 | 1.35 | 2140.00 | 3920.00 |
| (R) | .55 | .85 | 17.25 | 18.25 | 55.00 | .05 | .35 | 1.00 | .45 | 1.25 | 2017.55 | 2700.00 |

ENGINEERING SOCIETIES EMPLOYMENT SERVICE

Further information regarding positions listed in this column is obtainable from Newton D. Cook, Room 715, 57 Post St., San Francisco. (Phone SUTter 1684).

R-3728-S SALESMAN or engineer, who is well acquainted with contractors in Bay region, to sell a special service which has attractive features. Commission only but may develop into permanent position. Headquarters, San Francisco, with offices in Los Angeles and Sacramento.

R-3759-S SALES REPRESENTATIVES or manufacturers' agents to handle a line of meter service and safety switches for eastern manufacturer. Applicants should be well acquainted with electrical supply jobs and experienced with standard switch company products. Territories open, San Francisco, Los Angeles, Seattle, Denver and Saint Louis. Apply by letter.

R-3768-S EXECUTIVE VICE-PRESIDENT to act as General Manager of new company now producing programs for radio broadcast by electrical transcription. Position requires an experienced executive who has been accustomed to earning at least \$6000 per year and able to make investment in company, after investigation, of \$10,000-\$20,000. Company is expanding rapidly and has openings for a Research Director, an Assistant Sound Engineer and an Assistant Production Director. Company policy requires cash investment by all executives. Apply by letter. Location, Oakland.

R-3757-S OPPORTUNITY for some organization manufacturing and selling drop forgings, to acquire rights to a device which saves time and money in fitting up steel plate work. Developed by an engineer to meet actual conditions and its value is evident to any one who sees it. Full particulars upon request to this office.

R-3758-S OPPORTUNITY for man with \$1000 cash to acquire one-half interest in established radio laboratory. Owner needs good manager with cash to bring out an improved radio receiving set for automobiles. Apply by letter. Location, Fresno, California.

DAILY NEWS SERVICE

If you are interested in a daily construction news service featuring all types of building and engineering construction, send for free sample copies of Daily Pacific Builder. Subscription price, \$1.50 per month or \$15.00 per year when paid in advance.

Daily Pacific Builder features in each issue, timely reports on work contemplated, bids wanted, bids opened and contracts awarded for all types of building and engineering construction, machinery and equipment, Government work, supplies and equipment, business opportunities, etc.

Daily Pacific Builder is the only publication publishing listings of building permits, building contracts, mechanics liens, etc., in Northern and Central California.

Send for sample copies today or phone GARfield 8744.

Daily Pacific Builder
545 Mission St.
San Francisco, Calif.

GRADE—GRAVEL SURFACE—RIVERSIDE COUNTY—STATE

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|-----|------|-----|-------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|------|------|------|-------|------|-------|------|-------|------|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| RIVERSIDE COUNTY, Cal.—Basich Brothers, 26459 Normandie Avenue, Torrance, a 4888, Highway 101, Torrance, low bid at the State Highway Commission to grade and surface with oil treated crushed gravel or stone, 10.5 miles between Shavers Summit and Desert Center. Project involves: (1) 379,000 cu. yds. rdwy. excavation without class; | (1) | \$18 | (2) | \$004 | (3) | \$12 | (4) | \$10 | (5) | \$25 | (6) | \$10 | (7) | \$20 | (8) | \$13 | (9) | \$50 | (10) | \$70 | (11) | \$250 | (12) | \$100 | (13) | \$100 | (14) | \$850 | (15) | \$50 | (16) | \$50 | (17) | \$50 | (18) | \$50 | (19) | \$50 | (20) | \$50 | (21) | \$50 | (22) | \$50 | (23) | \$50 | (24) | \$50 |
|---|-----|------|-----|-------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|------|------|------|-------|------|-------|------|-------|------|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|

- (H) S. H. Palmer and J. P. Holland, San Francisco, \$58,802.20.
- (I) Macco Const. Co., Clearwater, \$59,749.00.
- (J) New Mexico Const. Co., Albuquerque, N. M., \$60,8718.00.
- (K) Morrison-Knudsen, Boise, Idaho, \$612,057.50.
- (L) Hamrahan Co., San Francisco, \$615,778.50.
- (M) Van der Heulen & Pierson, Gro-man, \$616,146.90.
- (N) Jack Casson, Hayward, \$628,242.50.
- (O) J. G. Chert, Jr., Sacramento, \$643-176.20.

Unit bids follow:

| | | | | | | | | | |
|--|---|--|------------------------------|--|--|------------------------|---|--|-----------------------------|
| (7) 1,400 cu. yds. screenings (seal coat); | (8) 16,200 cu. yds. fuel oil (surf. and seal coat); | (9) 3430 lin. ft. 36-in. corr. metal pipe; | (10) 458 lin. ft. 48-in. do; | (11) 3000 M. gals. water applied to subgrade and base; | (12) 82,010 lin. ft. furnish treated piles | (13) 2942 drive piles; | (14) 1293 M. ft. b.m. redwood timber, dense sel. all-heart structural | (15) 1134 M. ft. b.m. redwood timber, select all-heart struc. grade; | (16) 996 sta. finish rdwy.; |
|--|---|--|------------------------------|--|--|------------------------|---|--|-----------------------------|

| | | | |
|------|---------|------|---------|
| (14) | \$87.50 | (15) | \$50.00 |
| (16) | \$75.00 | (17) | \$20.00 |
| (18) | \$2.00 | (19) | \$3.00 |
| (20) | \$2.00 | (21) | \$2.00 |
| (22) | \$2.00 | (23) | \$2.00 |
| (24) | \$2.00 | (25) | \$2.00 |
| (26) | \$2.00 | (27) | \$2.00 |
| (28) | \$2.00 | (29) | \$2.00 |
| (30) | \$2.00 | (31) | \$2.00 |
| (32) | \$2.00 | (33) | \$2.00 |
| (34) | \$2.00 | (35) | \$2.00 |
| (36) | \$2.00 | (37) | \$2.00 |
| (38) | \$2.00 | (39) | \$2.00 |
| (40) | \$2.00 | (41) | \$2.00 |
| (42) | \$2.00 | (43) | \$2.00 |
| (44) | \$2.00 | (45) | \$2.00 |
| (46) | \$2.00 | (47) | \$2.00 |

ENGINEERING NEWS

BRIDGES

PLACER COUNTY, Cal.—P. F. Bender, 1012 Del Paso Blvd., Sacramento, at \$16,380.50 awarded contract by the State Highway Commission to construct an undergrade crossing under the tracks of the Southern Pacific Railroad near Towle, consisting of two concrete abutments with wing walls. Complete bids published in issue of February 11.

OREGON STATE—Bids will be asked in the immediate future by the Oregon State Highway Commission, Roy A. Klein, engineer, for the following projects:

Six pile trestles in Clatsop county on secondary highway No. 102, involving 480 lin. ft. piling.

Two pile trestles on the Oregon Coast highway near Cannon Beach (between Cannon Beach junction and Cannon Beach) in Clatsop county, involving 860 ft. of piling.

A concrete half viaduct in Umatilla county, near Sand station, on the Wallula cut-off, involving 190 ft. piling.

Pile trestle 16 miles east of Umatilla, involving 150 lin. ft. piling.

LOS ANGELES, Cal.—Until 2 P. M. March 14, bids will be received by the county supervisors to construct timber trestle on Vermont Ave. over Pacific Electric Railway, north of Anaheim St., consisting of six 21-ft. spans and one 3½-ft. span, with a 44-ft. roadway. To be built of creosoted lumber with creosoted piling. W. D. Armstrong, 12th floor, Hall of Records, county bridge engineer.

OREGON STATE—Until March 3, 10 A. M., bids will be received by Roy A. Klein, state highway engineer, Multnomah County Courthouse, Portland, to construct a concrete viaduct over the Southern Pacific Railway tracks on The Dalles-California Highway north of Klamath Falls, requiring in the main:

- (1) 570 cu. yds. excavation;
- (2) 641 cu. yds. concrete;
- (3) 112,000 lbs. metal reinforcement;
- (4) 340 lin. ft. concrete handrail.

Plans obtainable on deposit of \$5, returnable, from the office of the state highway engineer at Salem and on file in offices of the Associated General Contractors of America at Portland, Ore., and Spokane, Wash.

SANTA BARBARA COUNTY, Cal.—Fredrickson & Watson Co., 354 Hobart St., Oakland, at \$34,260 awarded contract by State Highway Commission to construct bridge over San Antonio Creek about one mile north of Los Alamos.

YUBA CITY, Cal.—Plans for bridge across the Sacramento River at Knights Landing to connect George Washington Blvd. (the Sutter Basin highway) with the Yolo County highway submitted to the War Department. Estimated cost, \$86,000. Bridge to be a "jack-knife" type of draw-bridge to permit navigation on the Sacramento. Will become part of state highway system.

SANTA ROSA, Sonoma Co., Cal.—Until March 16, 12 M., to be opened 1.30 P. M. (previously reported March 15), bids will be received by George G.

Sanborn, county clerk, to construct the Geyserville bridge across the Russian River, 978 ft. in length, consisting of 100 ft. steel spans with thirteen 24-ft. concrete pile trestles and with a 24-ft. roadway on the deck, involving:

- (1) 4500 lin. ft. timber piles;
- (2) 1360 lin. ft. concrete piles
- (3) 1000 cu. yds. struc. excav., including cofferdam;
- (4) 750 cu. yds. approach fill;
- (5) 325 tons structural steel;
- (6) 1562 cu. yds. concrete, Class A;
- (7) 32 cu. yds. concrete, Class E;
- (8) 245 M. lbs. reinf. steel.

Estimated cost, \$90,000. Certified check 10% or bid bond required. E. A. Peugh, county engineer.

PETALUMA, Sonoma Co., Calif.—City council contemplates bond election for \$80,000 to finance construction of a new steel bascule bridge over Petaluma River at D Street. Preliminary plans for the structure have been prepared by L. H. Nishkian, consulting engineer, Underwood Bldg., San Francisco.

SANTA CLARA COUNTY, Cal.—As previously reported, until March 16, 2 P. M., bids will be received by State Highway Commission, Sacramento, to construct reinforced concrete girder bridge across Stevens Creek about 2 miles north of Mountain View, consisting of one 30-ft. 1-in. span and one 20-ft. 10-in. spna on concrete bents and a concrete abutment with wing walls, involving:

- (1) 1,100 cu. yds. rdwy. excav. without class;
- (2) 2,460 cu. yds. struc. excav.;
- (3) 290 cu. yds. Class A Port. cem. conc. (placed by tremie);
- (4) 700 cu. yds. Class A Port. cem. conc. (struc.);
- (5) 5 cu. yds. Class E Port. cem. concrete;
- (6) 130,000 lbs. bar reinf. steel;
- (7) 770 lbs. bronze expansion plates;
- (8) 425 lin. ft. 4-in. drain tile;
- (9) 125 tons untreated crushed stone or gravel surf.;
- (10) 280 lin. ft. solid timber railing;
- (11) 1 lot, misc. items of work.

OREGON STATE—Until March 16, 10 A. M., bids will be received by the State Highway Commission, meeting in the Multnomah County Courthouse, Portland, to construct a three span steel arch bridge with concrete approaches over the Clackamas river on the Portland - Oregon City Highway, involving:

- (1) 2,400 cu. yds. excavation;
- (2) 9,000 lin. ft. timber piling;
- (3) 1,600 lin. ft. concrete piling;
- (4) 2,410 cu. yds. concrete;
- (5) 355,000 lbs. metal reinforcement;
- (6) 1,778,000 lbs. structural steel;
- (7) 1,500 lin. ft. concrete handrail.

Alternate bids will be received for the use of "medium open hearth structural" steel and "structural silicon" steel for certain parts of the structure.

Plans obtainable from the State Highway Commission, 322 State Office Bldg., Salem, Ore., on deposit of \$5, returnable.

ORANGE COUNTY, Calif.—As previously reported, until March 16, 2 P. M., bids will be received by the State Highway Commission, Sacramento, to

construct a bridge across Anaheim Bay near Seal Beach consisting of one 55-ft. plate girder span and eleven 30-ft. reinforced concrete girder spans to be widened, involving:

- (1) 800 cu. yds. imported borrow;
- (2) 220 cu. yds. struc. excav.;
- (3) 720 lin. ft. furnishing untreated Douglas fir piles, includ. test piles;
- (4) 580 lin. ft. furnishing creosoted Douglas fir piles;
- (5) 43 drive untreated and creosoted Douglas fir piles, includ. test piles;
- (6) 1,200 lin. ft. 15-in. reinf. conc. piles;
- (7) 3,970 lin. ft. 18-in. reinf. conc. piles, including test piles;
- (8) 55 cu. yds. Class A Port. cement concrete (placed by tremie);
- (9) 722 cu. yds. Class A Port. cement concrete (struc.);
- (10) 40 cu. yds. Class F Port. cement concrete;
- (11) 28.5 cu. yds. Class E Port. cem. concrete;
- (12) 120,000 lbs. bar reinf. steel;
- (13) 102,000 lbs. struc. steel;
- (14) 1,820 lbs. cast steel;
- (15) 1,300 lbs. bronze expansion plates
- (16) 7 M. ft. b.m. creosoted Douglas fir timber, struc. grade;
- (17) 1 load test;
- (18) 4 additional load tests;
- (19) 125 cu. yds. existing concrete to be removed;
- (20) 1 existing steel span to be removed;
- (21) 80 tons crushed run sub-base;
- (22) 435 tons ash. conc. pave.;
- (23) 5 bents to be repaired;
- (24) 80 lin. ft. new solid timber guard rail;
- (25) 1 lot misc. items of work.

LOS ANGELES, Cal.—Merrill Butler chief engineer of the Los Angeles Bridge Department, will present plans shortly to the Board of Public Works for West Blvd. Bridge over Venice Blvd. and the Pacific Electric Railway; estimated cost, \$75,000; will be reinforced concrete, rigid frame type, 526-ft. in length with 30-ft. roadway and one 5-ft. sidewalk. The project will involve approximate quantities as follows:

- 2905 cu. yds. concrete;
- 174 tons reinforcing steel;
- 8 concrete lighting standards;
- 8-in. cement concrete pave. (quantities later);
- 8-in. asphaltic concrete pave. (quantities later);
- pedestrian subway.

UTAH STATE—Christensen and Gardner, Vermont Bldg., Salt Lake City, submitted low bid to State Road Commission, Salt Lake City, at \$41,715 to construct bridges on the road from Airport to Saltair, Salt Lake County, involving:

- 1,710 cu. yds. struc. excavation;
- 6,880 lin. ft. piling;
- 1,550 cu. yds. concrete;
- 194,640 lbs. reinforcing steel.

OAKLAND, Cal.—The Park Street Bridge connecting Oakland and Alameda, will probably be replaced this year, County Engineer Geo. A. Posey states. The proposed structure is to be of the most modern type of construction, and to cost approximately \$750,000.

DREDGING, HARBOR WORKS & EXCAVATIONS

SACRAMENTO, Cal.—Following bids received by U. S.—Engineer Office, Sacramento, to furnish and operate a clam shell dredge with necessary auxiliary plant, labor and materials and doing dredging, at hourly rates, in the Sacramento and San Joaquin rivers, and streams tributary thereto:

Franks Contracting Company.

"Monterey" "Dabllan"

| | | |
|-----------|---------|---------|
| (A) | \$16.50 | \$12.50 |
| (B) | 16.50 | 12.50 |
| (C) | 16.50 | 9.50 |
| (D) | 16.50 | 9.50 |

Olympian Dredging Company.

"Trojan" "Neptune"

| | | |
|-----------|---------|---------|
| (A) | \$18.50 | \$20.00 |
| (B) | 18.50 | 20.00 |
| (C) | 18.50 | 20.00 |
| (D) | 18.50 | 20.00 |

"Monarch" "Thor"

| | | |
|-----------|---------|---------|
| (A) | \$18.50 | \$ 8.00 |
| (B) | 18.50 | 8.00 |
| (C) | 18.50 | 8.00 |
| (D) | 18.50 | 8.00 |

R. P. Easley.

"Roberts Island"

| | |
|-----------|--------|
| (A) | \$7.95 |
| (B) | 7.95 |
| (C) | 7.50 |
| (D) | 4.50 |

PORTERVILLE, Tulare Co., Cal.—Until March 8, 3 P. M., bids will be received by George H. Weber, clerk, Hot Springs School District, for excavating approximately 2800 cu. yds. dirt and rock from the grounds of the Hot Springs School District. Specifications obtainable from above.

LOS ANGELES, Cal.—Until 3 P. M., March 15, bids will be received by U. S. Engineer Office, 751 South Figueroa St., Los Angeles, for dredging in Los Angeles Harbor. Work will require dredging about 82,300 cu. yds. material and will involve depositing the clay material on the line of the breakwater, with incidental work. Specifications obtainable from U. S. Engineer, Maj. W. H. Lanagan, 751 South Figueroa St., Los Angeles.

IRRIGATION PROJECTS

TURLOCK, Stanislaus Co., Calif.—Aldrin and Anderson, Turlock, at \$22-680.80 awarded contract by Turlock Irrigation District for cement lining approx. 5 miles of canal and constructing miscellaneous concrete structures of Lateral C, south of Ceres.

MACHINERY AND EQUIPMENT

WASHINGTON, D. C.—See "Government Work and Supplies," in this issue. Bids wanted for miscellaneous supplies and equipment in connection with Pacific Coast Navy Yards and Stations, including cutter and tool grinder; valve resurfacing machine; metal cutting bandsaw machine; electrical test bench; floor type drill machine, etc.

EUREKA, Humboldt Co., Cal.—Until March 7, 7.30 P. M., bids will be received by Geo. B. Albee, superintendent of schools, to furnish one 54-passenger school bus body. Certified check 5% payable to Eureka High School District required with the bid. Specifications obtainable from superintendent.

SUNNYVALE, Santa Clara Co., Cal.—Until April 6, 11 A. M., under Spec. No. 6707, bids will be received by the Bureau of Yards and Docks, Navy De-

partment, Washington, D. C., for boiler plant equipment for the Naval Air Station at Sunnyvale, involving portable firebox boilers; gas burners; smoke breaching; reciprocating boiler feed pumps; deaerating feed water heater; motor-driven, vertical shaft hot well and drainage pumps; cooling tower; water softening equipment; motor-driven, centrifugal fire pumps; gasoline-engine-driven, A. C. generator; travel bridge crane and all piping systems, switchboard, electrical apparatus and wiring required for equipment; also outside systems for steam, natural gas and low pressure helium distribution. Specifications obtainable from the Bureau or from the Commandant of the Twelfth Naval District, 100 Harrison St., San Francisco, on deposit of \$20, returnable, checks for same to be made payable to the Chief of the Bureau of Yards and Docks.

SUNNYVALE, Santa Clara Co., Cal.—Until April 6, 11 A. M., under Spec. No. 6761, bids will be received by the Bureau of Yards and Docks, Navy Department, Washington, D. C., for equipment, high and medium pressure air and helium piping and accessories for repurification of helium at the Naval Air Station, Sunnyvale. Specifications obtainable from the Bureau at Washington or from the Commandant of the Twelfth Naval District, 100 Harrison St., San Francisco, on deposit of \$10, returnable, checks for same to be made payable, to the Chief of the Bureau of Yards and Docks.

OAKDALE, Cal.—Until March 4, 8 P. M., bids will be received by J. Alban Rydberg, Clerk of the Board of Trustees of Oakdale Union School District, to furnish: Truck chassis suitable for mounting passenger body to comfortably seat 60 children; body for above. Spec. obtainable from J. J. Berry, District Supt. of Oakdale Union School.

OAKLAND, Cal.—Austin - Western Road Machinery Co. at \$3062.40 awarded contract by city council to furnish one road grader for the street department.

RAILROADS

ALAMEDA, Alameda Co., Calif.—Hutchinson Co., 1450 Harrison Street, Oakland, at \$6,243.41 with an alternate of \$4,322.36, submitted low bid to Bureau of Public Roads to construct Unit 3, Government Island construction, Government Island, Alameda, consisting of constructing parts of two railroad spur tracks, involving:

- (1) 2638 lin. ft. laying railroad track, including rails and accessories, cross ties, ballast and grading necessary to establish finished subgrade;
 - (2) 260 cu. ft. furnishing sub-ballast in place;
 - (3) 1350 cu. yds. furnishing, delivered, spread, tamped and dressed crushed rock or gravel ballast;
- OR (alternate)
- (4) 1350 cu. yds. unloading, spreading, tamping and dressing crushed rock or gravel ballast, which will be furnished by the Government;
 - (5) 1600 each, furnish and delivered, 7x3-in. x 8-ft. Lewis Redwood cross ties;
 - (6) 610 lin. ft. remove and salvage railroad track;
 - (7) 1020 cu. yds. excavation unclassified.

Complete bids follow:

(A) Hutchinson Co., Oakland, exclu-

sive of Item 4, \$6,243.41; exclusive of Item 3, \$4,322.36.

(B) United Commercial, San Francisco, \$6,362.84; \$4,580.84.

(C) Ariss-Knapp Co., Oakland, \$6,-971.24; \$4,878.75.

(D) Engineer's estimate, \$7,831.50; \$5,923.80.

Unit bids follow:

| | (A) | (B) | (C) | (D) |
|-----------|-------|-------|-------|-------|
| (1) | \$.61 | \$.63 | \$.73 | \$.85 |
| (2) | 1.67 | 1.60 | 1.80 | 1.40 |
| (3) | 2.00 | 2.00 | 2.05 | 2.25 |
| (4) | .577 | .68 | .50 | .80 |
| (5) | .777 | .76 | .80 | 1.15 |
| (6) | .105 | .17 | .20 | .15 |
| (7) | .189 | .26 | .40 | .30 |

Hutchinson Co. probably recommended for contract.

MARCH FIELD, Riverside Co., Cal.—Until 11 A. M., March 10 (postponed from Feb. 25), bids will be received by Col. W. C. Gardnhire, Constructing Quartermaster, to furnish and install \$65 ft. of railroad spur track at March Field; Spec. No. 6694-81. Addenda will be published shortly covering certain changes that have been made.

RESERVOIRS AND DAMS

VERDE, Ariz.—Verde River Irrigation and Power District has announced that as soon as the \$13,000,000 bond issue has been sold construction will be started on three dams, canals and lateral systems, estimated to cost about \$9,585,000. One of the dams will be located at Camp Verde, the second at Horseshoe and the third, a diversion dam, above the mouth of Camp Creek on Verde River. The district requires about 300,000 acre feet of water a year. The bond issue was voted in 1923. Circumstances prevented the sale of the bonds until March, 1930, by which time the district had successfully prosecuted a suit for the validation of the bonds and all matters pertaining to the legal status of the district. This suit was carried through the supreme court of Arizona. The validation proceedings were undertaken principally to remove uncertainties created by the lapse of time since the bonds were voted. W. H. Barlett is secretary of the district. J. G. Bailhache, 801 Security Bldg., Phoenix, is chief engineer and general manager.

LOS ANGELES, Cal.—Merritt-Chapman & Scott Corp., P. O. Box 507, San Pedro, at \$1,690,264 (Proposition No. 2) awarded contract by county supervisors to construct San Gabriel Dam. Complete list of unit and total bids received on this project published in issue of February 10.

PENDLETON, Ore.—Bids will be asked at once by city council to construct crib wing dam below the Matlock Street bridge to control the flood waters of the Umatilla River. Plans of City Engineer Aubrey Derry call for a heavily cribbed and rocked dam 12 ft. high and 70 ft. long.

PIPE LINES, WELLS, ETC.

SAN MATEO COUNTY, Calif.—Pacific Gas and Electric Co., 245 Market St., San Francisco, will commence construction at once on a \$2,000,000 natural gas pipe line extending through San Mateo County along the Skyline Blvd. The line will be 40 miles long and will connect at Milpitas with the coast and San Joaquin valley lines from Kettleman Hills.

SEWERS AND SEWAGE DISPOSAL PLANTS

LOS ANGELES, Calif.—Until 10 A. M., March 18, bids will be received by board of public works for construction of Section No. 34-C, north outfall sewer, from Burbank Blvd. and Kester Ave. to Oxnard St. and Havenhurst Ave., involving:

- (1) type No. 1—construct 13,476.07 ft. vit. pipe sanitary sewers, including conc. reinforcement, if required, structures, etc.;
- (2) type No. 2—construct 13,476.07 ft. centrifugal concrete pipe sanitary sewer, etc.

The estimated cost of this section is \$243,000, all of which has been appropriated.

LONG BEACH, Cal. — Hearing on the proposed Molino Ave. Storm Drain set by city council for March 23. This storm drain will be built in Molino Ave., between Ocean Ave. and 4th St., 1911 Act. Report prepared by city engineer as required by Assessment Limitation Act of 1931 shows the work to involve approximate quantities as follows:

- 2035 ft. 10-in. cem. pipe;
- 1374 ft. 12-in. cem. pipe;
- 2104 ft. 15-in. cem. pipe;
- 2523 ft. 18-in. cem. pipe;
- 1060 ft. 21-in. cem. pipe;
- 63 ft. 18-in. reinforced conc. pipe;
- 1250 ft. 27-in. reinforced conc. pipe;
- 14 type A manholes;
- 15 type C manholes;
- 8 type D manholes;
- 53 type A-1 catchbasins;
- 4 type C catchbasins;
- 1 type D catchbasins;
- 2 type A-1 depressions;
- 5 type C-1 depressions;
- 1 type D-1 depressions;
- 1587 ft. 10-in. catchbasin connections;
- 77 ft. 12-in. catchbasin connections;
- Rock apron and outlet;
- 84 ft. type A backfill for 10-in. pipe;
- 20 ft. type A backfill for 27-in. pipe;

CAPISTRANO BEACH, Orange Co., Cal.—Until 7:30 P. M., March 9, bids will be received by Capistrano Beach Sanitary District to construct vitrified pipe and cast iron pipe sanitary sewage collection system. Burns-McDonnell-Smith Eng. Corp., 1031 S Broadway, Los Angeles, prepared the plans. The collection system will cost about \$50,000 and will involve about 22,000 ft. of 6-in. and 22,300 ft. of 8-in. pipe.

SAN DIEGO, Cal.—City council plans disposal of city sewage under one comprehensive system estimated to cost \$2,000,000. Charles G. Frisbie, 408 S. Spring St., Los Angeles, is engineer. The project involves about 60 miles of sewage, ranging in sizes from 10-in. to 75-in. The plan provides for a central treatment plant which would sell the reclaimed water to provide a revenue.

SALINAS, Monterey Co., Cal.—Bids are to be asked on improvements in drainage canals by Reclamation District No. 1665, Howard D. Peters, engineer. The work will cover 8.3 miles of main carrying canal and 6.7 miles of lateral drainage ditches and will be announced at the next district meeting.

CAPITOLA, Santa Cruz Co., Cal.—County supervisors will hear protests on April 7 against the formation of the proposed sanitary district to be formed in Capitola, comprising all the lands in Capitola and the district mid-

way between that city and Soquel as well as property along 47th Ave. Efforts to secure the cooperation of Soquel residents in the project failed and this section has been excluded from the district. E. V. Woodhouse, president of the Capitola Chamber of Commerce, is prime mover in the project.

LOS ANGELES, Cal.—Approximate quantities for Section No. 34-C of North Outfall Sewer, from Burbank Blvd. and Kester Ave. to Oxnard St. and Havenhurst Ave., for which bids will be received by board of public works, March 16, at 10 A. M., follow:

- 260.05 ft. 18-in. pipe, 2100-D loading pipe;
- 2974.66 ft. 18-in. pipe, 1900-D loading pipe;
- 2641.17 ft. 21-in. pipe, 1900-D loading pipe;
- 6250.19 ft. 24-in. pipe, 2000-D loading pipe;
- 1350.00 ft. 24-in. pipe, 2200-D loading pipe;
- 27 manholes;
- 3 junction chambers F;
- 2 junction chambers G.

Where contractor cannot furnish pipe as specified, he may use vit. clay pipe with conc. reinforcement.

The bid from shows two types as follows:

- (1) type No. 1—const. 13,476.07 ft. vit. pipe san. sewers, incl. concrete reinforcement.
- (2) type No. 2—const. 13,476.07 ft. centrifugal conc. pipe san. sewer, etc.

Estimated cost, \$243,000, all of which has been appropriated.

Plans prepared by L. O. Turner, District Engineer, Van Nuys. Copies obtainable at City Hall, Room 749.

SIGNAL HILL, Los Angeles Co., Cal.—A. A. Taylor, city engineer of Signal Hill preparing specifications for three pumping stations to be installed in connection with new sewage disposal plant now under construction. Pumps will probably be 4-in. but complete specifications will not be ready for another week or two.

SIGNAL HILL, Los Angeles Co., Cal.—A. A. Taylor, city engineer, preparing plans for bet. four and five miles of sewer mains, involving 6-in. to 10-in. vitrified sewer pipe. Trenching by day labor. Call for bids for finishing the bottom of trench, furnishing and laying pipe. Will be paid for out of the general fund.

LOS ANGELES, Cal.—Until 10 A. M., March 23, bids will be received by Board of Public Works for construction of Section No. 24-D, North Outfall Sewer, from Burbank Blvd. and Havenhurst Ave. to Vanowen St. and White Oak Ave. Cash Contract, involving:

- (1) TYPE NO. 1—Construction of 12,994.33 lin. ft. of vit. clay pipe sanitary sewer, incl. concrete reinforcement, if required, structures and all required appurtenances, etc.
- (2) TYPE NO. 2—Construction of 12,994.33 ft. centrifugal concrete pipe sanitary sewer, etc.

WATERWORKS

MARE ISLAND, Cal.—Until March 16, 11 A. M., bids will be received by A. L. Farsons, Chief of the Bureau of Yards and Docks, Navy Yard, Mare Island, for improvement of fire protection systems at the Naval Direction Finder Stations Point Reyes, Point St. George and Point Montara, Calif. Work involves furnishing and installing pumps, pump houses, piping,

fire hose cabinets, etc. Specification No. 6625. Plans and specifications obtainable from Commandant, Navy Yard, Mare Island, upon deposit of \$5.00.

ALAMEDA, Alameda Co., Calif.—Hutchinson Co., 1450 Harrison Street, Oakland, at \$4,999.99 submitted the low bid to U. S. Bureau of Public Roads, San Francisco, to construct Unit 5, Government Island construction, Government Island, Alameda, consisting of constructing fresh water distributing system and salt water fire protection system, involving:

- (1) 8000 lin. ft. dip and wrap new 6-in. steel pipe;
- (2) 13 6-in. gate valves and appurtenances;
- (3) 8000 lin. ft. lay 6-in. pipe line and appurtenances;
- (4) 7 finish 6-in. hydrant ell;
- (5) 20 recondition and install fire hydrants;
- (6) 210 lin. ft. 2½-in. galv. wrought iron pipe;
- (7) 400 lin. ft. 3-in. do;
- (8) 8 2½-in. gate valves;
- (9) 8 3-in. do;
- (10) 4 3-in. water meters and appurtenances;
- (11) 520 lin. ft. lay 2½- and 3-in. services.

Complete bids follow:
 (A) Hutchinson Co., Oakland, \$4,999.99
 (B) Pacific Pipe Co., S. F., 5,976.11
 (C) Oakland Sewer Const. Co., Oakland, 6,260.80
 (D) Engineer's estimate, 5,350.30

Unit bids follow:

| | (A) | (B) | (C) | (D) |
|----------------|--------|--------|--------|--------|
| (1) ...\$ 12 | \$ 12 | \$ 12 | \$ 12 | \$ 18 |
| (2) ...39.57 | 40.00 | 38.00 | 30.00 | 30.00 |
| (3) ... .17 | .2565 | .33 | .30 | .30 |
| (4) ...15.68 | 17.50 | 17.50 | 18.00 | 18.00 |
| (5) ...26.65 | 40.40 | 28.00 | 30.00 | 30.00 |
| (6) ... .634 | .629 | .63 | .43 | .43 |
| (7) ... .908 | .822 | .82 | .83 | .83 |
| (8) ... 7.50 | 9.00 | 9.00 | 15.00 | 15.00 |
| (9) ... 20.00 | 9.50 | 9.50 | 15.00 | 15.00 |
| (10) ...163.57 | 145.13 | 180.00 | 170.00 | 170.00 |
| (11) ... .23 | .60 | .30 | .10 | .10 |

SANTA CRUZ, Santa Cruz Co., Cal.—Public Utilities California Corp., 200 Capitola Ave., Santa Cruz, seeks authorization of the county supervisors to lay a water main at Boulder Creek to Marshall Creek, a distance of 3.1 miles for 6-in. and 4-in. lines from Boulder Creek to Wildwood, a distance of 2.1 miles. Referred to County Surveyor Lloyd Bowman for report.

STOCKTON, San Joaquin Co., Cal.—Port Director Col. B. C. Allin announces the city will construct its own water system on the waterfront with a view to supplying both public and private industries in connection with the Stockton Deep Water Project. The cost of construction is estimated at \$14,000, and will include a 100,000-gal. capacity storage tank.

LA HABRA, Orange Co., Cal.—Koebig and Koebig, consulting engineers, Rowan Bldg., Los Angeles, commissioned by city council to prepare estimates of cost for a municipal water system preliminary to calling an election to vote bonds to finance such construction. Plans of City Engineer John Sanks will be used as a basis in the cost survey.

SAN MATEO COUNTY, Cal.—Bear Gulch Water Co., 1245 State Highway, Menlo Park, according to papers filed with the San Mateo County Recorder, has borrowed \$1,250,000 to pay off its debts and develop its properties in Southern San Mateo county. The company serves North Fair Oaks, Atherton, Menlo Park, Woodside and other

territory in the lower peninsula area. It is planned presently to issue \$50 bonds of \$1000 value, to draw 6 per cent interest. The company will pay off an outstanding original indebtedness, of \$250,000; will pay off other debts, and will draw upon the additional funds to finance improvements to the San Mateo county holdings.

SIGNAL HILL, Los Angeles Co., Cal.—Following awards made in connections with municipal water pipe line: Los Angeles Mfg. Co., at \$12,639 awarded contract to furnish 18-inch steel pipe.

Lee R. Weber, at \$36,901 awarded contract to furnish 20-inch steel pipe. George A. Shepard at \$3,435 awarded contract to lay 18-inch pipe.

Bids opened January 25, analysis of the low bids being published in issue of January 29.

PITTSBURG, Contra Costa Co., Cal. City council contemplates installation of a \$50,000 water softener plant similar to that in use at the F. E. Booth Company's plant in Pittsburg. Geo. Oliver is city manager.

LONG BEACH, Cal.—U. S. Pipe & Foundry Co., Los Angeles, awarded contract by city council at \$76,933.58 to furnish cast iron pipe as follows:

- 100,080 ft. 6-in. cast iron pipe, in 15-ft. lengths;
- 50,040 ft. 8-in. pipe, 18-ft. lengths;
- 20,160 ft. 12-in. pipe, in 13-ft. lengths

WASHINGTON STATE.—Until 2 P. M., April 4, bids will be received by U. S. Bureau of Reclamation, Denver, to furnish and erect in excavation and on concrete piers and anchors constructed by others, two 45-in. dia. plate steel penstocks, each approximately 461 ft. in length, made of 3-16 in. plates; and one 42-in. dia. plate steel discharge pipe with manifold connections, approximately 2100 ft. in length, made of 3-16 in. and 1/2-in. plates, for the Wippell Pumping plant, Kittitas Division, Yakima Project, Wash. The estimated weight of the penstocks and discharge pipe is 365,000 lbs. Wippell pumping plant is located about 5 1/2 miles south of Ellensburg, Wash. Specifications obtainable without charge from U. S. Bureau of Reclamation, Ellensburg, Wash.; Denver, Colo., or Washington, D. C.

STREETS AND HIGHWAYS

ARIZONA STATE.—Until 2 P. M., March 4, bids will be received by State Highway Commission, Phoenix, for highway construction on Phoenix-Tempe Highway, A. F. E. No. 8015. Work begins at the packing plant and extends easterly and southerly approximately 2.9 miles to the Tempe bridge and consists of widening, removal and reconstruction of portions of existing concrete pavement with asphaltic concrete pavement. To be completed before May 14, 1932, involving:

1,800 sq. yds. removing old concrete pavement;

36,200 sq. yds. 4-in. asphaltic pavement (complete in place).

Plans obtainable from State Highway Engineer, T. S. O'Connell, deposit \$10. Certified check, 5%.

SOLANO COUNTY, Cal.—U. B. Lee, 1059 Carpenter St., San Leandro, at \$6570.60 awarded contract by the State Highway Commission to grade and surface with bituminous treated crushed gravel or stone about 0.4 mile at Vallejo between Magazine Street and Lemon Street. Complete bids published in issue of February 19.

RIVERSIDE COUNTY, Cal.—Byerts & Dunn, 7908 Santa Monica Blvd., Los Angeles, at \$11,113 awarded contract by State Highway Commission to grade and pave with asphalt concrete 0.1 mile at the Santa Ana river bridge near the west city limits of Riverside.

LOS ANGELES COUNTY, Cal.—Until 2 P. M., March 9, bids will be received by District Engineer, Room 1111, Associated Realty Bldg., Los Angeles, for highway construction in Los Angeles County, bet. Neenach School and Neenach, about two miles, to be treated with fuel oil as a dust palliative and between La Canada and Fern Canyon, about 4.1 miles, to be treated with asphaltic road oil and screenings, involving:

- (1) 350 bbls. heavy oil;
 - (2) 82 tons asphaltic road oil;
 - (3) 722 tons rock and screenings.
- Plans obtainable from District Engineer, S. V. Corby, at the above address. Certified check, 10%.

UTAH STATE.—Dodge Bros., Fallon Nev., submitted low bid at approx. \$90,000 to State Rd. Com., Salt Lake City, for grading and surfacing highway between Alrport and Saltair, 9.545 miles, F. A. P. 120-A. The work involves: 190,000 cu. yds. roadway excavation; 15,600 cu. yds. gravel surfacing. Strange & Maguire, Salt Lake City, submitted next low bid at \$95,000.

TACOMA, Wash.—Until March 7, 11 A. M., bids will be received by Pierce County Commissioners for concrete paving on 1.65 miles of the Puyallup-Lakeview Road, Permanent Highway No. 44 (Wilt Hegele Section); estimated cost, \$35,475, involving:

- 3994 cu. yds. class E excav.;
- 149 cu. yds. struc. excav.;
- 8134 sta. yds. overhaul;
- 2900 sq. yds. 7.5-in. m. conc. pave.;
- 8740 ft. finish shoulders;
- 180 ft. of No. 3 pave. headers in place;
- 38 ft. No. 4 do;
- 2808 lbs. type 2 design 3, pave. reinf.;
- 7 cu. yds. class C conc.;
- 100 ft. type 4 stand. guard rail;
- reinf. 215 ft. 12-in. pipe; 73 ft. 12-in. stand. plain conc. pipe; 379 ft. 18-in. stand. reinf. conc. pipe;
- 6 ft. 24-in. stand. reinf. conc. pipe;
- 6 ft. 24-in. do;
- 55 sq. yds. remove existing pave.

Plans obtainable from W. E. Berry, county engineer, on deposit of \$5.

REDWOOD CITY, San Mateo Co., Calif.—Proposition to vote bonds of \$750,000 to finance construction of highways in various sections of the county will be submitted to the voters at the May 3 primary election.

HUMBOLDT COUNTY, Cal.—Rocca & Caletti, P. O. Box 243, San Rafael, at \$23,278.25 awarded contract by the State Highway Commission to grade and surface with untreated crushed gravel or stone, 0.4 mile at the Benbow Bridge approaches. Complete list of bids published in issue of February 19.

LOS ANGELES, Cal.—Surveys for proposed highline road in San Gabriel canyon to re-locate the Canyon Highway made necessary by flooding of canyon by Pine Canyon Dam, have been completed by the U. S. Bureau of Public Roads. This road will be about 7.2 miles in length, and cost probably over \$1,000,000. The cost will be divided between the State, City of Pasadena, County Flood Control District, and the Bureau of Public Roads.

SAN DIEGO, Calif.—Yglesias Bros., 1810 S 32nd St., San Diego, at \$96,400 awarded contract by county super-

visors to improve 15 miles of the San Pasqual road, involving in the main 1,441,727 sq. ft. macadam pavement. Complete list of unit and total bids received on this project will be published shortly.

NORTHERN CALIFORNIA.—Until March 14, 2 P. M., bids will be received by F. W. Haselwood, District Engineer, Division of Highways, Redding, to apply Diesel oil to roadside vegetation over a distance of about 94 miles in the counties of Tehama, Siskiyou, Shasta and Lassen.

WASHINGTON STATE.—Until Mar. 22, 10 A. M., bids will be received by Samuel J. Humes, director of state highways, Olympia, for the following improvements:

- Clearing, grading, surfacing with crushed stone and draining 2.7 miles of State Road No. 1, Deming to Welcome Grange Hall (M. Baker branch) in Whatcom County, involving: 17.5 acres clearing;
- 157,730 cu. yds. excavation;
- 7,220 cu. yds. crushed stone;
- 10,160 lin. ft. cable guard rail;
- 2,189 lin. ft. pipe culverts, and other items.

Paving with Portland cement concrete 4.1 miles of State Road No. 2, Renton to Seattle, Federal Aid Project No. 142-H in King County.

Grading 1.8 miles of State Road No. 9, Maple Creek to Quilcene River in Jefferson County, involving: 31,500 cu. yds. of excavation and other items.

Constructing a bituminous surface approximately 2-in. thick on following sections of state highways: Section 1. State Road No. 3, Tenaway to Ellensburg, 20.2 miles in Kittitas County. Section 2. State Road No. 3, Wallula east 4.2 miles in Walla Walla County. Section 3. State Road No. 7, Vantage to Quincy, 12.9 miles in Grant County. Section 4. State Road No. 2, Blewett Pass south 4 miles in Kittitas County.

Certified check 5% payable to the State Treasurer required with bid. Plans obtainable from State Highway Department on deposit of \$2, returnable.

LOS ANGELES COUNTY, Cal.—As previously reported, until March 16, 2 P. M., bids will be received by State Highway Commission, Sacramento, to grade and asphalt concrete pave about 2.4 miles between Santa Ynez Canyon and Santa Monica, involving:

- (1) 129 sta. clear and grub right of way;
- (2) 180,000 cu. yds. rdwy. excavation without class;
- (3) 1,600,000 sta. yds. overhaul;
- (4) 4000 cu. yds. struc. excav.;
- (5) 43,000 sq. yds. subgr. for pave.;
- (6) 17,000 sq. yds. asph. plant binder;
- (7) 23,000 tons asph. concrete;
- (8) 520 cu. yds. Class A Port. cem. conc. (struc.);
- (9) 54,000 lbs. bar reinf. steel (struc.)
- (10) 8,200 lbs. misc. iron and steel (struc.);
- (11) 270 lin. ft. 18-in. reinf. conc. pipe;
- (12) 230 lin. ft. 24-in. do;
- (13) 50 lin. ft. 30-in. do;
- (14) 40 lin. ft. 36-in. do;
- (15) 1200 cu. yds. conc. removed from existing pave. and disposed of;
- (16) 2,800 bbls. fuel oil (shoulders);
- (17) 2,700 tons light riprap;
- (18) 192 lin. ft. solid timber guard rail;
- (19) 32 culvert markers;
- (20) 129 sta. finish roadway;
- (21) 45 monuments complete in place.

IMPERIAL COUNTY, Calif.—R. E. Hazard Contracting Co., 2548 Kettner Ave., San Diego, at \$33,687 awarded contract by State Highway Commission to construct about 10.1 miles of oil treated crushed gravel or stone borders between El Centro and Calico.

OREGON STATE.—Until March 3, 10 A. M., bids will be received by Roy A. Klein, state highway engineer, Multnomah County Courthouse, Portland, for highway work as follows:

Douglas County—Paradise Creek-Elkton Section of Umqua Highway. Grading project to be contracted in two units. West unit is 3.54 miles in length and requires approximately 170,000 cu. yds. of excavation. East unit is 4.18 miles in length and requires approximately 118,000 cu. yds. of excavation.

Lane County.—Doyle Hill-Nimrod Section of McKenzie Highway. Construction of 14.24 miles of broken stone surfacing and the furnishing of 13,600 cu. yds. of broken stone in stock pile. Requires total of approximately 54,000 cu. yds. of broken stone.

Plans obtainable on deposit of \$5, returnable, from the office of the state highway engineer at Salem and on file in offices of the Associated General Contractors of America at Portland, Ore., and Spokane, Wash.

SAN BERNARDINO COUNTY, Cal.—Square Oil Co., 916 Adobe St., Los Angeles, at \$1,023.78 (\$1.13 per bbl.) awarded contract by State Highway Commission to oil 2.2 miles of highway through Upland, with heavy fuel oil. Complete bids published in issue of February 13.

REDWOOD CITY, San Mateo Co., Cal.—An election will be held in San Mateo County May 3 (primary election), to vote on a \$750,000 bond issue to finance construction of highways throughout the county.

CENTRAL CALIFORNIA.—Lee J. Immel, 1031 Evelyn Ave., Berkeley, at \$2,499.84 submitted low bid to District Engineer, State Highway Commission, to apply Diesel oil to roadside vegetation over a distance of about 148 roadside miles in the counties of Stanislaus, San Joaquin, Sacramento, Amador and Calaveras, involving 1260 bbls. diesel oil.

Complete bids follow:

| | Unit | Total |
|---|-------|------------|
| L. J. Immel, Berkeley..... | 1,984 | \$2,499.84 |
| C. W. Wood, Stockton..... | 210 | 2,646.00 |
| C. V. Freeman, San Mateo..... | 228 | 2,872.80 |
| Dee Strong..... | 2,625 | 3,307.50 |
| Rotary Oil Burner Co..... | 2,69 | 3,389.40 |
| Basalt Rock Co., Napa..... | 2.70 | 3,402.00 |
| Tiffany-McReynolds-Tiffany, San Jose..... | 3.04 | 3,890.40 |
| E. F. Hilliard, Sacto..... | 3.57 | 4,498.20 |
| Oilfields Trucking Co., Taft..... | 3.58 | 4,510.00 |

NEW MEXICO STATE.—McClure & Denison, Tucuman, N. M., submitted low bid to W. R. Eccles, State Highway Engineer, Santa Fe, N. M., at \$98,585.88 for highway construction in P. L. H. P. No. 3-A and P. A. P. 14-B. Reo. The combined length of these projects is 5.861 miles. The proposed work involves grading, construction of drainage structures and crushed base course surfacing 22 ft. by 6 in.

SISKIYOU COUNTY, Calif.—Milton A. Purdy, 15 Spear St., San Francisco, at \$14,437 awarded contract by State Highway Commission to grade and surface with untreated crushed gravel

or stone, 0.4 mile near Beaver Creek, about 3 1/2 miles west of Gottsville.

GILROY, Santa Clara Co., Calif.—Until March 14, 11 A. M., bids will be received by Henry A. Pfister, county clerk, to macadamize New Avenue near Gilroy between Leavessley Road and Rucker Avenue, approximately 2 1/2 miles, involving:

- (1) 240,000 sq. ft. oil macadam.

SIERRA MADRE, Los Angeles Co., Calif.—City council declares intention (568) to improve Central Avenue bet. Baldwin Ave. to east city limits and intersecting streets of Mountain Trail Ave., Sierra Place Ave., etc., by grading and paving with 1 1/2-in. oil macadam and constructing curbs, gutters, culverts; 1911 act. Hearing, Mar. 9. Elmer A. Green, city clerk.

CENTRAL CALIFORNIA.—Oilfield Trucking Co., Taft, at \$2,028.60 submitted low bid to District Engineer, Sacramento, to apply Diesel oil to roadside vegetation over a distance of about 180 roadside miles in the counties of Amador, Calaveras, Tuolumne and Stanislaus. Complete bids follow: Oilfield Trucking Co., Taft, (1) \$1.96 (2) \$1.96; total, \$2,028.60. Dee Strong, Rio Vista, \$2.20; \$2.20; \$2,277.00. C. W. Wood, Stockton, \$2.75; \$2.75; \$2,846.25.

Tiffany-McReynolds & Tiffany, San Jose, \$2.94; \$2.94; \$3,042.90. Basalt Rock Co., Inc., Napa, \$2.84; \$2.75; \$3,189.65. Lee J. Immel, Berkeley, \$3.36; \$2.90; \$3,351.10.

SAN FRANCISCO.—Until March 9, bids will be received by S. J. Hester, secretary, Department of Public Wks., to improve roadway around Palace of Fine Arts, from Marina Boulevard to the Bay; estimated cost \$13,000. Project involves:

- (1) 75,000 sq. ft. asphalt conc. pave., 10-in. macadam;
- (2) 300 sq. ft. asphalt conc. pave., 6-in. concrete base;
- (3) 11,000 sq. ft. conc. sidewalks;
- (4) 1,170 sq. ft. 4-in. macadam sidewalk;
- (5) 1,900 ft. unarmored conc. curb;
- (6) 60 ft. concrete curb;
- (7) 160 ft. redwood curb;
- (8) 20 ft. 8-in. V.C.P. sewer;
- (9) 30 ft. 10-in. do;
- (10) 50 ft. 10-in. do;
- (11) 1 brick catchbasin;
- (12) 2 ' do (to be reset);
- (13) 7 concrete catchbasins;
- (14) 4 concrete manholes;
- (15) 1,300 ft. redwood headers.

To expedite the work the contract must be signed one day after award of contract and the work started one day after signing of such contract.

Plans obtainable from City Engineer Office, 3rd floor, City Hall.

TUOLUMNE & MARIPOSA COUNTIES, Cal.—Until March 8, 2 P. M., bids will be received by R. E. Pierce, District Engineer, Room 502, State Office Bldg., Sacramento, for treating with oil as a dust palliative approximately 28.2 miles of highway in Tuolumne and Mariposa counties, between Mountain Pass and Yosemite National Park, District X, Routes 40 and 18, Sections A, B, C, D, E, and F. Specifications obtainable from above. Certified check 10%.

- Work involves:
- (1) 163 tons asphalt oil in place, Location A;
 - (2) 2100 bbls. fuel oil in place, Location B;
 - (3) 43 tons asphalt oil in place, Location B.

CARMEL, Monterey Co., Cal.—Preliminary plans ordered by city council to improve residential streets in Carmel, consisting of surfacing to a width of 16-22- and 8-ft., and installing drainage, 4-ft. gutters, etc. Estimated cost, \$250,000.

SALINAS, Monterey Co., Cal.—Until March 7, 7:30 P. M., bids will be received by M. R. Keef, city clerk, (98) to improve portions of Iverson St., involving:

- (1) 15,875 sq. ft. grading;
- (2) 603 lin. ft. curb;
- (3) 2575 sq. ft. 3 1/2-in. sidewalk;
- (4) 12,255 sq. ft. 5-in. conc. grading.

Certified check 10% payable to city required with bid. Howard Cozzens is city engineer.

SISKIYOU COUNTY, Cal.—Milton A. Purdy, 15 Spear St., San Francisco, at \$14,437 submitted low bid to State Highway Commission to grade and surface with untreated crushed gravel or stone, 0.4 mi. near Beaver Creek, about 3 1/2 miles west of Gottsville.

See complete list of unit and total bids received on this project on page five of this issue:

SEATTLE, Wash.—Northwest Construction Co., 1308 23rd St., Seattle, at \$149,003.05 awarded contract by King County Commissioners to pave extension of seven miles of First Ave. south to Des Moines, involving in the main:

- 79,231 sq. yds. 28-day concrete;
- 4,123 sq. yds. 28-day concrete for gaps over fills that may not be laid until fall but which will be included in this contract;
- 27,481 cu. yds. excavation;
- 67,000 cu. sta. yds. overhaul.

Complete list of bids follows:
 *Mocer Bros., Seattle.....\$148,064
 Northwest Const. Co..... 149,003
 S. A. Mocer, Inc., Seattle..... 156,234
 Joe Paduano, Seattle..... 165,165
 *Bids based on cash payments instead of bonds.

OREGON STATE.—Plans have been completed by the State Highway Commission, Roy A. Klein, state highway engineer, and bids will be asked in the immediate future on the following projects:

Catsop county: Grade and surfacing 2.5 miles on Vester section of secondary highway No. 102.

Lake and Harney counties: Grading and surfacing a section between Valley Falls and Okerman ranch on Lakeview-Burns highway, involving 25,000 cu. yds. of crushed gravel or stone.

Umatilla county: Grading from Sand station to the Washington state line a section of the Columbia River highway, in two units. The west unit is 4.2 miles, requiring a total of 259,000 cu. yds. of excavation.

CAPITAL CITY TITLE COMPANY

▼

J. C. PALEN,
Manager

▼

914 Seventh Street
San Francisco :: California

BUILDING NEWS

APARTMENTS

Preparing Plans.
APARTMENTS Cost, \$150,000
SAN FRANCISCO. E Mason St., bet. Sutter and Bush Sts.
 Six-story and basement steel frame reinforced concrete apartments (50 2- and 3-room apts.); tile and composition roof, steam heat, colored tile baths, hardwood floors, electric refrigeration, etc.
 Owner—James Welch.
 Architect—H. C. Baumann, 251 Kearny St., San Francisco.

Plans Being Figured.
APARTMENTS Cost, \$30,000
SAN MATEO, San Mateo Co., Cal.
 Two-story and basement frame and stucco apartments (12 2- and 3-room apts.); tile roof, steam heating system, hardwood floors and trim, colored tile baths and kitchens, electric refrigeration).
 Owner—E. L. Pine.
 Architect—Edwards & Schary, 550 Montgomery St., San Francisco.

Plans Being Figured.
APARTMENTS Cost, \$—
LOS ANGELES, Los Angeles Co., Cal.
 Marathon St. near Western Ave.
 Five-story and basement brick and steel apartments.
 Owner—Robert H. Orr.
 Architect—Robert H. Orr, Corporation Bldg., Los Angeles.
 Bids are being taken separately on general work, plumbing, heating, refrigeration, sprinkler system and electric work.

Preparing Preliminary Sketches.
APARTMENTS Cost, \$30,000
SAN FRANCISCO. NE Vermont and Twenty-fourth Sts.
 Three-story and basement frame and stucco apartments and store (10 2-room apts., 1 store); composition and tile roof, steam heat, colored tile baths and kitchens, electric refrigeration, etc.
 Owner—Withheld.
 Architect—Irvine & Ebbets, Call Bldg., and 587 35th Ave., San Francisco.
 Contractor—Selected (Withheld).

CHURCHES

Contract Awarded.
CHURCH Cost, \$40,000
LAS VEGAS, Nev. Ninth and Clark Streets.
 Frame and stucco church (to seat 350) shake or shingle roof, heating and ventilating system, dumbwaiters, etc.
 Owner—Church of the Latter Day Saints.
 Architect—Ashton & Evers, Salt Lake City.
 Contractor—Ashton Imp. Co., Salt Lake City.

FACTORIES AND WAREHOUSES

Plans Being Prepared.
SLAUGHTER HOUSE \$20,000-\$30,000
CHICO, Butte Co., Cal. Humboldt Rd.
 Modern slaughter house (replacing the present structure).
 Owner—Chico Meat Co., Humboldt Rd. Chico.
 Private plans.
 The Chico Meat Co. is operated by G. R. and Wm. Snow.

Contract Awarded.
PACKING SHED Cost, \$14,000
HAYWARD, Alameda Co., Cal.
 One-story wood frame packing shed (concrete foundations).
 Owner—Southern Pacific R. R. Co., 65 Market St., San Francisco.
 Architect—Eng. Dept. of Owner.
 Contractor—George J. Maurer, 50 York Drive, Oakland.

Contracts Awarded.
EXTENSION Cost, \$—
OAKLAND, Alameda Co., Cal. Outer Harbor.
 One-story steel frame and reinforced concrete extension to track and shed No. 2 (360x180-feet; 20-year guaranteed composition roof; steel rolling doors, etc.)
 Owner—City of Oakland (Port Commission), Grove St. Pier, Oakland.
 Plans by Eng. Dept. of Owner.

Steel Frame
 Moore Drydock Co., foot of Adeline St., Oakland.....\$12,700
General Work
 Harry Schuster Co., Ltd., 354 Hobart St., Oakland.....\$36,846

Contract Awarded.
CANNERY Cost, \$75,000
CHICO, Butte Co., Cal.
 Cannery group (concrete and steel construction, asbestos composition roof, steel sash); main building, (80x200 ft.); boiler house (30x40 ft.); warehouse (45x90 ft.); loading platform (30x80 ft.); 600 ft. of spur track.
 Owner—Western Canning Co., Ltd. (George Newman and Frenk Elden Chico, Directors).
 Architect—Eng. Dept. of George Schuster Co., Inc.
 Contractor—Harry Schuster Co., Ltd., 354 Hobart St., Oakland.

Plans Being Prepared.
LAUNDRY Cost, \$20,000
SAN FRANCISCO. N Rickard St. W San Bruno Ave.
 Two-story reinforced concrete and part structural steel laundry (100 x100 ft.); wood roof, concrete floors, steel trusses.
 Owner—California Laundry & Supply Co., 399 7th St., San Francisco.
 Engineer—S. S. Gorman, 465 California St., San Francisco.

Contract Awarded.
PACKING PLANT Cost, \$10,000
COLMA, San Mateo Co., Cal.

Steel and galvanized iron packing plant (concrete floors).
 Owner—Colma Vegetable Assn., 511 Davis Street, San Francisco, and Colma.
 Plans by L. N. Pollard, 232 Franklin St., Redwood City.
 Contractor—Chas. Hammer, 1524 Floribunda, Burlingame.

Contract Awarded.
WAREHOUSE, ETC. Cost, \$35,000
CONCORD, Contra Costa Co., Cal.
 Group of buildings (warehouse, garage, residences, etc.; corrugated iron and wood frame construction).
 Owner—Pacific Gas & Electric Co., 245 Market St., San Francisco.
 Plans by Eng. Dept. of Owner.
 Contractor—J. B. Petersen, 4021 Agua Vista Ave., Oakland.

GOVERNMENT WORK AND SUPPLIES

Plans Being Figured — Bids Close March 28.
FOUNDATIONS Cost, \$—
PHOENIX, Ariz.
 Foundations (only) in connection with future Post Office Building.
 Owner—United States Government.
 Plans by Supervising Architect, Treasury Dept., Washington, D. C.
 Plans obtainable from the Supervising Architect, Treasury Department, Washington, D. C.

Preliminary Plans Awaiting Approval.
POST OFFICE Cost, \$300,000
SAN JOSE, Santa Clara Co., Cal. First and St. John Streets.
 Class A Post Office.
 Owner—United States Government.
 Architect—Ralph Wyckoff, San Jose National Bank Bldg., San Jose.
 Plans have been forwarded to Washington for approval.

Contract Awarded.
WHARF, ETC. Cont. Price, \$109,900
OAHU, T. H. (West Loch).
 Construct concrete wharf, including railroad trestle, complete, in connection with Naval Ammunition Depot (Spec. No. 6714).
 Owner—United States Government.
 Plans by Bureau of Yards and Docks, Navy Dept., Washington, D. C.
 Contractor—Kalhi Contracting Co., Ltd., Honolulu, T. H.
 Newport Contracting & Engineering Co., Lee Hall, Va., original low bidders on this project at \$92,173 were permitted to withdraw their bid, claiming an error.

Contract Awarded.
POST OFFICE Cost, \$98,000
MONTE VISTA, Colorado.
 Fireproof Post Office.
 Owner—United States Government.
 Plans by Supervising Architect, Treasury Dept., Washington, D. C.
 Contractor—Busboon & Rauh, Salina Kansas.

Contract Awarded.
ADMIN. BLDG. Cont. price, \$71,840
PORTLAND, Ore. Veterans' Hospital.
 Three-story reinforced concrete administration building (130x60-ft.).
 Owner—United States Government.
 Plans by Construction Division, U. S. Veterans' Bureau, Washington, D. C.
 Contractor—Dougan-Hammond Const. Co., Studio Bldg., Portland.

**SUB-CONTRACTORS
 MATERIALMEN**

Stop Your Losses

Credit information on general contractors, owners, builders and individuals.

**MATERIALMEN'S
 CREDIT BUREAU**

J. E. Higgins, General Manager

564 Market St.—KEARNEY 6245-46
 Night Phone DOUGLAS 5304
 San Francisco

Plans Being Completed.

POST OFFICE Cost, \$150,000
 MARYSVILLE, Yuba Co., Cal. NE
 Fourth and C Sts. (160x160 ft.)
 One-story and basement Class A steel
 concrete and brick post office.
 Owner—United States Government.
 Architect—J. J. Donovan, 1916 Broad-
 way, Oakland.
 Structural Engineer—Frank A. John-
 son, 1916 Broadway, Oakland.
 Mechanical Engineer—Atkins and
 Parker, Hohart Bldg., S. F.
 Plans will be completed in about
 six weeks.

Commissioned To Prepare Plans.

POST OFFICE Cost, \$125,000
 PORTERVILLE, Tulare Co., Cal.
 Fireproof post office building.
 Owner—United States Government.
 Architect—H. Rafael Lake, Pacific
 Southwest Bldg., Fresno.
 Architect Lake has just been com-
 missioned to prepare plans for this
 structure for which an appropriation
 of \$125,000 is available. Preliminary
 plans will be started at once.

SACRAMENTO, Cal.—Until March
 9, 3 P. M., under Order No. 4274/1931
 bids will be received by U. S. Engi-
 neer Office, California Fruit Bldg.,
 Sacramento, to furnish wire rope as
 follows:

(1) 1000 ft. wire rope, $\frac{3}{4}$ " diameter,
 6x19, improved plow steel, modified
 Seales construction, minimum break-
 ing strength 46,000 pounds. Shall be
 furnished in one piece wound on one
 reel.

(2) 6000 ft. wire rope, $\frac{7}{8}$ " diameter,
 6x19, plow steel, Seales construction,
 preformed, Tru-Lay brand or equal,
 minimum breaking strength 53,000
 pounds. Shall be furnished in six
 pieces each 1000 ft. long wound on
 separate reels.

Bids Wanted—To Close March 22.
 ADMINISTRATION BLDG. Cost, —
 ROSEBURG, Oregon.

Veterans' Administration Home.
 Owner—United States Government.
 Plans by Constr. Division, U. S. Vet-
 erans' Bureau, Washington, D. C.

SAN DIEGO-MARE ISLAND, Cal.—
 R. W. Kaltenbach Corp., Bedford,
 Oregon, at \$156,200 awarded contract
 by Bureau of Yards and Docks for two
 25-ton floating revolving boom
 cranes for destroyer base at Mare
 Island and San Diego.

CANAL ZONE.—Two low bids to
 furnish and deliver 100,000 barrels of
 Portland cement for the Panama Can-
 al, submitted to the Purchasing
 Agent, Canal Zone, Washington, D. C.,
 follow:

Alpha Portland Cement Co., Easton,
 Pa., \$187,000.
 Lehigh Portland Cement Co., Allen-
 town, Pa., \$187,000.

WASHINGTON, D. C.—Bids are be-
 ing received by the Bureau of Supplies
 and Accounts, Navy Dept., Washing-
 ton, D. C., to furnish materials and
 equipment to Pacific Coast navy yards
 and stations, further information on
 the schedules listed being obtainable
 from the Navy Purchasing Officer, 100
 Harrison St., San Francisco.

Bids Close March 8

Western yards, mineral oil (kero-
 sene); sch. 7460.
 San Diego, 6 metal propeller hubs;
 sch. 7486.

Mare Island, and Puget Sound, oil
 separator units complete and spares;
 sch. 7488.

Mare Island, 48,000 lbs. flat galv.
 steel; sch. 7512.

Mare Island, 50,000 lbs. sheet lead;
 sch. 7511.

Mare Island, 1 metal bone and fish
 cutting machine, electrically operated;
 sch. 7509.

San Francisco, one electrically oper-
 ated dough mixing machine; sch. 7508.

Mare Island, 3,600 ft. welded steel
 pipe; sch. 7490.

Western yards, rubber packing and
 gasket; sch. 7472.

Western yards, approx. 17,000 dry
 batteries and 115,000 flashlight bat-
 teries; sch. 7461.

Western yards, hinges; sch. 7521.

Bids Close March 15
 Mare Island, one motor-driven uni-
 versal cutter and tool grinder; sch.
 7533.

San Diego, 11,000 lbs. sweeping com-
 pound; Mare Island, 14,000 lbs. do; sch.
 7529.

Western yards, bolts, cupboard and
 screen-door catches, screw eyes, hasps
 hasps and staples, door hooks, coat
 hooks, snap bolts, etc.; sch. 7523.

Mare Island, 1 valve refacing ma-
 chine; sch. 7531.

Mare Island, 1 motor-driven metal
 cutting bandsaw machine; sch. 7536.

Mare Island, 1 electrical test bench;
 sch. 7532.

Mare Island, 84 crucibles; sch. 7538.
 Mare Island, one motor-driven floor
 type drill machine; sch. 7535.

PANAMA CANAL ZONE.—Until
 March 7, 10:30 A. M., under Schedule
 No. 2733, bids will be received by Pur-
 chasing Officer, Panama Canal, Wash-
 ington, D. C., to furnish and deliver
 hoisting and counterweight equip-
 ment for two ferry approaches, to be de-
 livered Balboa (Pacific Port). Spec-
 ifications obtainable from the Assistant
 Purchasing Agent, Fort Mason, San
 Francisco.

Contract Awarded.
 POSTOFFICE Cont. price, \$97,356
 BEND, Oregon.
 Class A postoffice.

Owner—United States Government.
 Plans by Supervising Architect, Treas-
 ury Dept., Washington, D. C.

Contractor—Charles Weitz Sons, 713
 Mulberry St., Des Moines, Iowa.

MOUNTAIN VIEW, Santa Clara Co.
 Cal.—A. O. Smith Corp., Milwaukee,
 Wis., awarded contract by Bureau of
 Supplies and Accounts, Navy Depart-
 ment, Washington, D. C., under Sched-
 ule No. 7334 to furnish 85 helium
 storage tanks, 80 ft. long and 2 ft. out-
 side diameter for 750-lb. per sq. in. in
 gauge working pressure.

SKILSAW Portable Electric Hand

Saws (four models).

SKILSAW Portable Electric

Sander.

SKILSAW Radial Arm Attach-

ments.

SYNTRON Portable Electric Ham-

mers (four models, motor-
 less).

MALL Flexible Shaft Machines

(50 models).

Electric Drills, Grinders, Buffers,

Routers, Lock Mortisers.

Peter H. Nelson

Labor Saving Portable
 Electric Tools

1246 Mission St., San Francisco

Underhill 7662

SALES : SERVICE : RENTALS

SUNNYVALE, Santa Clara Co., Cal.

Until April 6, 11 A. M., under Spec.
 No. 6761, bids will be received by the
 Bureau of Yards and Docks, Navy De-
 partment, Washington, D. C., for
 equipment, high and medium pressure
 air and helium piping and accessories
 for repurification of helium at the
 Naval Air Station, Sunnyvale. Spec-
 ifications obtainable from the Bureau
 at Washington or from the Command-
 ant of the Twelfth Naval District, 100
 Harrison St., San Francisco, on de-
 posit of \$10, returnable, checks for
 same to be made payable to the Chief
 of the Bureau of Yards and Docks.

Contract Awarded.

Complete Eid Listing.
 POST OFFICE \$450,000 Available
 FAIRBANKS, Alaska.

Fireproof post office, courthouse, jail
 etc.

Owner—United States Government.
 Plans by Supervising Architect, Treas-
 ury Dept., Washington, D. C.

Following is a complete list of bids
 received. Three low bids reported
 February 19:

Wm. MacDonald Constr. Co., St. Louis,
 Item 1, \$333,000; item 2, \$446,000.

N. P. Severin Co., Chicago, (1) \$422,-
 000; (2) \$474,000.

Largura Constr. Co., Inc., Gary, Ind.,
 (1) \$430,900; (2) \$529,000.

Chas. Weitz Sons, Inc., Des Moines,
 (2) \$125,000; (2) \$512,000.

Henrikson-Alstrom Constr. Co., Seat-
 tle (1) \$458,000; (2) \$530,500.

Lovering-Loughtohan Co., St. Paul,
 (1) \$460,000; (2) \$524,000.

Western Constr. Co., Seattle (1)
 \$469,800; (2) \$528,100.

Johnson Bros., Inc., Seattle, (1) \$475,-
 750; (2) \$557,202.

Schuler & McDonald, Oakland (1)
 \$489,000; \$539,000.

Warrack Constr. Co., Seattle, (1)
 \$490,000; (2) \$570,000.

A. W. Quist, Seattle, \$509,000; (2)
 \$580,000.

R. H. Stock, Seattle, (1) \$636,500.

Bids Opened (Three Low Bidders).
 HOSPITAL ADDITION Cost, \$—
 SHERIDAN, Wyoming.

Addition to Building No. 9 and con-
 struction of new Attendants' Quar-
 ters including roads, walks and
 drainage at U. S. Veterans' Hos-
 pital.

Owner—United States Government.
 Plans by Construction Division, U. S.
 Veterans' Bureau, Arlington Bldg.,
 Washington, D. C.

Three Low Bidders

Frank B. Anderson, 2963 Walnut St.
 Denver, Colo., (1) \$133,750; (1-a) \$84,-
 650.

Carl C. Madson Const. Co., Denver,
 Colo., (1) \$13,157; (1-a) \$82,120.

MacDonald Eng. Co., Chicago, (1)
 \$135,000; (1-a) \$75,000.

MARE ISLAND, Cal.—Until March
 16, 11 A. M., bids will be received by
 A. L. Parsons, Chief of the Bureau of
 Yards and Docks, Navy Yard, Mare
 Island, for improvements of fire pro-
 tection systems at the Naval Direc-
 tion Finder Stations Point Reyes,
 Point St. George and Point Montara,
 Calif. Work involves furnishing and
 installing pumps, pump houses, piping,
 fire hose cabinets, etc. Specification
 No. 6225. Plans and specifications ob-
 tainable from Commandant, Navy
 Yard, Mare Island, upon deposit of
 \$5.00.

SUNNYVALE, Santa Clara Co., Cal.—Until April 6, 11 A. M., under Spec. No. 6707, bids will be received by the Bureau of Yards and Docks, Navy Department, Washington, D. C., for boiler plant equipment for the Naval Air Station at Sunnyvale, involving portable firebox boilers; gas burners; smoke breaching; reciprocating boiler feed pumps; deaerating feed water heater; motor-driven, vertical shaft hot well and drainage pumps; cooling tower; water softening equipment; motor-driven, centrifugal fire pumps; gasoline-engine-driven, A. C. generator; travel bridge crane and all piping systems, switchboard, electrical apparatus and wiring required for equipment; also outside systems for steam, natural gas and low pressure helium distribution. Specifications obtainable from the Bureau or from the Commandant of the Twelfth Naval District, 100 Harrison St., San Francisco, on deposit of \$20, returnable, checks for same to be made payable to the Chief of the Bureau of Yards and Docks.

Plans Completed.
INSTITUTE BLDG. Cost, \$400,000
SAN FRANCISCO. Potrero Ave. and 21st Street.

Six-story and basement Class A cancer institute building.
Owner—City and County of San Francisco.
Architect—Alfred I. Coffey and Martin J. Rist, associated, Phelan Bldg. Structural Engineer—H. J. Brunner, Sharon Bldg.

Steel frame, brick exterior, tile and hollow metal partitions.
Plans will be submitted for approval on February 23.

Preliminary Plans Approved.
POST OFFICE Cost, \$150,000
VALLEJO, Solano Co., Cal. Main and Carolina Streets.
Class A Post Office.
Owner—United States Government.
Architect—Charles Dean, California State Life Bldg., Sacramento.
Working drawings will be started immediately.

SUNNYVALE, Santa Clara Co., Cal.—Robert E. McKee, 108 W 6th St., Los Angeles, at \$64,400 awarded contract by Bureau of Yards and Docks, Navy Department, to erect helium plant and boiler plant structures in connection with the Sunnyvale Dirigible Base, under Spec. No. 6706.

SAN FRANCISCO.—Until March 8, 10 A. M., under Circular No. 928-32-182, bids will be received by the Quartermaster Supply Officer, General Depot, Fort Mason, to furnish (a) f.o.b. Transport Dock, Brooklyn, N. Y., or (b) f.o.b. Transport Dock, San Francisco, 1 lubricating oil pump, oil cooler, circulating propeller type, size 6-in. Capacity 1,000-g.p.m., at 20-foot head. Steam turbine driven apparatus 10-hp. Specifications obtainable from above.

LAS VEGAS, Nevada.—P. K. Heath, assistant secretary of the treasury, states that the contract of the Plains Const. Co., Pampa, Texas, for the erection of the U. S. postoffice in Las Vegas, has been terminated and the work is being readvertised. The contract was awarded to the Plains Construction Co. on July 31, 1931, at \$237,000. A portion of the work has been completed. The building will be a two-story and basement, masonry and steel structure, with terra cotta facing.

ELLENSBURG, Wash.—Until 10 A. M., March 30, bids will be received by the U. S. Bureau of Reclamation, Ellensburg, Wash., for the construction of the Wipuel Pumping Plant and appurtenant structures and Wipuel Pump Lateral. Work is located near Ellensburg, Wash., involving approximately: 3500 cu. yds. all classes of excavation; 1000 cu. yds. backfill; 50 sq. yds. dry rock paving; 660 cu. yds. concrete; 57,000 lbs. reinforcement bars, placing;
Erecting 23 M. ft. B.M. timber in flume
Erecting 1100 lin. ft. No. 103 metal flume;
Installing 7200 lb. gates, gate hoists and misc. metal work;
Installing doors, windows, structural steel, misc. metal work, built-up asphalt-saturated felt roofing, for pumping plant building;
Installing pumping machinery.

This invitation for bids does not cover purchase of materials which are to be furnished by the Government.

NORMAN, Okla.—Christy-Dolph Constr. Co., Dallas, Texas, has been awarded a contract at \$67,800 by the Treasury Department for the construction of the U. S. Post Office at Norman, Okla.

To Ask Bids Shortly.
IMMIGRATION STATION

Cost, \$105,000
SAN YSIDRO, San Diego Co., Cal.
Brick custom house and immigration station (tile roof, terra cotta ornamentation).

Owner—United States Government.
Plans by Supervising Architect, Washington, D. C.

Bids Opened—Two Low Bidders.
POST OFFICE Cost, \$—
MONTE VISTA, Colorado.
Fireproof Post Office.
Owner—United States Government.
Plans by Supervising Architect, Treasury Dept., Washington, D. C.

Two Low Bidders
Bushoon & Raul, Selena, Kansas, at \$98,000.
Wm. MacDonald Constr. Co., St. Louis, Mo., at \$101,439.

Complete Revised Plans.
ADDITION Cost, \$75,000
ALAMEDA, Alameda Co., Cal.
Alterations and addition to two-story Class C Post Office.

Owner—United States Government.
Architect—Plans by Supervising Architect, Washington, D. C.
All bids received December 4, 1931, were rejected. New bids will be asked shortly.

DENVER, Colo.—Contracts to furnish equipment for Grand Valley Power Plant, Grand Valley, Colorado, awarded by Bureau of Reclamation, Denver, as follows:

SCHEDULES 1 and 2 (Turbines, turbine governors and governor

pumps)—To Pelton Water Wheel Co., San Francisco, \$30,564.

SCHEDULE 3 (Generators and Exciters)—To Electric Machinery Mfg. Co., Minneapolis, Minn., \$30,100.

SCHEDULE 4 (Switchboard)—To Standard Mechanical Equipment, Dallas, Texas, \$9272.

Completing Plans.
POST OFFICE Cost, \$180,000
MERCED, Merced Co., Cal.
Two-story Class A steel and masonry post office (130x84 ft.); stucco terra cotta and stone exterior, tile roofing, steel and bronze windows and doors, marble and tile work, steam heat, hardwood trim, etc.

Owner—U. S. Government.
Architect—Allison & Allison, Edison Bldg., Los Angeles.
Bids will be asked shortly.

HALLS AND SOCIETY BUILDINGS

Plans Being Prepared.
MEMORIAL HALL Cost, \$30,000
SONORA, Tuolumne Co., Cal.
Memorial Hall.
Owner—County of Tuolumne.
Architect—G. Frederick Ashley, 325 Market St., San Francisco.

February 25, 1932
Preparing Working Drawings.
CLUB Cost, \$90,000
SACRAMENTO, Sacramento Co., Cal.
17th and L Streets.

Three-story reinforced concrete club (gymnasium, auditorium, dormitory, kitchen, etc.)
Owner—Y. W. C. A.
Architect—Charles Dean, California State Life Bldg., Sacramento.

Plans Being Figured—Bids Close April 5th, 10:30 A. M.
MEMORIAL BLDG. Cost, \$40,000
PLEASANTON, Alameda Co., Cal.
One-story Class C masonry veterans' memorial building (auditorium to seat 350; men's and women's club rooms; Spanish type; tile roof).

Owner—County of Alameda.
Architect—Henry H. Meyers, Kohl Bldg., San Francisco.
Deposit of \$50 required for plans.

HOSPITALS

Plans Being Completed.
COUNTY HOME Cost, \$180,000
GREAT FALLS, Montana.
Fireproof County Home.
Owner—County of Cascade.
Architect—C. G. Cottier, Great Falls.

Initial plans for this project provide for a building to accommodate 250 persons. Overall dimensions to be 344 by 200 feet, lounge room to measure 42 by 60 feet, dining room and smaller rooms in central section, 125 two-bed wards, 6 solariums, hospital rooms, etc. Wings were considered at each end of the structure for 18 twenty-rooms and baths.

Member Insurance Brokers' Exchange

FRED H. BOGGS
INSURANCE
490 GEARY STREET
Phone FRanklin 9400 San Francisco

Final Plans Awaiting Approval.
POST OFFICE Cost, \$450,000
RENO, Washoe Co., Nevada. (No. 21 Mill Street.
 Three-story Class A Post Office (stone exterior finish).
 Owner—United States Government.
 Architect—F. J. DeLongchamps, Gazette Bldg., Reno.
 Bids will be asked shortly.

Preparing Plans.
MORTUARY Cost, \$30,000
PORTLAND, Oregon.
 Brick mortuary, Italian Romanesque style; brick exterior, terra cotta trim and clay tile roof; chapel to seat 150.
 Owner—Wilson-Chambers, Inc., Portland.
 Architect—Richard Sundeleaf, Guaranty Bldg., Portland.

Plans Being Figured—Bids Close Mar. 16, 10 A. M.
HOSPITAL \$100,000 available
RENO, Nevada. East of the present County Hospital site.
 Class A concrete and brick hospital (Y-shape).
 Owner—County of Washoe, E. H. Beemer, county clerk.
 Architect—F. J. DeLongchamps, Gazette Bldg., Reno.

Contract for this structure was awarded last July to C. J. Dillard of Reno, the second low bidder. The award of contract was protested by K. E. Parker of San Francisco, the lowest bidder, who brought the matter into the courts.

Certified check 5% payable to the Board of Trustees of the Washoe County Public Hospital required with bid. Plans obtainable from Wm. McKnight, United Nevada Bank Building, Reno, on deposit of \$10, returnable.

Completing Preliminary Plans.
MEDICAL BLDG. Cost, \$600,000
SAN FRANCISCO. Second and Parnassus Aves.
 Six-story steel frame and concrete medical building.
 Owner—University of California.

Architect—Wm. C. Hays, Crocker 1st National Bank Bldg., S. F.
 Mechanical Engineer—Frank Walsh, % Architect, Crocker 1st National Bank Bldg., San Francisco.
 Working drawings will be started in about one week.

HOTELS

Preparing Plans.
HOTEL Cost, \$200,000
LOS ANGELES, Cal. Glendale Blvd.
 Twelve-story class A hotel (400 rooms)
 Owner—Temple Towers Apartment Hotel, Inc., 1100 Glendale Blvd., Los Angeles.
 Architect—Wm. H. Wheeler, 2151 Guy St., San Diego.

POWER PLANTS

LOS ANGELES, Cal.—General Cable Corp. awarded contract by city purchasing agent, Thomas Oughton, at \$23,900 for furnishing lead-covered cable under Spec. No. 237.

EL CENTRO, Imperial Co., Cal.—Joe E. King, District Manager of the Southern Sierras Power Co., has announced that the 1932 budget for the Imperial Valley District is \$160,000. These improvements include line extensions, installation of new equipment, rebuilding of local lines, and rebuilding of portions of high voltage

lines. Some of the items in this construction program, according to Mr. King, including the following 1932 line extensions in the valley, \$125,000; larger regulators at Brawley and Westmorland, \$4000; larger regulators at El Centro and Heber, \$4000; new transformer at Heber substation, \$3000 work on which started this week; rebuilding of Brawley local lines, \$4500; rehabilitating Holtville local lines, \$2500; rehabilitating local lines at Calexico, \$2500; rehabilitating of high voltage lines in the valley, \$5000; rehabilitating of high voltage lines to the valley, \$5000; special new equipment in El Centro, \$2000.

LOS ANGELES, Calif.—City council requested to authorize power bond issue in the sum of \$34,400,000 to be placed on the ballot May 3. Funds obtained will be used to construct a transmission system to handle the Boulder Project power, involving:

Transmission Lines—From Boulder Canyon to Los Angeles—\$17,500,000.
 Steam plant at the harbor—two 60,000-kw. units—\$11,240,000.

Necessary extensions and betterments to electrical system in Los Angeles—\$5,660,000.

PUBLIC BUILDINGS, FIRE HOUSES AND JAILS

Contracts Awarded.
ARMORY Cost, \$—
PASADENA, Los Angeles Co., Cal.
 One-story and mezzanine floor reinforced concrete armory.
 Owner—State of California.
 Architect—Bennett & Haskell, First Trust Bldg., Pasadena.

General Work
 Edwin G. Bowen Co., 3650 Beverly Blvd., Los Angeles, at \$32,050.

Plumbing and Heating
 Thomas Haverly Co., 8th and Maple Sts., Los Angeles, at \$3563.

Electric
 R. R. Jones Elec. Co., 1124 Fair Oaks Ave., Pasadena, at \$1799.

Bids Wanted—To Close March 15.
 P. M.

LIGHTING FIXTURES
 Total Cost, \$5,000,000
SAN FRANCISCO. Van Ness Ave., Franklin, McAllister and Grove.
 Lighting fixtures for Veterans' Building and Opera House.
 Owner—City and County of San Francisco (S. F. War Memorial).
 Architect—G. A. Lansburgh, 140 Montgomery St. and Arthur Brown Jr., 251 Kearny St., San Francisco.

Mgr. of Constr.—Lindgren & Swinerton, Inc., 225 Bush St., S. F.

SAN FRANCISCO—Elevator Supplies Co., Inc., 186 5th St., at \$58,412 awarded contract by Trustees of the San Francisco War Memorial to furnish and install orchestra lifts, stage bridges, drop storage elevators, and stage traps in connection with the War Memorial Project now under construction. As previously reported, F. E. Turner Co., 557 Market St., awarded contract for furnishing mechanical stage equipment, traveling winch, draperies, fire curtains, etc.

RESIDENCES

Completing Preliminary Plans.
RESIDENCE Cost, \$30,000
HONOLULU, T. H.
 One-story frame and stucco residence (12 rooms).

Owner—C. J. Henderson, Honolulu.
 Architect—W. W. Wurster, 260 California St., San Francisco.

Working drawings will be started shortly.

Completing Preliminary Plans.
RESIDENCE Cost, \$—
HONOLULU, T. H.
 One-story frame and stucco residence (12 rooms).

Owner—W. Thomas Balding, Honolulu
 Architect—W. W. Wurster, 260 California St., San Francisco.

Working drawings will be started shortly.

Plans Being Prepared.
RESIDENCE, Etc. Cost, \$75,000
SACRAMENTO, Sacramento Co., Cal.
 Ten-acre tract.

Two-story and basement brick and stucco residence (ten rooms, three baths) tile roof, steam heating system, concrete swimming pool, tile lining, 4-car garage, stables, servants' quarters, etc.

Owner—Floyd Hart, 2025 O St., Sacramento.

Architect—Jens C. Petersen, 826 26th St., Sacramento.

Contract Awarded.
RESIDENCE Cost, \$35,000
PIEDMONT, Alameda Co., Cal.
 Two-story and basement frame, stucco and brick veneer residence (English type).

Owner—J. J. Hollenbeck.
 Architect—Newsom Bros., Russ Bldg., San Francisco.

Contractor—F. C. Stolte, 3449 Laguna Ave., Oakland.
 Sub-bids are in and will be awarded shortly.

SCHOOLS

Contracts Awarded.
HIGH SCHOOL Cost, \$—
LOS ANGELES, Cal. 198th Street and Denker Avenue.
 Brick and concrete high school (16 classrooms).

Owner—Los Angeles City School Dist.
 Architect—Williams Richards, Architects' Bldg., Los Angeles.

Contractor—Easton & Nesser, 4822 E Jefferson Blvd., Los Angeles, \$32,993.

Plumbing—A. H. Gallop, 1613 W 82nd St., Los Angeles, \$9,548.

Heating and Ventilating—J. Herman Co., 3149 E Vernon Ave., Los Angeles, \$11,600.

Painting—L. Reitman, 2923 W 6th St., Los Angeles, \$4,174.

Electric Work—Hub Electric Co., 6513 Hollywood Blvd., Los Angeles, \$2,318.

To Ask Bids Feb. 19th—To Close Mar. 15th, 2 P. M.

TRAINING SCHOOL Cost, \$160,000
ARCATA, Humboldt Co., Calif. State Teachers' College.

Three-story reinforced concrete training school (assembly hall, stage, manual training room, dining room, cooking and sewing room, library, art and general science, gymnasium, kindergarten section, 11 classrooms, administration section, boiler room, etc.)
 Owner—State of California.

Architect—F. T. Georgeson, Sixth and C Streets, Eureka.

Construction Postponed.
DORMITORY Cost, \$100,000
OAKLAND, Alameda Co., Calif. Mills College Campus.

Two-story reinforced concrete dormitory (sixty rooms) tile roof, steam heating system.

Owner—Mills College.
 Architect—W. H. Ratcliff, Jr., Chamber of Commerce Bldg., Berkeley.
 Mgr. of Const.—John Brown, Mills College.

Construction is postponed for about three months.

Commissioned To Prepare Plans.
HIGH SCHOOL Cost, \$40,000
MERRILL, Oregon.

Part one- and two-story Collegiate Gothic type reinforced concrete high school.

Owner—Merrill High School District.
 Architect—Tourtelotte and Hummel, Postal Bldg., Portland.

Plans Being Completed.
JESUIT CENTER Cost, \$400,000
SHERIDAN, Oregon.

Three-story reinforced concrete and steel Administration Building in connection with Jesuit Center; frontage of 366 feet with three wings extending back 240 ft.

Owner—Catholic Jesuit Center.
 Architect—Dougan-Reverman, Inc., Kraemer Bldg., Portland.

There will be three floors containing classrooms, recreation rooms, administration offices and living accommodations for the students. Each student will have an individual room. The kitchen and refectory together with a large chapel will be situated in the central wing. The fourth floor will be devoted to the infirmary and isolation wards, which will be equipped with modern hospital conveniences. The building is to be equipped with automatic elevators and automatic dumbwaiters.

Bids Rejected—Plans Being Revised.
COLLEGE BLDGS. Cost, \$300,000
SAN FRANCISCO. Turk St. and Masonic Avenue.

Group of reinforced concrete college buildings (women's college); tile roof, steel sash, steam heating system, electric refrigeration, etc.
 Owner—Sisters of Sacred Heart.
 Architect—H. A. Minton, 525 Market St., San Francisco.

Engineer—L. H. Nishkian, 525 Market St., San Francisco.

All bids have been rejected, plans are being revised and new bids will be asked shortly.

Bids Wanted—To Close March 11.
ADDITIONS Cost, \$150,000
BEVERLY HILLS, Los Angeles Co., Cal. Olympic Blvd. and Spalding Drive.

Class B brick and concrete high school additions (tile roofing).

Owner—Los Angeles City School Dist.
 Architect—A. S. Nibecker, Jr., Los Angeles.

Final Plans Completed.
ADDITION Cost, \$30,000
RICHMOND, Contra Costa Co., Calif. 23rd and Tulare Streets.

Two-story Class C brick and frame addition to high school (12 rooms).

Owner—Richmond Union High School District.
 Architect—James T. Narbett, 474 31st St., Richmond.

Plans have been submitted to the Board of Directors and a special meeting will be called shortly to set a date to open bids.

Preparing Plans.
SCHOOL BLDGS. Cost, \$1,000,000
WESTWOOD, Los Angeles Co., Cal. 25 acre site.

Group of school buildings, amphitheatre and athletic field.

Owner—Harvard School For Boys, 1601 S. Western Ave., Los Angeles
 Architect—Webber & Spaulding and Gates Wilson Burrows, 627 S. Carondelet St., Los Angeles.

BANKS, STORES & OFFICES

Contract Awarded.
ALTERATIONS Cost, \$150,000
PORTLAND, Oregon. 123 Fifth St.

Alterations and additions to building (modernization of main entrance lobby, new elevators, elevator caps and fronts, etc.)

Owner—Yeon Building.
 Architect—DeYoun, Moscovitz and Rosenberg, 350 Salmon St., Portland.

Contractor—Dinwiddie Const. Co., Crocker Bldg., San Francisco.

Preparing Preliminary Plans.
TELEPHONE EXCHANGE Cost, \$—
MONTEREY MONTEREY CO., Calif. Franklin and Pierce Sts.

Two-story Class C concrete or brick telephone exchange.

Owner—Pacific Telephone & Telegraph Co., 140 New Montgomery St., San Francisco.

Plans by Eng. Dept. of Owner (E. V. Coby in charge).

Working drawings will be started in about thirty days.

THEATRES

Preparing Working Drawings.
THEATRE Cost, \$100,000
WOODLAND, Yolo Co., Cal. Main St. Reinforced concrete theatre (to seat 1,000) Stadium type.

Owner—National Theatre Syndicate (L. R. Cook, president) 25 Taylor St., San Francisco.

Architect—Bliss & Fairweather, Balboa Bldg., San Francisco.

Structural Engineer—T. Ronneberg, Crocker Bldg., San Francisco.

DAILY NEWS SERVICE

If you are interested in a daily construction news service featuring all types of building and engineering construction, send for free sample copies of Daily Pacific Builder. Subscription price, \$1.50 per month or \$15.00 per year when paid in advance.

Daily Pacific Builder features in each issue, timely reports on work contemplated, bids wanted, bids opened and contracts awarded for all types of building and engineering construction, machinery and equipment, Government work, supplies and equipment, business opportunities, etc.

Daily Pacific Builder is the only publication publishing listings of building permits, building contracts, mechanics liens, etc., in Northern and Central California.

Send for sample copies today or phone GARfield 8744.

Daily Pacific Builder
 545 Mission St.
 San Francisco, Calif.

WHARVES AND DOCKS

Bids Wanted—To Close March 7, 4:30 P. M.
SPRINKLER SYSTEM Cost, \$—
OAKLAND, Alameda Co., Cal. Outer Harbor.

Sprinkler system for extension to shed No. 2.

Owner—City of Oakland (Port Commission), Grove St. Pier, Oakland.
 Plans by Eng. Dept. of Owner.

Plans Being Completed.
WHARVES & DOCKS Cost, \$500,000
STOCKTON, San Joaquin Co., Calif. Waterfront.

Construction in connection with Stockton deep water project (wharves, concrete or timber piling, two steel sheds; 135x1000-ft. each).

Owner—City of Stockton (Col. B. C. Allin, Port Director).

Plans by Eng. Dept. of Owner.
 Plans will be completed in about 4 weeks.

MISCELLANEOUS CONSTRUCTION

Completing Plans.
OBSERVATORY ETC. Cost, \$600,000
LOS ANGELES, Los Angeles Co., Cal. Griffith Park.

Observatory and hall of science (reinforced concrete and steel frame construction, granite or terra cotta exterior facing.)

Owner—City of Los Angeles.
 Architect—John C. Austin and Fred-eric M. Ashley, Chamber of Commerce Bldg., Los Angeles.

MISCELLANEOUS SUPPLIES AND MATERIALS

BURLINGAME, San Mateo Co., Cal.—Until March 17, 3 P. M. bids will be received by John D. Bromfield, Clerk of the Board of Trustees of the San Mateo Union High School and Junior College District, to furnish fuel oil, commercial grade in accordance with Specifications for Bunker Fuel "C." Bureau of Mines, delivered in truck load lots during the period from April 1, 1932 to March 31, 1933.

LOS ANGELES, Cal.—Until 2 P. M., March 7, bids will be received by the county supervisors to supply 240 tons of used boiler tubing 2½-in. C. D., f.o.b. district's warehouse, 732 South Eastlake Ave., Los Angeles, involving: (1) 47.6 tons 2½-in. O. D. used boiler tubing, 17-ft. lengths; (2) 58.4 tons do 14-ft. lengths; (3) 45 tons do 12-ft. lengths; (4) 42 tons do 10-ft. lengths; (5) 7 tons do 1-ft. 4-in. lengths.

E. C. Eaton, County Flood Control Engineer, 202 N Broadway, Mame B. Beatty, 303 Hall of Records, clerk of the board.

SAN FRANCISCO.—General Cable Corp., 465 10th St., under Proposal No. 798, awarded contract by city purchasing agent, to furnish and deliver four miles of 3/0 round alloy trolley wire at \$17.65 per 100 lbs. with allowance of \$20 for reels.

MEMBERS OF THE ASSOCIATED GENERAL CONTRACTORS

PACIFIC COAST AND INTERMOUNTAIN TERRITORY

CALIFORNIA STATE BRANCH

1318 Pershing Square Bldg.—TRinity 9418—Los Angeles

O. C. STRUTHERS, President

E. L. KIER, Vice-President

GEORGE HERZ, Secretary

MELVILLE DOZIER, JR., Manager

SOUTHERN CALIFORNIA CHAPTER

1318 Pershing Square Bldg.—TRinity 9418
Los Angeles, Calif.

C. G. FitzGerald, President
LYNN S. ATKINSON, First Vice-President (Engineering Div.)
WM. A. SIMPSON, Second Vice-President (Building Div.)

The address of the firm is the same city in which is located the Chapter office unless otherwise shown in membership list.

Building Contractors

| | |
|----------------------------|--|
| Atkinson, J. F. | 1102 Story Bldg., VAndike 7783 |
| Baruch Corp., Herbert M. | 1015 Lincoln Bldg., TRinity 5473 |
| Bradley Constr. Co., K. R. | 1833 West Pico, WAshtington 2786 |
| Burgin, W. Jay | 1100 Redondo Ave., Long Beach, L. B. 8103 |
| Byerts & Dunn | 7908 Santa Monica Blvd., CRestview 9602 |
| Clinton Construction Co. | 1103 Spring Arcade Bldg., MADison 2597 |
| Crowell, Wm. C. | 495 S. Bdwy., PASadena, WAKefeld 6692 |
| Crowell Co., Weymouth | 1204 E. 15th St., WEstmore 5708 |
| DeCamp-Hudson Co., Ltd. | 1277 W. 24th St., WEstmore 3382 |
| Dixon, L. E. Co. | 609 So. Grand Ave., TRinity 4925 |
| Escherich Bros. | 234 W. 37th Place, ADAMS 6294 |
| Hall, J. F. | 531 Douglas Bldg., MUTual 6722 |
| Houghton & Anderson | 143 Rose St., MUTual 5430 |
| K. P. Lowell & Co., Ltd. | 606 Union Bank Bldg., VAndike 4072 |
| Macdonald & Driver | 311 Board of Trade Bldg., TUCKer 6467 |
| McKee, Robert E. | 1128 Central Bldg., TRinity 0291 |
| Miller, Geo. E. | 401 N. Canon Dr., B. H., OXFord 7404 |
| Simpson Construction Co. | 1007 Architects Bldg., MUTual 7261 |
| Snell, Fred C. | 339 N. Beverly Dr., Beverly Hills, OXFord 6409 |
| Willard-Brent Co. | 254 E. 27th St., RICHmond 2101 |

Bridges, Foundations

| | |
|---------------------------|--------------------------------------|
| Ledbetter Co., W. M. | Box 1264, Arcade St., CAPitol 13415 |
| Oberg Brothers | 707 San Fernando Bldg., ANGelus 8759 |
| Raymond Concrete Pile Co. | 1008 Washington Bldg., VAndike 6536 |

Highways, Paving, Grading

| | |
|-----------------------------|---|
| Basich Bros. | Torrance, GARDena 4466 |
| Bock, Geo. J. | 1007 S. Harvard, EMpire 7614 |
| Donovan & Sons, J. C. | 4031 Goodwin Ave., OLYmpic 0423 |
| Ferry, Peter L. | San Fernando Rd. and Bdwy., Glendale, OL 0164 |
| Fleming Construction Co. | Pomona |
| Griffith Company | L. A. Railway Bldg., WEstmore 9343 |
| Hall-Johnson Co. | P. O. Box 387, ALhambra, ELiot 1855 |
| Herz & Co., Geo. | 310 Platte Bldg., San Bernardino, S. B. 24142 |
| Heuser, Chas. U. | 316 Allen Ave., Glendale, DOuglas 3965 |
| Hudson, Chas. H. | 408 Rives-Strong Bldg., VAndike 3374 |
| Jahn & Bressi | 701 Lane Mortgage Bldg., TRinity 8674 |
| Lang Transportation Co. | 5501 Santa Fe Ave., JEFFerson 3104 |
| Lewis Construction Co. | 300 S. Juanita St., WAshtington 1407 |
| Packard & Tanner | 905 W. Latham St., PHoenix, ARiz. |
| Pearson & Dickerson | 4485 Cypress, RIVERSide, 1600 |
| Ross, M. S. | 4011 Goodwin Ave., CAPitol 7603 |
| Wells & Bressler | P. O. Box 596, Santa Ana, 227 |
| Willis, C. G., & Sons, Inc. | 2119 E. 25th St., LAFayette 9826 |

Pipe Lines, Water Works

| | |
|----------------------------|--|
| American Concrete Pipe Co. | P. O. Box 1428, Arcade Sta., JE. 4211 |
| Haverty Co., Thos. | 316 E. 8th St., VAndike 1171 |
| United Concrete Pipe Co. | Box 1, Station H. L. A., TWInoaks 9196 |

Subways, Conduits

| | |
|------------------------|-----------------------|
| Delta Construction Co. | P. O. Box 79, Compton |
|------------------------|-----------------------|

General Engineering

| | |
|--------------------------------|--|
| Atkinson, Lynn S. | 609 S. Grand, TRinity 7451 |
| Bartmus, Peter | Hollywood Riviera, Redondo, Redondo 6404 |
| Bent Bros., Inc. | 418 S. Pecan S., ANGelus 7510 |
| Campbell-Reichert Co. | 4000 Whiteside Ave., ANGelus 0598 |
| Cox, R. L. | 1100 Westminster, ALhambra 1699 |
| Emasco Conc. Cutting Corp. | 1517 Santa Fe Ave., VAndike 7168 |
| Fitz-Gerald Eng. & Constr. Co. | 216 Rowan Bldg., TRinity 5088 |
| Foley, D. A., Construc. Co. | 716 Grant Bldg., TUCKer 7814 |
| Kemper Const. Co., Ltd. | 3701 Overland, Los Angeles |
| Macco Construction Co. | Hynes, JEFFerson 1148 |
| Merritt-Chapman-Scott Corp. | P. O. Box 507, San Pedro, 2880 |
| Mittry Bros. Construction Co. | 722 Detwiler Bldg., VAndike 0210 |
| Morrison-Knudsen Co. | 411 West Fifth St., MUTual 7684 |
| Robinson-Roberts Co. | 706 Rives-Strong Bldg., TRinity 2889 |
| Spicer, C. A. | 818 Financial Center Bldg., TUCKer 9570 |
| Standard Dredging Co. | 325 Central Bldg., TRinity 3253 |
| Watson, R. A. | 1026 N. McCadden Pl., GRANite 4121 |

Affiliates

| | |
|------------------------------|--|
| Brashears & Co., G. | 501 Security Bldg., TRinity 5091 |
| Consolidated Rock Prod. Co. | 656 S. Los Angeles St., TRinity 0241 |
| Gilmore Oil Co. | 2423 E. 28th St., JEFFerson 1211 |
| Graham Brothers | 1215 W. 7th St., Long Beach, L. B. 65251 |
| Hartford Accident & Ind. Co. | 548 S. Spring St., MADison 1471 |
| L. A. Brick Co. | 1078 Mission Road, ANGelus 5684 |
| Sun Lumber Co. | Crescent Drive, Beverly Hills, OXFord 6191 |
| Union Oil Co. | Union Oil Bldg., TUCKer 7211 |

ALAMEDA COUNTY CHAPTER

354 Hobart St., Rm. 410—GLencourt 7400—Oakland, Calif.

S. G. Johnson, President
Geo. J. Maurer, Vice-President
H. J. Christensen, Treasurer
W. E. Hague, Manager

| | |
|----------------------------|--------------------------------------|
| Brennan, J. P. (B.) | 2820 Regent, Berkeley, BE. 0346 |
| Christensen, H. J. (B.) | 1924 Broadway, Oakland, LA. 7164 |
| DeVelbiss, C. Dudley (B.) | 369 Pine St., S. F., GA. 3225 |
| Dyer Construction (B.) | 337 17th St., Oakland, GL. 3203 |
| Furlong, Thos. H. L. (B.) | 460 Jerome Ave., Piedmont, HU. 0620 |
| Jacobs & Pattiani (BF) | 337 17th St., Oakland, GL. 3203 |
| Johnson, S. G. (B.) | 4652 Dolores Ave., Oakland, FR. 6650 |
| Keating, W. C. (B.) | 925 Forum Bldg., Sacramento |
| Lesure, E. T. (B.) | 87 Ross Circle, Oakland, OL. 0389 |
| Littlefield, R. W. (B.) | 337 17th St., Oakland, HI. 0994 |
| Lyons, W. E. (B.) | 354 Hobart St., Oakland, HO. 5325 |
| Maurer, George J. Co. (B.) | 50 York Drive, Oakland, HU. 3457 |
| Nordstrom, David H. (B.) | 354 Hobart St., Oakland, GL. 7400 |
| Pedgriff, James H. (B.) | 4106 Broadway, Oakland, HU. 1300 |
| Petersen, George (B.) | 1841 Bancroft, San Leandro, TR. 2043 |
| Petersen, James B. (B.) | 4021 Agua Vista, Oakland, FR. 9887 |
| Schultz, Herbert (B.) | 811 Mendocino, Berkeley, AS. 2360 |
| Sullivan & Sullivan (B.) | 2653 Best Ave., Oakland, AN. 4724 |
| Thornally, W. G. (B.) | 354 Hobart St., Oakland, GL. 8476 |
| Westlund, Fred J. (B.) | 354 Hobart St., Oakland, GL. 7400 |

Class of Construction: (B) Building; (H) Highway; (P) Public Works; (R) Railroad.

Associate Members

| | |
|-------------------------------------|---|
| Berkeley Building Materials Co. |Masonic and Brighton, BE. 2280 |
| Central Building Material Co. |915 Antonio, TR. 9326 |
| Contra Costa Building Materials Co. |800 Alman St., BE. 3462 |
| Cowell, Henry, Lime & Cement Co. |81 Franklin, HI. 3398 |
| Davis Co., Jas. A. |317 Fairmont, BE. 9360 |
| Lannom Bros. Mfg. Co. |5th and Magnolia, GL. 3663 |
| Makin & Kennedy, Inc. |101 Fourth St., HI. 0626 |
| Melrose Building Materials Co. |Tidewater Ave., FR. 5787 |
| Oakland Building Material Co. |3000 Broadway, HU. 6300 |
| Oakland Planning Mill Co. |2nd and Washington, LA. 5503 |
| Pacific Coast Aggregates, Inc. |Broadway and Water, HI. 0770 |
| San Francisco Building Material Co. |Harrison and Pearl, Alameda, AL. 0 |
| Sunset Lumber Co. |400 High St., AN. 1000 |
| Tilden Lumber Co. |Foot of University Ave., BE. 0697 |
| Transite Concrete Co. |401 Water St., TE. 0720 |

SAN DIEGO CHAPTER

Spreckels Theater Bldg.—Main 4289—San Diego, Calif.

George R. Daley, President M. A. Mathias, Manager
M. H. Golden, Vice-President

| | |
|--------------------------------|---|
| Carroll, B. C. |4396 Maryland St., Hillcrest 5274-M |
| Daley Construction (HP) |4430 Boundary St., Randolph 1136 |
| Dennis Constr. Co., V. R. (HP) |Box 183, Sta. A, Hillcrest 8293 |
| Ford, E. Paul (HP) |Box 201, E. San Diego, Randolph 5101 |
| Gowen, M. H. (B) |404 California Bank Bldg., Franklin 7983 |
| Grove, Cecil B. |4316 Island Ave., Franklin 7474 |
| Hazard Constr. Co., R. E. (HP) |2508 Kettner Blvd., Franklin 6315 |
| Jarboe Constr. Co. (B) |208 Spreckels Theatre Bldg., Franklin 3792 |
| Kier Const. Co., W. E. (B) |First National Bank Bldg., Main 2427 |
| Larsen, B. O. (B) |1340 E. St., Main 4252 |
| Miracle Constr. Co. (HP) |Box 601, E. San Diego, Main 2295 |
| Penick & Sons, T. B. (HP) |3075 L St., Main 4582 |

NORTHERN CALIFORNIA CHAPTER

206 Sansome St.—Garfield 7107—San Francisco, Calif.

C. W. Wood, President Geo. C. Pollock, Vice-President
Floyd O. Booe, Secretary-Manager

| | |
|-------------------------------------|---|
| Atkinson, Lynn S. (HPR) |1316-17 Edwards & Wiley Bldg., L. A., Tr. 7451 |
| Atkinson, Guy F., Co., Inc. (BHPR) |601 Russ Bldg., S. F., Sut. 3629 |
| Ball, N. M. (HP) |1889 Yosemite Rd., Berkeley, AS. 6722 |
| Basalt Rock Co., Inc. (HP) |900 8th St., Napa, Napa 105 |
| Bechtel Co., W. A. (BHPR) |155 Sansome St., S. F., CA. 0780 |
| Bevanda, M. J. (HP) |319 Elks Bldg., Stockton 7470 |
| Bishop, E. B. (HP) |900 Forum Bldg., Sacramento, Capitol 2500 |
| Bodenhamer Const. Co. |Box 643, 354 Hobart St., Oakland |
| Calif. Const. Co. (BHPR) |715 Standard Oil Bldg., S. F., DO. 4820 |
| Casson, Jack A. (HP) |Hayward, Calif., Hayward 856 |
| Clark & Henry Const. Co. (HP) |564 Market St., S. F., DO. 2903 |
| Colley, W. C. (HP) |35 Northampton Ave., Berkeley, Ashbury 1323 |
| Conner, J. L. (HP) |P. O. Box No. 86, Monterey 1137-M |
| Connelly, T. E. (BHPR) |461 Market St., S. F., Kearny 6408 |
| Conyes, R. A. (HPR) |1043 38th St., Oakland, Olym. 9391 |
| Currie, James (HP) |100 Peninsula Ave., Burlingame, Burl. 3497 |
| Delin, C. M. (HPR) |206 Sansome St., San Francisco, Gar. 7107 |
| Dodge Bros., Inc. (HP) |Fallon, Nevada, Main 1761 |
| Drum, A. D., Jr. (HP) |Fallon, Nevada, Main 1348 |
| Eaton & Smith (HPR) |715 Ocean Ave., San Francisco, DE. 6700 |
| Fairbanks, A. J. & J. Inc. (HPR) |Linden Ave., So. S. F., 436 |
| Fay Improvement Co., The |Phelan Bldg., S. F., KE. 4044 |
| Fitzmaurice, J. H. (HP) |2857 Hannah St., Oakland, Higate 2490 |
| Force Construction Co. (HP) |70 Bellevue, Piedmont, Calif. |
| Frederickson Bros. (BHP) |First Natl. Bank Bldg., Stockton, 5974 |
| Frederickson & Watson Const. (BHPR) |873 81st Ave., Oakland, SW. 1264 |
| French, George J., Jr. (HP) |P. O. Box No. 675, Stockton, 6676 |
| Gerwick, Ben C., Inc. (HP) |112 Market St., S. F., SU. 8454 |
| Granite Construction Co. (BHPR) |Watsonville, California, 988 |
| Hanrahan Co. (HP) |Hobart Bldg., San Francisco, CA. 1639 |
| Harney, Charles L. (HP) |74 New Montgomery St., S. F., CA. 1711 |

| | |
|---------------------------------------|---|
| Heafey-Moore Co. (HP) |344 High St., Oakland, AN. 0466 |
| Hemstreet & Bell (HP) |411 7th Street, Marysville, 133 |
| Hodgman & MacVicar (HP) |714 Plymouth, Pasadena, Ter. 1503 |
| Holland, J. P., Inc. (HPR) |1834 McKinnon Ave., S. F., MI. 5400 |
| Label Const. Co. (HP) |Carson City, Nev., Ph. 1754 (Also Fresno) |
| Jenkins, F. T. (HP) |3500 Y St., Sacramento Capital 472 |
| Jones & King (HPR) |Hwy. 40, Hamilton City, HI. 0811 |
| Kaiser Paving Co. (BHPR) |Latham Square Bldg., Oak., HI. 2614 |
| Knapp, J. F. (HPR) |916 Financial Center Bldg., Oak., GL. 1620 |
| Larsen Bros. (HP) |Fresno, Nevada, Phone 1717 |
| Lee, U. B. (HP) |10059 Carpenter Street, Galt, Calif. |
| Le Tourneau, R. C. (HPR) |122 Moss Ave., Stockton, 471 |
| Lord & Bishop (HP) |Native Sons Bldg., Sacramento, Main 3981 |
| Malcom, Nate (HP) |3433 "N" St., Sacramento, Capital 1990 |
| Malcom, F. T. (HP) |400 Y St., Sacramento, Cap. 1806 |
| McDonald, D. (HPR) |204 23rd St., Sacramento, Cap. 1806 |
| McGillivray Const. Co. (HPR) |Box 927, Sacramento, Capital 2170 |
| McMillan, W. K. (HP) |2088 Howard St., San Francisco, MA. 3876 |
| Meier-Fraser Co. (BHPR) |Eureka, Eureka 808 |
| Nevada Contracting Co. (HPR) |Fresno, Nevada, Phone 1851 |
| Nevada Rock & Sand Co. (HP) |Reno, Nevada, Reno 5291 |
| Nightbert, Fred W. (HP) |No. 10 "H" St., Bakersfield |
| Pacific Pavements Co. (HP) |12 Oak Grove Ave., S. F., GA. 0068 |
| Pacific States Construction Co. (HP) |Call Bldg., S. F., DO. 0879 |
| Phillips Co., John (HP) |582 Market St., San Francisco, KE. 4471 |
| Pollock, Geo. Co. (HPR) |P. O. Box 903, Sacramento, Main 1457 |
| Rohf, H. W. |4351 Alhambra Ave., Los Angeles |
| Six Companies, Inc. (BHPR) |Financial Center Bldg., S. F., Gar. 3842 |
| Skells & Graham Co. (HP) |P. O. Box 976, Gasville, Calif. |
| Siems-Helmers, Inc. (BHPR) |206 Sansome St., S. F., DA. 5235 |
| Tedford, J. N. (HP) |Fallon, Nevada, Main 461 |
| Theibert, A., & Son, Inc. (HP) |1846 37th St., Sacramento, Main 6586 |
| Wieslau Bros. (HP) |2819 Grove St., Berkeley, WE. 7099 |
| Tucker, H. V. Co. (HP) |300 Vermont St., S. F., MA. 7123 |
| Ulrich Const. Co., Geo. J. (BHP) |Modesto, Modesto 921 |
| Valley Paving & Construction Co. (HP) |111 Valley Park, Fresno, 3-7418 |
| Van der Helles & Pincus (HP) |405 Bank of America Bldg., Fresno, 3-7418 |
| Ward Engr. Co. (HP) |315 Montgomery St., S. F., DAV. 8984 |
| Wood, C. W. (HP) |P. O. Box 1435, Stockton, 8743 |
| Young, Clarence (HP) |5250 Broadway Ter., Oakland, OL. 3743 |
| Young & Son Co., Ltd. (HP) |599 Colusa Ave., Berkeley, Berk 5551 |

Associate Members

| | |
|--|---|
| American Bitumuls Co. (Bitumuls) |200 Bush St., San Francisco |
| American Broom & Supply Co. (Commissary) |Boulder City, Nev. |
| Andrews, F. T. Co. (C. P. A.) |1650 Russ Bldg., S. F., DA. 7712 |
| Associated Oil Co. (Asso. Prod.) |79 N. Monty St., S. F., KE. 4800 |
| Austin Western Road Machinery Co. (Road Machinery) |455 Brannan St., San Francisco, DO. 2183 |
| Autocar Sales & Service Co. (Autocar Trucks) |326 Howard, S. F. |
| Bacon, Edward R., Co. (Road Machinery) |Folsom & 17th Sts., S. F. |
| Blake Bros. Co. (Crushed Rock) |Baiboa Bldg., San Francisco |
| Calaveras Cement Co. |315 Montgomery St., San Francisco |
| Calif. Corr. Culvert Co. (Corr. Pipe) |5th & Parker, W. Berkeley |
| Cement Gun Construction Co. (Cement Guns) |58 Sutter St., S. F. |
| Contractors Insurance Agency (Insurance) |206 Sansome St., S. F. |
| Cowell Lime & Cement Co. (Cement) |2 Market St., San Francisco |
| Davis, Norris K. (Equipment) |400 7th St., San Francisco |
| Dayfield & Co. (Equipment) |Hearsch Bldg., San Francisco |
| Geiger Iron Works (Equipment) |P. O. Box 423, Stockton |
| Granite Rock Co. (Crushed Rock) |Watsonville |
| Harneschlager Sales Corp. (Equip.) |82 Beale St., San Francisco |
| Harron, Richard & McCone Co. (Equip.) |1600 Bryant St., S. F. |
| Link-Belt Co. (Equip.) |100 East St., San Francisco |
| Murray & Ready (Labor Agency) |784 Howard St., S. F. |
| Northwest Engineering Co. (Northwest Shovels) |23 Main St., S. F. |
| Pacific Coast Aggregates |700 Wells Fargo Bldg., S. F., DA. 7210 |
| Pacific H. B. A. Steel Co., Inc. |540 Brannan, San Francisco |
| Pacific Port. Cement Co. (Golden Gate) |Hunter-Dulin Bldg., San Francisco |
| Pland-Evans (Commissary) |Merchants Ex. Bldg., S. F., CA. 5923 |
| Santana Tractor Co. (Caterpillar Tractors) |1705-09 E. 12th, Oak. |
| Robin Cruz Portland Cement Co. (Santa Cruz) |Crocker Bldg., S. F. |
| Shell Oil Co. (Shell Products) |100 East St., San Francisco |
| Soule Steel Co. (Reinforcing Steel) |1750 Army St., San Francisco |
| Spears-Wells Machinery Co. |9th and Cedar Sts., Oakland |
| Standard Oil Co. of Calif. (Stand. Prod.) |Standard Oil Bldg., S. F. |
| Traffic Service Bureau (Stand. Prod.) |24 California St., San Francisco |
| Union Oil Co. of Calif. (Union Products) |L. A. and S. F. |
| United Commercial Co., Inc. |234 Steuart St., San Francisco |

PACIFIC NORTHWEST BRANCH

West 515 First Avenue—Main 6822—Spokane, Wash.

JAS. MURDOCK, President
J. C. COMPTON, Vice-President

H. V. BOGERT, Rec. Secretary

J. B. WARRACK, Treasurer
P. L. CROOKS, Vice-Pres. and Secretary

PORTLAND CHAPTER

Multnomah Hotel Lobby—Atwater 7883—Portland, Ore.

Paul L. Crooks, President Philip Hart, 2nd Vice-President
Ross B. Hammond, 1st Vice-President J. A. Lyons, Treasurer
G. B. Herington, Executive Secretary

| | |
|-------------------------------|-------------------------------------|
| Anderson Construction Co. |682 E. 69th St. N., Gar. 0474 |
| Andrews Construction Co. (BH) |102 N. Broadway, Br. 5521 |
| Atkinson, Guy F. & Co. (BHP) |Linden Ave. Bldg., Atw. 8161 |
| Badraun, J. J. (HP) |681 E. 42nd St., Gar. 3945 |
| Baker Construction Co. (B) |202 Multnomah Hotel, Atw. 8434 |
| Christensen, Fred, Inc. (BHP) |187 E. 34th St., Ea. 8944 |

| | |
|-------------------------------------|---|
| Cochrane Construction Co. (HP) |65th & Ainsworth, Tr. 5944 |
| Compton, J. C. (HP) |McMinnville, Ore., McM. 106 |
| Crooks, P. L., Inc. (HPR) |Henry Bldg., Atw. 7767 |
| Dann, J. J. (HPR) |24 Third St., Atw. 5837 |
| Doug-Hammon Const. Co. (B) |307-8 8th St., Atw. 8444 |
| Douglas, A. R. (HPR) |Kalispel, Montana |
| Edlisen-Weygandt Co. (HP) |Foot of Jefferson, Atwater 4090 |
| Endicott, Wm. (HP) |Yachato, Oregon |
| Gates, E. L. (HPR) |Kamela, Oregon |
| Gilpin Construction Co. (HPR) |Worcester Bldg., Atw. 6220 |
| Grays Harbor Constr. Co. (BHPR) |Hoquiam, Wash. |
| Greenwood, A. C. (HPR) |500 N. Front St., Br. 3030 |
| Griffin, W. (BHP) |606 E. Carothers, Lan. 2479 |
| Cuthrie & Co., Inc. (BPHR) |552 Sherlock Bldg., Atw. 8316 |
| Hammond, Ross B. (B) |1312 Public Service Bldg., Atw. 2159 |
| Hauser Bros. Construction Co. (PHR) |Multnomah Hotel, Atw. 7441 |

Class of Construction: (B) BUILDING; (H) HIGHWAY; (P) PUBLIC WORKS; (R) RAILROAD.

| | |
|-------------------------------------|---|
| Hoffman, L. H. (BP) | Public Service Bldg., Atw. 3181 |
| Jacobsen Construction Co. (BP) | McKay Bldg., Atw. 5027 |
| Jacobsen-Jensen Co. (PH) | 407 Stanton, Gar. 3313 |
| Johnson Contract Co. (HPR) | 414 Exchange Bldg., Atw. 0678 |
| Johnson-Gardner Co. (HPR) | 414 Exchange Bldg., Atw. 0678 |
| Kern & Kibbe (HPR) | 226 Board of Trade Bldg., Br. 1999 |
| Kuckenber & Wittman (BPR) | 226 Board of Trade Bldg., Br. 1999 |
| La Pointe Constr. Co. | 629 E. 54th St. N., Gar 8312 |
| Lindstrom & Fejerson (BPHR) | 421 Rilwy, Exch. Bldg., Atw. 2662 |
| Lyons, J. A. (HPR) | 1001 Halsey St., Tr. 2841 |
| McNerney Bros. (BPHR) | 201 Worcester Bldg., Atw. 6444 |
| Mildstate Contract Co. (HP) | Box 33, Yakima, Wash. 7277 |
| Milne & Dussault (PH) | 1853 E. Broadway, Tab. 7277 |
| Morrison & Knuteson (BPHR) | 319 Bron-Twin Falls, Boise, Idaho |
| Morgan, T. M. (H) | 5410 Wilshire Bldg., Los Angeles |
| Morrison Trucking Co. (BPHR) | 391 E. 6th St., Ea. 8327 |
| Newport Construction Co. (PHR) | 317 Exchange Bldg., Atw. 7209 |
| Pacific Bridge Co. (BP) | Ft. of Salmon St., Ea. 2164 |
| Parker & Banfield (BPR) | 984 E. 17th St., Sel. 6183 |
| Parker-Schram Co. (PHR) | Couch Bldg., Atw. 4375 |
| Peck, E. C. & Co. (PH) | Drain, Oregon |
| Pickett, W. H. Co. (PHR) | 319 Broadway, Boise, Idaho |
| Purdin, Sandburg, Elk & Lind (P) | 35 W. Humboldt, Wash. 7364 |
| Quinn, J. L. (B) | Box 1070, Klamath Falls, Ore. 7825 |
| Rebman, J. (PH) | 343 Vancouver Ave., Tr. 7825 |
| Rehoboth, Hay & Wallace (B) | 605 Weatherly Bldg., Ea. 3613 |
| Saxton & Loone | Corvallis, Corvallis, Ore. 6444 |
| Seed, John S. (B) | 201 Worcester Bldg., Atw. 6444 |
| Sibleigh, C. E. (BPH) | Honorary Member and Director of Chapter |
| Shea & Co. J. F. (PHR) | 211 Henry Bldg., Atw. 2435 |
| Stebinger Bros. (B) | Worcester Bldg., Atw. 6444 |
| Sullivan & Doyle (PHR) | Ft. of Curry St., Atw. 5297 |
| Traver, L. N. (B) | Box 104, Portland, Ore. 7277 |
| Umququa Dredging & Constr. Co. (PH) | Corvallis, Ore. |
| United Contracting Co. (BPHR) | 309-10 Stock Ex. Bldg., Atw. 5296 |
| von Hellen & Pierson (HR) | Naches, Wash. |
| White, Ernest (B) | 319 Bron-Twin Falls, Idaho |
| Wolfe, O. D. (HR) | Washington, Wash. 9272 |
| Wren & Greenough (PHR) | 1037 Ch. of Com. Bldg., At. 9882 |
| Wright Constr. Co. (BPH) | Aberdeen, Wash. |
| Young, I. L. (BPH) | 524 Henry Bldg., At. 0097 |

Associate Members Portland Chapter

| | |
|-------------------------------------|----------------------------------|
| Balzer Machinery Co. | 275 Pine St., Atw. 9391 |
| Beall Pipe & Tank Co. | 85 Columbia Blvd., Wa. 3171 |
| Centumulus Asphalt Sales Co. | 210 Thompson St., Tr. 1193 |
| Cascade Investment Co. | 309 E. Main St., Ea. 8315 |
| Clyde Equipment Co. | 555 Thurman St., Br. 0885 |
| Columbia Brick Works | 301 E. Madison, Ea. 1101 |
| Concrete Pipe Co. | 169 Thompson St., Tr. 1164 |
| Electric Steel Foundry | 475 N. 24th St., Bea. 6344 |
| Fenaghuity Machinery Co. | 309 E. Yamhill, Ea. 2187 |
| Grand Sheet Metal Works | 60 E. Third N., Ea. 2181 |
| Howard Cooper Corporation | 361 Hawthorne, Ea. 8198 |
| Latture, J. L. Equip. Co. | 312-314 E. Madison St., Ea. 8166 |
| Loggers & Contractors Machy. Co. | 345 E. Madison St., Ea. 4128 |
| McCraken-Ripley Co. | 65 Albina Ave., Wal. 7650 |
| McMillan, A. Co. | 350 E. Ankeney, Ea. 0178 |
| Metropolitan Casualty Ins. Co., The | Wilcox Bldg., Atw. 7521 |
| National Hospital Assn. | 400 Mohawk Bldg., Atw. 5291 |
| Nicolai-Neppach Co. | 227 Davis St., Berk. 0685 |
| Oregon City Sand & Gravel Co. | Oregon City, Oregon |
| Oregon Portland Cement | 321 E. Madison, Ea. 3116 |
| Phoenix Iron Works | 360 Hawthorne, Ea. 0029 |
| Pomeroy, J. H., & Co. | Box 48, Seattle, Wash. |
| Pure Iron Culvert & Mfg. Co. | 763 Gladstone, Sel. 2275 |
| Rodgers, Hart, Banks | Railway Exch. Bldg., Atw. 8496 |
| Santa Cruz Portland Cement | 45 Fourth St., Atw. 9848 |
| Snow, L. A. & Co. | 244 Union Ave., Ea. 6482 |
| Standard Oil Co. | Pacific Bldg., Bea. 4161 |
| Steel Tank & Pipe Co. | 404 Columbia Blvd., Wal. 2401 |
| Swigert, Hart & Yett | Ft. of E. Salmon St., Lan. 1125 |
| Union Oil Co. of California | Yeon Bldg., Atw. 9521 |
| Wallace Bridge & Structural Steel | F. O. Box 49, Seattle, Wash. |
| Western Road Machinery Co. | 220 E. Water, Ea. 4862 |
| Zimmerman, Wells & Brown | Ft. of Sheridan, At. 0221 |

Affiliated Builders Division, Portland Chapter

| | |
|------------------------------|------------------------------|
| Alt, Fred W. | 1118 Mallory Ave., Wal. 2083 |
| Alt, B. T. | 7 E. 60th St. N., Tab. 0194 |
| Blackman, D. R. | 1140 Powell Bldg., Gel. 2400 |
| Carson Construction Co. | 227 E. Main St., 310 Oak St. |
| Chandler Const. Co. | 400 C. of C. Bldg., Tr. 8034 |
| Devitt Building Co., Geo. W. | 585 E. 41st N., Gar. 3412 |
| Duncan, J. | 477 E. Eighth N. |
| East Side Building Co. | 3191 Railwy, Exchange Bldg. |
| Eklund, N. O. | 1595 Sandy Blvd., Gar. 5512 |
| Goodridge, G. C. | Abington Bldg., Atw. 1675 |
| Greiling, F. H., Director | 449 E. 44th N., Tr. 9945 |
| Hurlbert, Russell S. | 906 E. 23rd St., Ea. 7184 |
| Irvine, A. H. | Weatherly Bldg., Gar. 2828 |
| Johnson & Neibert | 1193 Garfield, Lan. 1266 |
| Kiecher, Wm. G. | 375 E. 52nd St., Tab. 7277 |
| Knott & Rogers | 1170 Malloy, Ea. 6222 |
| Krause, Rudolph K. | 24 E. 81st St., Tab. 7214 |
| Leister, C. | 457 E. 15th N., Gar. 1783 |
| Moore, J. Brydon | 475 E. 14th N., Gar. 4902 |
| Murphy, John | 1444 Sandy Blvd., Gar. 8260 |
| | 488 Raleigh St. |

| | |
|------------------------------|------------------------------|
| Nelson, Herman | 385 E. 11th N., Gar. 2508 |
| Nilson, Emil | 449 E. 48th N., Tr. 6433 |
| Quigley, W. J. | 56 E. 32nd, Tab. 9057 |
| Ryan, Wm. F. | 1211 E. Kelly St., Tab. 1860 |
| Schenk, A. J. | 1275 Prescott, Tr. 7432 |
| Schmitt, H. A. | 2610 52nd St., Sun 7865 |
| Seed, J. S., Honorary Member | Worcester Bldg., Atw. 6444 |
| Stuart, Peter | 755 Irving, Bea. 3673 |
| Twitcheel, F. A. | 567 E. 35th St. N., Tr. 1579 |
| Winship, T. B. | 461 E. 48th N., Tr. 7706 |
| Henkel-Shackelford | 1040 Minnesota, Univ. 1860 |
| W. D. Reverman | 353 E. Burnside |
| L. L. Hickok | 1111 Sandy Blvd. |
| Fred Sandstrom | 201 Worcester Bldg. |
| C. W. Christensen | 445 Multnomah |

SPOKANE CHAPTER

West 515 First Avenue—Main 6822—Spokane

| | |
|-----------------------------|--------------------------------|
| Max J. Kunej, President | I. G. Anderson, Vice-President |
| Nick Norman, Vice-President | Dan Hannah, Secy.-Treas. |

| | |
|----------------------------------|-------------------------------|
| Alloway & Georg (B) | Hutton Bldg. |
| Applegate, W. (H) | 7 Buckingham Apts., Salt Lake |
| Auld & Shinn (B) | 1121 Indiana |
| Boudry, Sam R. (H) | Sevard, Alaska |
| Burnette, C. A. (H) | 1118 Ide Ave. |
| Byers, W. A. (H) | W. 1204 Mansfield |
| Clifton, Applegate & Toole (HPR) | Hutton Bldg. |
| Collins, J. H. & Co. (H) | Colville, Wash. |
| Colonial Building Co. (BH) | Hutton Bldg. |
| Crick, James (H) | Realty Bldg. |
| Degerstrom, N. A. (HPR) | Patton Bldg. |
| Edwards, J. E. (H) | S. 1423 Adams |
| Geist, W. L. (H) | W. 444 23rd Ave. |
| Gumaer, Wot. M. (H) | Copeland, Idaho |
| J. T. Halpin | Sun Life Bldg. |
| Hansen Construction Co. | W. 1517 Jackson |
| Harding, Geo. (H) | Walla Walla, Wash. |
| Hargrave Construction Co. (H) | W. 418 Twentieth |
| Hewett, F. R. (H) | W. 420 Twenty-second |
| Huetter Construction Co. | N. 1101 Division |
| Joslin & McAllister (H) | Realty Bldg. |
| Kunej, Max J. (H) | Hutton Bldg. |
| Lafferty, A. B. (H) | Coeur d'Alene, Idaho |
| Larson Bros. (B) | Hyde Bldg. |
| Lohrenz, J. J. (B) | Faulsen Bldg. |
| Long, Oliver J. (H) | W. 1924 Mansfield |
| Lyon & Price (H) | W. 503 Fourteenth |
| March Construction Co. | W. 1313 First |
| Martin, F. E. (B) | Galax Hotel |
| McLellan, A. (B) | E. 932 Ermina |
| Medby, M. C. (B) | S. 2217 Arthur |
| Meyers, W. C. (B) | S. 2217 Tekoa |
| Morin, S. C. (B) | Paulsen Bldg. |
| Norman, Nick (B) | 231 Waverly Place |
| Nyberg, Carl (H) | Realty Bldg. |
| Orino, Sam (H) | Realty Bldg. |
| Powell, J. H. (H) | Realty Bldg. |
| Siems, Spokane Co. (BPHR) | S. 1703 Grand |
| Standard Asphalt Paving Co. (HP) | Realty Bldg. |
| Terteling, J. A. & Sons (HP) | Chronicle Bldg. |
| Tobin, James & Son (H) | W. 511 Seavey |
| Triangle Construction Co. (H) | Box 916 |
| True-House Construction Co. (B) | W. 1220 Ide |
| Webster, E. A. & Co. (HPR) | N. 119 Wall |
| Young, Peter J. (B) | S. 2008 Oneida |
| | S. 11 Cedar St. |

Associate Members

| | |
|---|----------------------------------|
| Beall Pipe & Tank Corp. | Realty Bldg. |
| Beardmore Transfer Line | S. 162 Post St. |
| Brandt Bros. | W. 14 Main Ave. |
| Coeur d'Alene Hardware & Foundry | Wallace, Idaho |
| Commercial Importing Co. | 617 Western Ave., Seattle, Wash. |
| Consolidated Supply Co. | W. 1310 Ide Ave. |
| Construction Equipment Co. | W. 1118 Ide Bldg. |
| Elmendorf-Anthony Co. | Sherwood Bldg. |
| Fenaghuity Machinery Co. | N. 715 Division St. |
| W. P. Fuller & Co. | N. 229 Post St. |
| General Machinery Co. | N. 501 Riverside |
| Gladding-McBean & Co. | 524 Old National Bldg. |
| Haweye Fuel Co. | N. 740 Division St. |
| Hofus-Ferris Equipment Co. | W. 728 Mallon |
| Holley-Mason Hardware Co. | W. 1124 Howard |
| International Portland Cement Co. | W. 715 First Ave. |
| Jones & Dillingham Co. | Hutton Bldg. |
| Lehigh Portland Cement Co. | 1316 Old National Bldg. |
| Long Lake Lumber Co. | N. 348 W. St. |
| W. S. McCrea & Co. | 212 Symons Bldg. |
| J. E. McGovern | 550 Peyton Bldg. |
| Old-Atwater Co. | S. 157 Monroe St. |
| National Insurance Agency | Old National Bldg. |
| L. A. Snow Co. | 134 International Right-of-Way |
| Spokane Concrete Pipe Co. | N. 2627 Dakota |
| Spokane Culvert & Tank Co. | N. End Division Street Bldg. |
| Spokane Woodworking Co. | E. 217 Montgomery Ave. |
| Union Iron Works | 611 Chronicle Bldg. |
| Union Oil Co. | S. 151 Washington St. |
| Washington Brick, Lime & Sewer Pipe Co. | S. 151 Washington St. |

PACIFIC

25¢
per Copy

SKILL - INTEGRITY



RESPONSIBILITY

CONSTRUCTOR

CONSOLIDATED WITH

Building and Engineering News

IN THIS ISSUE



Salinas River Bridge at Bradley

By Melvin Lord

Adjusting the Highway Viewpoint to 1932 Conditions

By Thos. H. MacDonald, Chief, U. S. Bureau of Public Roads

Corporations and Unincorporated Organizations

By Geo. N. Crocker, Attorney

Supreme Court of Utah Bars Hand-Labor
on Public Work

A.G.C. and Builders' Exchange Activities

Miscellaneous Articles of General Interest

Unit Bid Prices — Construction News



• *For* •
Economy--Strength
Durability
use
Reinforced
Brick Walls
of
Simons ^{Low} _{Absorption} **Brick**
[Mortar Protection]

We have developed, with the assistance of eminent structural engineers, Reinforced Brick Walls for every purpose required in residential or commercial construction. Sample walls of these types are now on display.

Simons Brick Company
1195 South Boyle Ave. [8th St.] Phone CHicago 6121
LOS ANGELES

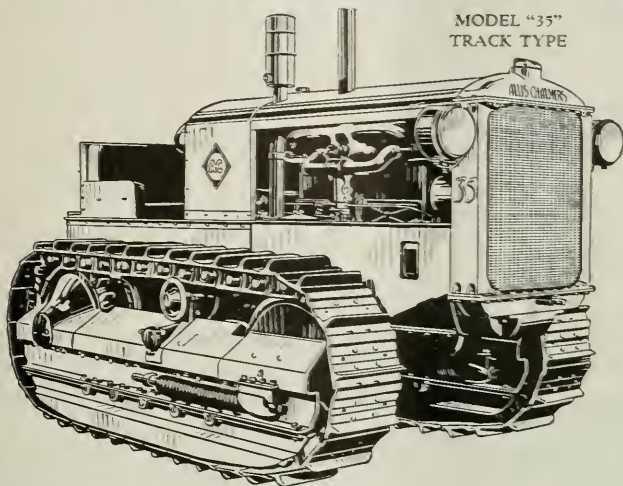
A Respectable Business Concern Backed By 45 Years of Integrity.

Allis Chalmers Tractors

The "Model 35" is absolutely dependable.

According to the Nebraska Test, it is given a Draw Bar Horsepower Rating of 40.99.

Allis - Chalmers Track-Type Tractors are powered to give approximately 10 brake H. P. per ton of weight.



The Eby Machinery Company, Ltd.

35 MAIN STREET

SAN FRANCISCO

DOUGLAS 1068

RAYMOND

EVERY RAYMOND CONCRETE PILE is poured into a spirally reinforced steel shell, and each shell is left in the ground in order to preserve the "green" concrete pile column from ground pressure, foreign materials, or pressure of closely adjacent pile driving.

Raymond Concrete Pile Co.

New York: 140 Cedar St. Chicago: 111 W. Monroe St.
1008 Washington Bldg., Los Angeles
2024 Hunter-Dulin Bldg., San Francisco

RAYMOND CONCRETE PILE CO., LTD.
Montreal, Canada

BRANCH OFFICES IN ALL PRINCIPAL CITIES

"A Form for Every Pile—A Pile for Every Purpose"

Hotel Sacramento

The Contractor's Home while at the California State Capitol



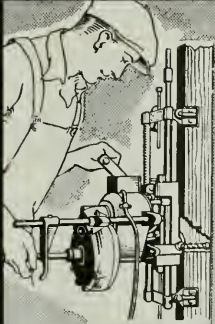
Where every guest feels at home and where he finds the comforts and service of the most cosmopolitan hotel.

Just a short block from all the State Buildings and in the heart of the city.



V. ST. CLOUD and A. H. ANDERSON
Proprietors

WAPPAT Electric TOOLS



Are Built to Last Longer

Cuts production costs . . . Speeds up the job . . . Makes for greater efficiency . . .
A size and type for every purpose.

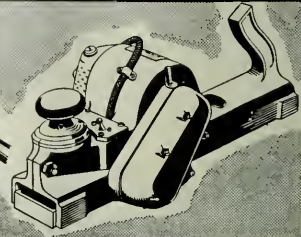
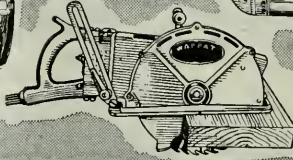
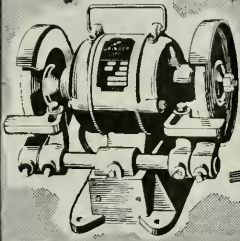
Ask for a Demonstration

M. N. THACKABERRY

228 First Street, San Francisco
KEarny 4467

TOOLS RENTED

308 E. Third St., Los Angeles
MUtual 7508



Carey Elastite Expansion Joint

Name Reg. U. S. Patent Office

*For Pavements, Sidewalks, Curbs,
Reservoirs and all Classes of
Concrete Work*

Elastite is a preformed expansion joint, easy to install, and insures a smooth-riding pavement. Regular Elastite Asphalt Expansion Joint and Improved Elastite Rubber Expansion Joint carried in Los Angeles stock. Immediate delivery in small quantities or carloads.

Warren & Bailey Co.

Office and Warehouse: 350 So. Anderson St.
ANgelus 2151 Los Angeles, Calif.

Cypress Lawn Memorial Park

COLMA, SAN MATEO CO., CALIFORNIA
Executive Office—995 Market St., San Francisco



VIEW OF NEW MEMORIAL COLUMBARIUM
(Largest and most beautiful Columbarium ever erected)

WE HAVE FACILITIES FOR:

- Earth Interment Cremation
- Mausoleum Entombment Columbarium Inurnment

Cypress Lawn is adequately protected by a
PERPETUAL CARE FUND.

"VISIT CYPRESS LAWN MEMORIAL PARK"

PACIFIC CONSTRUCTOR

With which is Consolidated Building and Engineering News

Official Publication of the Associated General Contractors of America
for the Eleven Pacific Coast States

J. P. FARRELL, *Editor*

SPENCER B. LANE, *Assoc. Editor, Assoc. M. Am. Soc. C. E.*

VOL. 15

SAN FRANCISCO, CALIF., MARCH 15, 1932

No. 5

Editorial Comment

A contractor bidding on government work sent this card request for sub-bids with the following notation:

"We do not peddle sub-bids; why not give us your best quotation now and help maintain the standard of the building business?"

Bid cutting not only destroys the ethics of the building profession, but is a boomerang that hits back just as hard. Some contractors may feel that their enlarged volume of business lowers their overhead, but final analysis shows they are getting into the red deeper on an ever-increasing scale. Gambling on cheaper prices for material and labor, and taking a new job to square up the deficit on the last one, results in eventual collapse.

Why yell for help when there is no help?

One of the most important matters that has engaged the attention of the national staff of the Associated General Contractors in recent years has been that of Federal legislation which would eliminate the use of convict labor in public works construction.

The first real accomplishment in this direction has been the adoption in the current Agricultural Appropriation Bill that carries the Federal funds to be allotted to the states for the fiscal years, 1933 and 1934 for Federal Aid Highway Construction, of a clause which provides that none of such funds can be used by the states in the employment of convict labor. This same clause has also been adopted in the Emergency Highway Appropriation Bill.

This special clause opposed to employment of convict labor was adopted in both bills in the House of Representatives by a very large majority. The debates in favor of the adoption were led by Representative LaGuardia of New York, ably supported by most of the representatives of the East and of the Middle West. Opposition to the clause emanated entirely from the representatives of the southern group of states, notably Virginia and Alabama, in which states much of the highway work is performed by convict labor.

When the bills reached the Senate Appropriation Committee, a group of southern senators who were members of the committee, were successful in having the clause stricken from the House bill. However, when the bills reached the floor of the Senate, through the efforts of the western group, the clause was restored to both bills and they finally passed the Senate in this form and are now before the President for approval.

The clause which appears in these bills reads as follows: "Provided that none of the money herein appropriated shall be paid to any state on account of any project on which convict labor shall be directly employed."

"The full extent of the building bond racket, which reached such huge proportions in the years just preceding the current depression, is just becoming known, now that an investigation of the matter is being undertaken in New York, Chicago and in some of the other large cities where most of such promotions were carried on", says the Reno Engineering Gazette. Hundreds of building bond issues, mounting into hundreds of millions of dollars, are in default, and in numerous cases they are quoted at only a fraction of their original value. The losses to investors, according to official reports made by state commissions, will be enormous.

"Under the system followed the promoters would organize a building company to erect a hotel, office building or apartment house, sell the realty to it at a highly inflated figure upon which they would make a large profit, sell bonds or preferred stock to finance it, have the building erected by architects and contractors with whom they would have a partnership arrangement, and then turn the building over to the stockholders and bondholders for operation. In numerous cases the promoters are believed to have obtained rakeoffs all the way down the line, with the result that those who actually put up the money received as security a building that was not only overcapitalized but not actually worth its debts.

"So widespread are the losses that the matter has been brought up several times in congress during the last few weeks, with a request that a federal investigation be instituted. Bondholders' committees are also demanding additional state laws and even federal laws to provide a strict supervision of such issues in the future.

"Many persons who oppose as a matter of principle any further public regulation of private business admit the seriousness of the situation and are ready to concede that effective steps must be taken either by the states or by the government, under its powers over commerce, to protect both the investing public and honest business enterprises from such racketeering."

A call for new statements of contractors under the pre-qualification procedure has been issued by the Division of Highways of the Department of Public Works of the State of California.

Under this call, the Department will accept new statements showing the contractor's financial status at any period within the past six months.

The Department has made several minor revisions of the questionnaire form, and contractors are requested to secure the new form if possible for the filing of the new

(Continued on Page 6)

Limit Stakes and Levels

By THE EDITOR

A new law has been set up in North Carolina designed to give architects, engineers and awarding officials on public works the privilege of selecting responsible contractors to bid on the particular type of construction to be undertaken. This law states that five bids must be received on public construction work where the estimated cost exceeds \$2,000. It has been decided that it is not compulsory to have more than five bids under this law.

Minnesota's minimum wage, eight-hour day rule for state highway work was upheld by the Ramsey County District Court recently when an application for a writ of mandamus ordering that the rule be omitted from specifications was refused. The suit was brought jointly by two construction companies. The state's highway work has been performed under this rule for the past year and provides for a minimum wage of 45 cents an hour and a maximum week of 48 hours. It also places limitations on the contractor's charges for transportation, board and lodging and provides that there shall be no employment agency fees, no charges or deductions for medical fees or tools.

A license law for contractors, similar to that now in force in California was recommended by contractors of the New York metropolitan area at a meeting held in New York under the auspices of the Lien Law Revision and Enforcement Association of New York. Representatives from material dealers, general contractors and sub-contractors attending the meeting unanimously adopted a resolution urging the legislature to adopt measures providing for the registration and licensing of building and highway contractors.

The resolution pointed out that the existing disorder in the construction industry has a direct effect on the economic condition of the state as a whole and this disorder exists because of the fact that there are no standards of responsibility or accountability of individuals engaged in construction.

The action of the New York interests speaks well for the California contractors' license law and indicates the success of the move to regulate business methods in the construction industry. It is a pleasure, indeed, to meet men from the great wide open spaces.

A highway bridge recently completed in Pilsen, Czechoslovakia, is reported to be the largest all-welded bridge in existence. No rivets or bolts whatever were used in its construction. The bridge crosses two railroad tracks, has a span of 161.4 feet and a width of 27.4 feet. The total weight is 145 metric tons, which is said to be nearly 21 per cent less than that of a riveted structure designed for the same stresses. Loading tests made after completion of the bridge showed a deflection of 21½ per cent less than calculated. The bridge presents a departure from ordinary structural steel practice, in that gusset plates at connections are eliminated. Another interesting feature is the spiral ramp used as the approach at one end, on account of limited space.

ORGANIZATION IS PERFECTED FOR REGISTERED CONTRACTORS

Preliminary formation of the Registered Contractors' Association of California was perfected at a recent meeting in Sacramento, by San Francisco, Los Angeles and Sacramento contracting interests.

Ralph H. Mitchell, former editor of Pacific Constructor, presided.

"Today in the State of California, there are more than 23,000 licensed contractors and approximately 2800 or 3000 of that total are members of the Associated General Contractors and the Builders' Exchange organizations of the state," said Mitchell, following the meeting.

"The 18,000 or 20,000 contractors not affiliated at this time with any trade organization have felt the need for association lineup or contact through which they could function as an organized group benefiting legislation, the industry and its allied lines.

"The contractor today is vitally interested in the contract method on all public work, whether of Federal, State, County or Municipality and one of the principal aims and purposes of the Registered Contractors' Association of California will be to fight continuously or intensively for the contract method as against the day-labor method. Construction is the second largest industry in the United States. Consequently, as result of force account work, of un-called for bond issues and from tax monies for the benefit of unemployed, the day-labor idea has been carried to such an extreme that it has tied up millions of dollars in modern equipment and efficient organization activities that the contractor today is practically being forced out of business through so-called charity.

"In the State of California in the last eighteen months, more than \$10,000,000 has been appropriated and spent through day-labor methods which have proved the undoing of the legitimate contractor, thereby increasing the already too heavy tax burden of the people to the breaking point. Efficient results only can be obtained in public and private work through the means of competitive bidding. Results obtained, thereby, would have served a greater number of the unemployed with less burden to the taxpayer and with greater benefit to the unemployed public in the more efficient handling through the contract system. The new Association plans to work in complete harmony with the various departments of the State in an effort to improve conditions in the construction industry and, particularly will its efforts be lent and its voice be heard in its close cooperation with the enforcement of the Contractors' License Law."

GOERIG PAYS US A VISIT

A. C. Goerig, general engineering contractor, a member of Seattle Chapter, A. G. C., was a visitor to the offices of PACIFIC CONSTRUCTOR last week.

Goerig has had a wide experience in heavy engineering construction throughout the Pacific Coast and is at present engaged in the completion of grading and widening approximately three and one-half miles of road on the Wawona Route into the Yosemite National Park including the construction of tunnels entering into Yosemite Valley. He was awarded the contract on a bid of \$627,224.

Working his men during the winter months, despite the heavy snows, Goerig reports the project will be completed ahead of schedule.

Goerig was highly commended by the Federal road officials for continuing operations during the winter, thereby keeping more than 150 men at work whereas they would otherwise be unemployed.

Salinas River Bridge Opened to Travel Next Month

By MELVIN LORD

REPLACING the old structure and providing for the elimination of a sharp, right-angle curve and a heavy grade, the new bridge across the Salinas river, 34 miles south of King City, is scheduled to be opened to traffic next month.

Taken on a sub-contract by Lord & Bishop, members of the Northern California Chapter, Associated General Contractors, the work was handled so efficiently that the bridge is to be completed ahead of schedule.

The \$265,000 structure includes eight 45-foot reinforced concrete approach spans on each end and six 140-foot steel spans above the main bed of the river for a total length of 1666 feet.

The bridge, 50 feet above the stream bed, is the highest of its type in the state.

A splendid concrete was secured through the use of the steel forms and a smooth surface plus economic operation was achieved.

The steam shovel once again was called into use when erection of the bridge steel was started. A temporary road was built over the dry river bed along-side the bridge to permit complete mobility of the unit.

A 72-foot beam was fashioned with a 70-foot fir piling lashed to the regular steel boom of the shovel. Because of the length of the boom a near-vertical position was necessary at all times, but pieces as heavy as 9,000 pounds were handled successfully with this rig.

Following erection of the first steel spans the contractor was able to erect one span a week.

In pouring the concrete deck on the steel spans the spe-



Bradley Bridge Over the Salinas River, Showing the Concrete Piers on Curve. A \$265,000 Structure for the California State Highway Commission. Old Bridge Can be Seen at Right. New Structure to be Opened to Traffic Next Month. Lord and Bishop, Contractors.

In meeting the construction problems of the project, the contractors evolved a number of unique uses of standard equipment, and were particularly successful in proving the versatility of a steam shovel and pile driver in particular.

A three-quarter yard clam shell operated from a Marion 21 steam shovel was used in excavating for the piers. The piers for the center steel spans were constructed first by driving steel sheet piling 20 feet in length. An 8-B McKernan & Terry hammer on a loose line, also operated by the steam shovel, was used for both driving and pulling.

Oregon fir piling was then driven and tremie concrete poured. The foundations were pumped, and the regular footings and piers constructed.

Special steel forms were used in the construction of the piers, measuring 10-ft. in length and 5 ft. in diameter under the coping at the top, with a batter of one in twelve.

cifications required that the center of the spans be loaded first to prevent structural distortion.

In order to accomplish this a 26-foot extension was built on the pile driver used on the foundations. This gave the driver a total height of 78 feet.

The use of the driver rig obviated the necessity of a tower, and did away with guying and constant re-location. Mobility of the set-up combined with the ability to pour two spans from one location proved particularly advantageous.

The concrete was mixed at either one of two central mixing plants located at the ends of the bridge. Hoisted in a minor tower, the concrete was loaded on a one-ton truck provided with a V-shaped hopper. Thus it was carried to another hopper, hoisted above deck by the pile rig, automatically dumped into a hopper on the side of the driver, and distributed from there to the bridge deck by means of two-wheeled concrete buggies.

Adjusting The Highway Viewpoint To 1932 Conditions

By THOS. H. MACDONALD, Chief U. S. Bureau of Public Roads*

THE theme of the exhibit of the Bureau of Public Roads for the 29th Annual Convention and Road Show of the American Road Builders' Association is the



THOS. H. MACDONALD, Chief
U. S. Bureau of Public Roads

physical relationships of the highway and the motor vehicle. That it is now possible to portray these relationships is an accomplishment of research which has taken years to develop to the point that we can talk about them in definitely measured terms with a high degree of confidence. But it would be a narrow viewpoint that would attempt to limit the achievements of highway transport over the past decade to narrow mathematical terms of technical research.

Again, under the emergency appropriation provided to advance the Federal aid road program for the past year, there were undertaken 2,216 projects, totaling over 13,000 miles of road, in 1,227 counties, or only a little less ratio than a project to every other county. This was a part of the whole Federal aid road program undertaken and does not include the work done without Federal funds by the states, cities, counties or local communities.

In a year when there was so much unemployment under the State and State-Federal road programs, during the summer months when it is possible to employ the maximum number of men in highway construction, upwards of 400,000 men were given work, and an equivalent distribution of wages to at least double this number to those employed in the production and transportation of materials and in other lines activated by the road funds.

There is general agreement among the highway officials of the country that 80 to 90 per cent of the road dollar is eventually distributed back to labor and personnel employment.

The emergency appropriation called for \$80,000,000 with a time limit of September 1. So vigorously was the program pursued by all connected with it, that less than

\$200,000 composed of small balances remained unexpended when the appropriation expired. The emergency projects alone put under way for the first six months of 1931, called for an estimated total expenditure of \$256,000,000. This was a great demonstration of the ability of the road building agencies of the nation, road officials, engineers and contractors, to put under way quickly and carry forward rapidly a largely expanded road program.

Such an accomplishment as this, however, does not measure the real significance of what has taken place in the highway field. A recital of facts and figures is of doubtful use in portraying a broad and definite idea of the real accomplishment in the highway transport field over approximately the past decade.

For nearly two years there has been such a tremendous amount of false information circulated with reference to the utilization of the highways and the dislocation of the prior flow lines of traffic, that it seems an opportune time to present, without complicating the discussion with these argumentative issues, some aspects which are of far greater importance to the public as a whole than the questions which have been so prominent in the public press and elsewhere.

For many years road contractors, manufacturers and producers of all kinds of equipment, supplies and materials for road construction, have been highly important factors in our economic structure for the employment of labor, and during the past two years this importance has been relatively greater than at any time previously.

We come to the present time, however, with much greater uncertainty than has heretofore existed as to the future. Much of this uncertainty has been brought about by the emphasis which has been placed upon a relatively small part of the use of the highways, that is, that part of highway usage which is competitive with other transportation agencies, which serve to cloud the future of new highway building.

These controversial aspects, projected into a situation already becoming embarrassing by the depletion of the public road revenues and the necessity of limitations upon property taxes, have produced an uncertainty and lack of confidence on the part of the road building industry as to the future.

It is not my intention to enter into a detailed discussion or to bring into this paper any attempted reply to the controversial questions of the utilization of the various types of transportation available. There are four aspects, however, which I wish to place briefly before the road building industry. In these aspects I believe are found those which will have an important, and perhaps the major bearing, upon the future growth of highway building and utilization.

The first of these is the characteristics of highway

*Address before the General Highway Planning Commission, American Road Builders' Association, Jan. 11, 1932, at Detroit.

Phone TRinity 0241 for —

Rock-Sand-Gravel-Plaster
Cement-Mixed Mortar-Stucco
Lath-Lime Putty-Reinforcing Steel

**Consolidated Rock
Products Co.**

656 S. Los Angeles St.

Los Angeles, Calif.

traffic. Since 1922 the Bureau of Public Roads, in cooperation with a large number of the state highway departments, has been making studies of highway traffic and the detailed aspects of highway transport. These studies have included states from Maine to California.

There are areas of intense industrial development, and areas of almost no development. Here are some of the facts which have been found in these studies.

First. The predominating use of the highways is by privately owned passenger automobiles. In the eleven western states, on the Federal aid system alone there were more than 20,000,000 daily passenger-car miles of road usage. In the states of Pennsylvania and Ohio this usage ran to about 6,000,000 miles daily. This immense use by privately owned automobiles approximates 85 to 90 per cent of the total volume of highway utilization.

Second. The use of the highways by either automobiles or motor trucks is predominantly local, taking the states as a whole. In such states as Pennsylvania and Ohio, typical of the more thickly populated, this local use is from 85 to 90 per cent.

Third. The predominating volume use of the roads by both automobiles and trucks is for short distances, that is, above half of the use will be under 30 miles.

Fourth. The ownership of both automobiles and trucks in use on the highways is predominantly private.

Since there has been a notable drop in the amount of transportation required, particularly for local service, there has been a growth in the longer distance travel of busses and trucks. They, like many others, are seeking employment. There has been a certain amount of business taken over from the railroads by trucks and busses operated in the public or common carrier service, but this is an inconsequential part of the total volume use of the roads.

A great change has taken place in methods of merchandizing. There has been a change from relatively large to much smaller inventories, resulting from highway transportation quickly and easily available. This change is having a profound effect upon transportation methods. For example, in Ohio, out of a grand total of 84,000 retail establishments, 36,000, or 43 per cent, handle goods that require daily replenishment. In Maryland, of a grand total of retail establishments of 21,000, about 9,000, or 42 per cent, handle supplies that are replenished day by day. These are only two instances that indicate in a concrete way a service which has become established as a daily highway use.

It would be possible to carry this discussion into unnecessary lengths to demonstrate the intimate relationships which have been established between our whole population and highway transport. It is not necessary to go into these to point to the conclusion that no material part of the development of our highway system is contingent upon any of the services which are now in controversy. The need of highways will go on and on because of their highly localized services which belong to them exclusively.

The long-distance traffic may be termed a by-product, important in itself, but having practically no effect upon the necessity for the improvement, or the volume of use, of improved highways. Thus, from the standpoint of the future highway building no matters now in controversy as to the carriage of persons or commodities by the various public transportation agencies, regardless of how they are finally composed, will affect more than a minor percentage of the use of the highways.

The second point that has had a profound bearing upon the tremendous development of highway transport is the coordination of effort by agencies behind the building and use of the highways. These agencies are primarily

the highway officials and engineers, the highway contractors, including their organizations, and the manufacturers of all types of road and automotive equipment. This latter group includes not only the motor vehicle manufacturers, but many of the accessory manufacturers, including as an important group the rubber tire industry.

The major advances in this field are:

First, the improvement in engineering designs, in contractors' methods, in efficiency and adaptability of equipment, which resulted over the period of five years from 1924 to 1929, is a constantly decreasing index of road costs before there was any effect from the present depression. The decrease in road costs for the five-year period from 1924 to 1929, taken from unit prices of Federal aid projects, was about 27 per cent. During this same period there was a constant increase in the quality of the roads produced generally. The road contractors and equipment manufacturers are to be credited with a large part of this decreased cost, through improved organization and better methods, which permitted higher production with the same organization cost. Better engineering designs, better inspection, and a pride in their output on the part of both contractors and engineers, produced at a constantly decreasing cost, a constantly better quality and more durable roads.

The composite prices for 1931 have been about 26 per cent below the average cost for the five-year period, 1925-1929. This latter reduction has to a large extent been due to lower prices for materials and to some extent lower prices for labor; but the general road costs which are now around 45 per cent lower than the peak costs for 1924 would not have been possible without the improved production methods and equipment and better engineering practices which have been developed.

Second, the important adjustment between the highway and the motor vehicle that has taken place has been accomplished through the cooperation of the motor vehicle manufacturers, and the tire manufacturers and the highway engineers. Only a few years ago the heavier loads were all carried on solid rubber tires. Pneumatic tires had not been developed capable of carrying the heavier wheel loads. When, through the process of experimentation and research, it was found that the use of solid rubber tires under the heavier loads resulted in high impacts on road surfaces, causing depreciation in both the vehicle and the road, the tire manufacturers devoted earnest and successful efforts to the production of heavy duty pneumatic tires.

Also, when, through research, it was found that the wheel load or axle load rather than the gross load is of major importance in the effect upon the highway structure, the motor vehicle manufacturers re-designed their larger vehicles to increase the number of axles and to place them upon either the high pressure or balloon type of heavy duty tires. These two developments are of outstanding importance to the future of highway transport in their effect not only upon the service to the public, but also upon the public's pocketbook which, during these times, is highly important.

Today the highway transport industry is a highly convincing demonstration that highway officials, road contractors, equipment manufacturers, material producers, motor vehicle and rubber tire manufacturers have cooperated to bring to the public highway transport at a constantly decreased cost, both for the roads themselves and for the transport service; and these decreased costs are not small but are of large magnitude.

The third important aspect is that of the future high-

(Continued on Page 12)

THE LEGAL PAGE FOR CONTRACTORS

BY GEORGE N. CROCKER, Attorney for Associated General Contractors of America, California Branch, Russ Building, San Francisco

(Mr. Crocker will discuss in future issues of the Pacific Constructor any legal points which may be of particular interest to the subscribers to this publication. Address your request to Mr. Crocker at the above address.)

CORPORATIONS AND UNINCORPORATED ORGANIZATIONS

AT the risk of repeating to my readers matters with which they may be already thoroughly familiar, I am going to devote the Legal Page in this issue of the



Pacific Constructor to a general discussion of the various types of organizations under which men may carry on their business, with particular reference to the legal aspects and consequences of the various forms of organization.

A considerable part of the business enterprise of this nation is carried on by individuals, operating purely as such. But the larger part is carried on by combinations or groups of men, who merge their personal identities to a greater or less degree in the "firm" or the "company" which they have created.

Even those men who "play a lone hand," without becoming connected or associated with others, frequently operate under what the law terms a fictitious name, and keep their business books and accounts entirely separate from their other affairs. This is largely a matter of business expediency and convenience. However, for the protection of the public in general, the law requires that those who carry on business under fictitious names must first file with the County Clerk of the county in which the business is carried on certain information for the public records, so that creditors and others may at all times know who is ultimately responsible for the business and its obligations.

Where two or more individuals are engaged in a common business enterprise, the common forms of organization are the partnership and the corporation. The two are essentially different. A partnership is an association of partners, who, although they may operate under a firm name are nevertheless individually and personally the proprietors of the business. A corporation is composed not of partners, but of stockholders; and the corporation possesses an identity distinct from that of its stockholders.

The courts have described it as "an artificial person," a "creature of the law." Thus, it can sue and be sued in its corporate name. Its existence is not affected by the deaths of its stockholders, for it possesses a life of its own, created by the sovereign law of the State.

The vast popularity of the corporate form of organization in this country has been due largely to the comparative permanence of corporations, for partnerships, on the other hand, are dissolved by the death of a partner or by the transfer of the interest of a partner, and hence are unsuited for many enterprises, especially those in which there is a considerable number of persons interested. Steadiness and continuance are achieved by the corporate form. In addition to this, it has been found that the corporation is a highly convenient and practical form of organization.

One of the chief reasons for the popularity of the corporate form has been the fact that under the almost universal rule of law stockholders of a corporation are not personally liable for the debts and obligations of the corporation. Men may invest their money in corporations without fear of losing more than the amount of their investment, for if the corporation fails its creditors cannot saddle the corporation's debts upon its stockholders. It is thus possible for men to carry on a business through the medium of a corporation, and yet preserve their personal fortunes secure from the reach of creditors of the corporation. Under the partnership form of organization, on the other hand, each partner is subject to personal liability.

Up to last year, California has stood out almost alone in opposition to this universal doctrine of law, and has, by its constitution and by statute, decreed that stockholders shall be directly liable for corporate obligations, proportionately to the amount of stock owned. But the Constitution of California, and the California Civil Code, have recently been amended, to the end that the so-called "stockholder's liability," which has long been one of the peculiarities of California law, is now a thing of the past. This change in the law is calculated to give a sharp impetus to incorporations within the State of California.

Old debts are not affected by the recent abolishment of stockholder's liability. But as to debts incurred subsequently to August 14, 1931, the creditors must look solely to the corporation for satisfaction. If the stockholders have paid up in full for their shares of stock, they are secure, except in a few exceptional instances, from the reach of the corporation's creditors. When the significance of this change in the law is fully understood and appreciated, it will undoubtedly have considerable effect upon credit transactions. Individual stockholders will often be called upon, to a far greater extent than is now customary, to endorse or guarantee the corporation's obligations, where there is any doubt as to the corporation's financial soundness.

The State of California, and most other States, through

Contractors Machinery Exchange

Rentals a Specialty

1135 - 57th Avenue

OAKLAND, CALIF.

FRUITVALE 0715

the State Corporation Commissioner, exercise a rather searching supervision over the financial aspects of incorporation, by means of the so-called "blue-sky laws," which have as their purpose the prevention of the issue and circulation of worthless, fraudulent, and watered stock, and the curtailing of various abuses which have been practised. The legitimate and soundly-organized corporation, however, need have no fears as to such supervision.

At the last session of the California State Legislature, the entire corporation law of California was reexamined and modified, in accordance with the wishes of the State Bar, and many of the clumsy and archaic provisions of the previous law have been supplanted by liberal and practical ones, giving California today a thoroughly modern corporation law.

EQUIPMENT FOR LOW-COST

ROADS STUDIED IN DETAIL

Low-cost road surfaces of acceptable quality are possible when constructed and maintained by modern equipment according to a joint study of experience with low-cost road equipment made by a committee representing the American Road Builders' Association and the American Association of State Highway Officials.

Equipment for untreated surfaces is found in the report to be generally satisfactory with few recent developments and little demand for them except a roller for better compaction.

Blading and dragging with equipment in common use is the reason for the easy riding surfaces on most low cost types.

For road-mix types, equipment is needed to more quickly and uniformly coat the aggregates with bitumen, equipment more effective for mixing loose depths of material greater than two and one half inches, and equipment that will retain mixtures inside the finished road width.

The use of auxiliary tank trucks to haul bitumen is growing. A rotary broom and blower is excellent for cleaning surfaces prior to bituminous treatment.

Initial compaction by tractor is excellent where a bituminous mixture is unstable under a standard roller.

Chip and stone spreaders are being favorably received.

Plant mix has been well received because of its desirability and economy as well as suitability for contract work.

More recent developments in equipment, such as the pre-coating of aggregates by immersion in a vat and the bituminous paver are little known in the various states.

Developments in methods and equipment are desirable but they should not result in changing low-cost surfaces to high-cost surfaces because of exacting requirements and expensive refinements.

EAST BAY TUNNEL SLATED FOR CONSTRUCTION IN THE FALL

Half a million dollars will be available next fall for start of construction of the new inter-county tunnel, it is announced by George Posey, Alameda county engineer. Alameda and Contra Costa counties are to build the tunnel, with the assistance of the state, to replace the present tunnel connecting the two counties.

Posey said practically all rights-of-way for approaches to the tunnel have been obtained, and that plans are completed to proceed with the boring of the 3200-foot tunnel through the hills, which will be 300 feet below the present bore.

The tunnel, approached by a 60-foot highway, will provide four lanes of traffic and at least one 5-foot sidewalk for pedestrian travel. It will be constructed at 4 per cent grade, with radii curves of 800 feet in the approach roads and 1200 feet in the tunnel itself.

Three laterals will feed the Oakland approach to the tunnel; one from Berkeley, one from downtown Oakland and one from East Oakland. On the Contra Costa side of the tunnel, the approaches will enter the present highway 1500 feet northeast of the portal of the bore.

PRE-QUALIFICATION REQUIREMENTS OF NEVADA HIGHWAY DEPARTMENT

Contractors proposing to bid on the State Highway work of the State of Nevada, should bear in mind that the Department requires that a certified financial statement must be on file thirty days prior to date of opening bids. The Department has made this rule for the reason that experience has shown that it requires approximately this period of time to permit proper verification of the performance record and other matters in connection with the determination of the proper rating of the particular firm.

The Department has received requests for plans and specifications from contractors over a wide territory during the past few months and in each case, they have advised the firm requesting the plans and requirements in regard to qualifying as a bidder.

The regulations of Nevada in regard to filing of statements are practically identical with those of the State of California except in respect to requiring that statements be filed thirty days in advance of opening bids to permit the Department ample time to investigate the contracting firm. All contractors are therefore accordingly advised to keep this in mind when making application for qualification in the State of Nevada.

COLTON CEMENT



Uniform Quality : Service : Satisfaction

Manufactured by

CALIFORNIA PORTLAND CEMENT COMPANY

1228 PACIFIC MUTUAL BUILDING

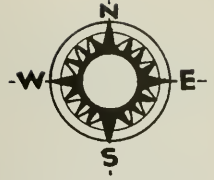
Mills at Colton, California

TR. 1271

Los Angeles



Here To There And Back Again



A BIG DAY—FRIDAY, THE 18TH

CLYDE W. WOOD, the Head Kleagle of the Northern California Chapter, A. G. C., has passed the word around for all the boys to kinder gang together on Friday, March 18th.

This "round up" will take place in the Engineers' Club, 206 Sansome Street, San Francisco.

There has been a varied program announced—something that will interest all the members, but there is still more to the story! CLYDE has something on his mind, and he is just printing a good-looking menu, in order to get all the Brothers to attend.

The speaker of the evening will be Honorable WILLIAM H. WORDEN, Director of Public Works, of the City and County of San Francisco.

In other words, our own Bill Worden will talk.

National Vice-President HENRY J. KAISER, of the A. G. C., will discuss the national Milwaukee Convention as well as telling about the work of the "AGC Consulate" in Washington.

Kaiser builds such things as railroads, dams, bridges and the like. There is a brand of goods sold known as "Kaiser Glove-Silk" but we think that must be two other fellows.

R. D. WATSON will talk about his pet child: "MEMBERSHIP"; and while we think of it, here is a tip for Watson: Round up and put the A. G. C. Brand on:

The Benbow Co., General Building Contractors. Located at Benbow, Humboldt County, California.
President: Joseph I. Benbow.
Vice-President: Burt W. Benbow.
Secretary-Treasurer: Clara E. Benbow.

What a letterhead we could print with that layout!

Much else appears. For instance, GEORGE POLLOCK will talk about Relations—Public as well as "In-Laws." ADOLPH TEICHERT, JR., has something to say about Credit. There are several others, but still we wonder what "hole card" CLYDE WOOD has!

DIVERSION OF THE GASOLINE TAX—perhaps is the answer!!

Diversion of the gasoline tax concerns far more people than Contractors and Road-builders. Such an act strikes at the integrity of our entire system of taxation, if integrity there be.

And before the State goes too far in cutting in by-passes on this tax money, let us recall a little incident happening 159 years ago.

Our Sires dumped a boat-load to tea overboard as a protest against taxation without representation. Diversion of a tax-levy amounts to the same thing!

ANOTHER PARTY

On the 18th and 19th, the California State Builders Exchange, Ltd., will hold its semi-annual pow-wow in Bakersfield.

G. A. GRAHAM is the Chief Fixer of the Convention assisted by a bunch of fast-stepping "pinch-hitters."

The Convention sessions will be held in the Spanish Bull Room of Hotel El Tejon.

NOTE: That "Bull Room" is a typographical error. We meant "Ball Room."

Ever stop at Hotel El Tejon? Delightful place, but we are always a little nervous there. Somehow we can't feel at ease in a hotel named "The Badger" when it is in hotels that the old "badger game" is generally played.

Conventions in general show the progress we are making under Prohibition. In the old days, the boys would go to Conventions, get all gowed-up and have a hang-over that would last three days after they returned home.

Things are different now. In the evenings, the boys drink ginger-ale and orange juice, and the next morning they start the day with an ice-cold glass of juice of the tomato, grapefruit or sauerkraut.

Who said "BURP?"

Bet six-bits even money that the last load of Ginger Ale the bell-boy brought up to your room was in 12 oz. bottles! This is not an ad, but Clicquot Club comes 16 oz. to the bottle. One third more for your money.



ADJUSTING HIGHWAY VIEWPOINT TO 1932 CONDITIONS

(Continued from Page 8)

way program. In some particulars this, at the moment, is not quite favorable.

For two years the states and the localities have put into road construction every possible dollar of road income because of the demand to furnish employment. The Federal aid highway program for 1931 was as follows:

FEDERAL AID HIGHWAY PROGRAM, 1931

| | Federal Aid | Total Cost |
|---|----------------------|----------------------|
| Work yet to be done on going program Jan. 1, 1931 | \$58,000,000 | \$131,000,000 |
| New work initiated during year | (136,721,689) | 283,637,422 |
| | (79,210,719*) | |
| Total | \$273,932,408 | \$414,637,422 |

*Emergency Advance.

The emergency Federal appropriation of \$80,000,000 made in December, 1929, was a very large factor in putting this work under way rapidly during the first six months of 1931.

With the Federal funds now available the possible Federal aid program for 1932 is as follows:

POSSIBLE FEDERAL AID HIGHWAY PROGRAM, 1932

| | Federal Aid | Total Cost |
|--|----------------------|----------------------|
| Work yet to be done on going program Jan. 1, 1932 | \$35,000,000 | \$79,000,000 |
| Possible program of new work using all available Federal aid funds | 113,879,088 | 261,190,568 |
| Total | \$148,879,088 | \$340,190,568 |

It will be noted that this is the possible program. I do not believe it is possible that under existing conditions the program will reach the possible figure of \$340,000,000, which is \$74,000,000 under that for the preceding year.

In addition to the Federal aid program, there has always been a large state program. For 1930, the state funds available for expenditure came from the following sources:

STATE HIGHWAY FUNDS, 1930

| | | Percentage of total funds available for expenditure |
|--|--------------------|---|
| 1. State tax and appropriation from State treasury | \$ 43,318,991 | 3.8 |
| 2. Special motor taxes | 700,911,184 | 61.7 |
| 3. Miscellaneous income | 17,083,821 | 1.5 |
| 4. Transfers from local units | 60,609,297 | 5.3 |
| Total current tax income | 821,922,293 | 72.3 |
| 5. Federal aid | 92,462,836 | 8.1 |
| 6. Bonds | 222,288,308 | 19.6 |

Total funds available for expenditure \$1,136,673,437 100.0

Of this total income, 19.6 per cent came through the issuance of bonds. While these bonds were predicated upon the income from the gas tax and motor vehicle license fees and did not impose a tax upon property, the market for such bonds at the present time is practically non-existent. It is not probable that the states will have available any considerable bond money for this year's construction program.

I do not anticipate the same percentage of transfers from local units.

These two items together, for 1930, constitute 25 per

cent of the total funds available to the states. In the meantime, there have been in a number of states diversions from the state highway funds of the receipts from the gas taxes and motor vehicle license fees.

A study for 1929 shows the following diversions:

DIVERSION OF THE REVENUE FROM HIGHWAY USER TAXES AND IMPOSTS FOR OTHER THAN STATE HIGHWAY PURPOSES, 1929

| | | |
|---------------------------------------|----------------------|--------------|
| 1. To secondary roads | \$122,379,000 | in 34 states |
| 2. To city and town streets | 16,743,000 | in 8 states |
| 3. State general fund | 95,000 | in 3 states |
| 4. To harbors and docks (Mississippi) | 189,000 | in 1 state |
| 5. To schools | 9,271,000 | in 3 states |
| 6. River channels (New Jersey) | 80,000 | in 1 state |
| 7. Administrative and miscellan. | 1,618,000 | in 6 states |
| Total | \$150,375,000 | |

There has been a considerable increase in these diversions since. Because the special taxes have been accepted by the public with better grace than any other taxes, have been easy to collect, and have grown in amount from year to year, at an unexpected rate because of the one fact that the public desires an increased mileage of new roads and a meticulous maintenance of the existing ones, the tendency to reach into these special taxes for other purposes is the most alarming one with which we have to contend so far as the future of a stable and adequate road program is concerned.

What has been said about the probability of a decreased state income for the ensuing year is even more true of the income for county and local roads. The larger part of the total funds available for these roads comes from property taxes and from the proceeds of bonds. Local property taxes will be reduced, and in general the market for the bonds of counties or other local units is not available at reasonable rates of interest and discounts.

As matters now stand, there cannot fail to be a materially reduced amount of money available for this year.

As a fourth and final point, there is the matter of possible adjustments to meet present conditions, some of which are now under way, and some of which entail material modification of our present methods and existing organizations.

There are at present on the Federal aid system 193,000 miles of main roads. Federal funds have been expended on 109,000 miles, leaving about 85,000 miles on which no Federal funds have as yet been used. Some of this mileage has been improved by the states, but a very large part of the 109,000 miles has not been improved as yet with an adequate type of surface. Our whole road building policy has been typically a United States policy of mass production, of extending service rapidly over a large mileage through first-stage improvement, and of bringing these roads up to the necessary higher type of improvement while using them under a constantly growing traffic. The result of this policy has been to make possible large earnings by way of the gas tax and motor vehicle licenses paid for the use of this enlarged mileage thus secured. This income for 1930 paid all but about three per cent of the states' contribution to the cost of the state programs. In addition, in 1929 there was allocated to other purposes \$150,000,000 and a larger amount in 1930.

In 1930, the Federal road aid amounted to only 8 per cent on the states' income for this purpose. State property taxes amounted to only 3 per cent. The remainder

(Continued on Page 16)

A. G. C. Chapter Activities

SECRETARIES OF A.G.C. CHAPTERS THROUGHOUT THE PACIFIC COAST
ARE REQUESTED TO SUBMIT ITEMS FOR PUBLICATION IN THIS DEPT.

CITES NEED OF VOCATIONAL TRAINING IN BUILDING TRADES

Mr. Herington, the author of this article, is widely known for his interest, breadth of experience and knowledge of building construction operations. He has been associated with engineering and construction work in the Pacific Northwest for some twelve years in the capacity of manager and executive secretary of the Portland Chapter of the Associated General Contractors, and as executive officer for numerous other engineering and building construction organizations. He was granted an honorary degree as Doctor of Engineering at the Oregon State College in June, 1931.—Editor.

By Dr. Geo. B. Herington, Consulting Engineer

The young man who seeks a life work is laying a foundation for carrying out his life's effect in just the manner in which he prepares to do it. The purpose of vocational education is that of enabling a young man to not only become useful but to know why he is useful, that he may think as he does his work, reason with his mind as he uses his hands, and thus become more than a mechanical worker doing one thing after another in a mechanical fashion, merely because one motion follows another. What he should know is why one motion follows another and when it is proper to change from doing it this one way to do it another way.

Vocational education, as it is applied in trades, is a means of bringing a young man into contact with the work itself in company with the men who are doing it, and of then going before an instructor and in an orderly manner being taught why these things are done. It is hardly possible to assume that such a process could do other than build better mechanics, men who are understanding mechanics, men who think out these processes and prove them and give a better effect to those who employ them and thus can obtain a better effect for their life work in their own interest and in the interest of those dependent upon them.

The man who thinks as he works should always be able to work better than the man who merely performs his work automatically like a machine. A machine may be developed to do anything which can be done by a series of infinite repetition of a given set of motions but the thinking has got to be put in the machine before the machine starts up. The machine will not go out and look for processes, it will not go out and look for new ways to take advantage of the work. The machine can only do those things which the original thinking put into its limited number of motions, but a man is superior to a machine in that he can do these things which the machine cannot do, namely, those things which require some original thought, and a reasonable application of circumstances as they appear.

Vocational education tends to build up mechanics who can think instead of human machines which can only do certain operations in a manner which has been thought out for them, as in the case of a machine. The mechanic

of the future must be forward of the machine. He must do things and think things and to do this he must be grounded in the fundamental whys of his trade and its relation to other trades.

Our world is getting more complicated and processes are getting mere intricate. The machine is encroaching on things which can be done to pattern. Therefore, the mechanic must be able to absorb new fields as they come to him. Therefore he must learn to think as he learns his trade if he is to make of himself the best which can be done in the field which he proposes to follow.

This is the opportunity offered by vocational education.

INTERMOUNTAIN BRANCH—Ryberg Bros., members of Intermountain Branch, A. G. C., were awarded contracts to construct the East and West Side sewer projects in Salt Lake City, it is announced by Mark Tuttle, Intermountain Branch manager. On the East Side project the contract was awarded on a bid of \$117,958 and on the West Side unit, on a bid of \$117,850. Concrete pipe will be used.

Speaking of the action of the city commission in this regard, Manager Tuttle says: "The action of the City Commission awarding two storm sewer projects to local contractors will be approved by a great majority of our taxpayers. The local company was low bidder for the type of construction selected on the west side project, and was only \$267 higher than the Los Angeles concern on the east side job. This bond issue was voted primarily to take care of the critical unemployment situation in this city, and these improvements would not have been otherwise authorized. As a general principle our Association stands for the awarding of construction to the lowest responsible bidder. We have all seen, however, many exceptions to this rule under the unemployment crises now existing. The awarding of these contracts to this local firm will insure all jobs, the high paid as well as that of the laborer being given to Salt Lake City residents, and those depending on work being provided in this city for their very existence."

At a meeting in Ogden on February 29, resolutions were adopted by the Intermountain Branch, urging the congressional delegation to vote and work for the passage of the Emergency Road Appropriation Bill. Resolution was also adopted opposing any diversion of gas taxes by the next legislature for purposes other than streets and highways. Salt Lake County Commission and the Utah State Road Commission for the purpose of urging that public work be done by contract, and requesting certain changes in the specifications as now adopted by the Utah State Road Commission, made his report covering the meetings with these bodies.



HERCULES EXPLOSIVES

THE CONTRACTORS' FAVORITE

HERCULES POWDER CO.



Standard Oil Building

San Francisco

Douglas 2330

Around The Builders' Exchanges

SECRETARIES OF BUILDERS' EXCHANGES THROUGHOUT THE PACIFIC COAST
ARE REQUESTED TO SUBMIT ITEMS FOR PUBLICATION IN THIS DEPARTMENT

**LEST YOU FORGET THE SEMI-ANNUAL
 CONVENTION OF THE CALIFORNIA STATE
 BUILDERS' EXCHANGE, LTD.
 BAKERSFIELD, CALIF., MARCH 18-19.**

SAN FRANCISCO—"Speaking of birthdays, our organization will soon be 42 years of age," says R. J. Forbes, secretary of the San Francisco Builders' Exchange. "Our exchange was organized on June 30, 1890, and incorporated on July 3, of the same year. It has had a steady growth with the exception of two or three periods of depression when the membership fell off some, but always when the depression ended the membership roll sprung ahead with renewed vigor and now when many associations are reported close to or on the rocks we have held our own with a profit showing every month and a membership roll of over 600 good and true firms, and a capital of about a quarter of a million. So, even with depression still having its effect, it is a very good thing to think twice before considering cutting expenses by withdrawing from The Builders' Exchange, far rather pay your dues of only 10c per day and hold your place in an organization that is constantly watching and fighting to keep the industry at the top."

Sixteen candidates seek election for the eleven places on the board of directors of the San Francisco Builders' Exchange. The election will be held March 21. Candidates and the crafts which they represent are as follows: Chas. W. Carle, reinforcing steel dealers; R. E. Ellison, pressed brick and terra cotta; E. J. Finney, painters and decorators; R. J. H. Forbes, concrete contractors; W. H. George, building material dealers; T. Hemi, roofing contractors; Emil Hogberg, masons and builders; E. M. Hundley, unorganized crafts; Joseph B. Keenan, marble dealers; W. W. Kowalkowski, tile dealers; J. D. McGilvray, cut stone contractors; Alexander Mennie, master plasterers; Mrs. Grace Peregó, home builders; James H. Pinkerton, plumbing and heating; L. R. Stinberg, ornamental iron; A. H. Wilhelm, general contractors.

FRESNO—A movement to bring about a 20 per cent reduction in the wage scale of union craftsmen in Fresno as a means of stimulating local building operations and relieving unemployment conditions has been launched by the Fresno Builders' Exchange, which organization has been meeting with the Building Trades Council. The plan, sponsored by the Exchange, was presented to the trades council group by Harry Cayford, secretary-manager of the exchange and A. M. Goeddel, plumbing contractor. Cayford said union craftsmen in other cities voluntarily have reduced their wage scales 10 and 15 per cent, in some instances where the old scale was under the Fresno scale.

A committee of five, representing the various building crafts, was appointed to meet the representatives of the builders' exchange to work out a program.

The committee includes Fred C. Huss, painter and president of the trades council; Jos. J. Creem, plumbers' union; Lon Bennett, laborers' union; J. H. Fiuren, roofers' union and Vincent Pascoe, plasterers' union.

SACRAMENTO—W. E. Truesdale, general contractor, has been elected president of the Sacramento Builders' Exchange. Allyn L. Burr, roofing contractor, was elected vice-president and Fred Gustafson, millwork contractor, elected treasurer.

Directors elected to serve for the ensuing year are: C. V. Brown, W. C. Keating, D. H. McAlpine, E. B. Moor, John Redmond, P. D. Reese, C. E. Turner and A. H. Wagner.

L. S. Patterson was re-elected secretary.

SANTA ANA—An exhibit of Residential Architecture in co-operation with Mr. Clifford Truesdell, Jr., is being featured by the Orange County Builders' Exchange, in the exchange headquarters at 206 Main street, North, Santa Ana. The aim of the exhibit is to create a better understanding of residential architecture most appropriate for Southern California and particularly Orange county.

"This exhibit," says Frederic W. Sanford, secretary-manager of the exchange, "carries but one definite purpose—to serve and co-operate with those who are now planning for their future home."

STOCKTON—John Pengelly was elected president of the Stockton Builders' Exchange at the annual meeting of that organization. Other officers elected were R. T. Goold, vice-president; E. M. Lewis, secretary; Alonzo Stone, assistant secretary; A. H. Sandberg, treasurer. New directors are John Pengelly, W. T. Gibson, A. H. Sandberg, J. H. Ecker, E. Brune, R. A. Forbes, R. J. Goold, J. C. McIntosh, E. M. Lewis, H. H. Henning and W. J. Scott. Past President L. S. Peletz presided at the meeting.

ALAMEDA COUNTY CHAPTER has started a movement to promote a home building campaign in 1932. All parties of interest are to be contacted and their support secured. The Realty Board and Chamber of Commerce have been contacted and have both promised their support. The newspapers, the Advertising Club, the Building and Loan Associations, the banks, the architects, the stores, the insurance companies, etc., are all to be contacted with a view to forming an East Bay Home Construction Council, or some such named body.

In the meantime Postmaster Nat Friend has promised the aid of the Government and is having a thorough survey made of all home vacancies. This work will be done by the postmen on the different routes, and should produce an accurate survey of existing vacancies. This should assist in determining the districts where home building can be most successfully carried forward.

With President Hoover's home financing bill behind new home construction, it is felt that 1932 ought to be a big home building year.

National Paving Brick Association, meeting February 10-12 in Chicago, re-elected its officers. They are O. W. Renkert, president; W. H. Moseley, vice-president; S. Nirdlinger, treasurer; George F. Schlesinger, chief engineer and managing director; Q. A. Campbell, assistant chief engineer.

Construction Materials and Equipment

TRADE NOTES—PERSONALS

CONNOR USES NEW ATECO "HIDDEN POWER" BULLDOZER

J. L. Connor, Monterey contractor, is finding plenty of work on the steel slopes of Grizzly Peak, Alameda County, for one of the new ATECO "Hidden Power" Bulldozers.

Connor is using the Bulldozer to build embankments on the Berkeley end of the new addition to the Grizzly Peak Highway. This new adjunct to an already famous scenic route will also act as a fire break, as well as providing additional thrills for the vista-loving motorist.

The Connor contract called for rough grading over a two and one half mile section, which meant excavating and moving 177,000 cubic yards of shale, dirt and hard rock. In some places the slope was well over 45 degrees. These are good tough conditions for any unit, and ATECO'S new Bulldozer is getting an acid test.



New B-60 "Hidden Power" Ateco Bulldozer Swings into action on the steep slopes of Grizzly Peak Road Extension in Alameda County.

This 1932 model presents several unusual departures in Bulldozer design. The outstanding feature is "Hidden Power." The elimination of all overmotor raising and lowering apparatus, and the placing of the hydraulic raising cylinder in one of the side arms in direct connection with the Bulldozer blade, mark the new design.

The absence of all outboard rig is strikingly noticeable.

Simplicity of construction; direct application of pressure both up and down, giving a positive control and set of the bowl; no visual obstructions for the operator; easy accessibility to the engine; are advantages claimed for the new design.

Besides the "Caterpillar" Sixty with the new ATECO B-60, Connor is using an old ATECO 8 ft. (B-8) Bulldozer with a "Caterpillar" Thirty, two Scarifiers, and a "Caterpillar" Thirty with an ATECO Hydraulic Dirtmover and two Northwest Shovels.

TRACTOR DRAWN DIRTMOVER WITH HYDRAULIC CONTROL

For use on grading operations involving the transportation of dirt over considerable distances the Jumbo Scraper Co., 2440 East Fourteenth St., Los Angeles, has developed the Jumbo hydraulic dirtmover, available in two sizes for operation with Caterpillar 30- and 60-hp. tractors. The smaller model has a bowl 7 ft. wide with a water measurement capacity of 65 cu. ft. It will carry a load of 2 cu. yd., and will partly carry and partly shove about 4 cu. yd. The larger model has a bowl 9 ft. wide, with a water measure capacity of 150 cu. ft. This unit will move about twice as much dirt as will the smaller one. The machines are simple in design and strong in construction. Operation is through two hydraulic cylinders, one of which governs the depth of cut and lifts the bowl, while the other dumps the load. A pump connected to the rear power take-off of the tractor provides hydraulic pressure, while control is through a special valve mounted within easy reach of the tractor operator.

STREET SWEEPERS FOR LIGHT TRUCKS NOW ON THE MARKET

The Willett Mfg. Co., Grand Rapids, Mich., has recently placed on the market a new road and street sweeper for attaching to trucks of about one and one half tons capacity. Power for operating the sweeper is taken off from the front end of the truck motor, and once the installation is made, the entire sweeper can be either disconnected or re-attached in fifteen minutes. Steering of the sweeper wheels is controlled by the steering wheel of the truck, and is properly synchronized therewith. Controls for the operation of the sweeper are conveniently located in the cab. While operating the broom the driver can vary the degree of pressure of the sweeper on the road surface. A sprinkler tank of 60-gal. capacity is supported by the sweeper wheels. Flow of water through the sprinkler nozzle is controlled by a gear pump, driven from the main drive shaft of the sweeper and which pumps water only when the broom is being rotated.

WESTERN CRAWLER DUMP WAGONS

The Austin-Western Road Machinery Company, 400 North Michigan Avenue, Chicago, Illinois, has published Bulletin W-31-H, which describes in twelve pages the Western Crawler Dump Wagons in capacities of five, seven, eight, to ten yards manufactured by Western Wheeled Scraper Company. The bulletin features illustrations of the dump wagons in outline and of how they are used in dirt moving. It gives also specifications and describes the advantages of the Western wagons, including the spring windup and Athey truss wheels.



Super Concrete Emulsions

Limited

—for Better Concrete

3710 S. ALAMEDA ST., Los Angeles

District Offices

46th Ave. and
Clement St.
Oakland, Calif.

208 Stock Ex. Bldg.,
Portland, Ore.

216 Walker Bldg.,
Seattle, Wash.

San Carlos Feed & Fuel Company

SAND, ROCK AND GRAVEL
ROAD AND BUILDING MATERIALS

PHONE SAN CARLOS 250

Old Highway

San Carlos, Calif.

ADJUSTING HIGHWAY VIEWPOINT TO 1932 CONDITIONS

(Continued from Page 12)

came from the road user taxes, bonds predicated upon these taxes, or from miscellaneous sources.

The very small contribution made from state property taxes could be withheld without the effect being particularly noticeable.

The states which retain intact the income from the road user taxes have no difficulty in meeting the Federal aid many times over. It is only the states which, as a legislative policy, divide these taxes back to the counties or other sub-divisions, that have difficulty in financing a reasonable state program, or in meeting Federal aid without property taxes of any kind.

Federal road aid, by holding the expenditure of road user taxes imposed by the states, to a co-ordinated system of highways, not only between the states but for the nation as a whole, has had a profound effect in providing quickly a continuous system of roads which is earning a very large annual income for the public, and in holding construction to the standards that are necessary for economical maintenance. Federal road aid has been a large factor in bringing constructive economy into our expenditures for improved highways.

In addition to the system of main roads, there is no greater desire existing on the part of the public than to secure an adequate system of secondary or farm roads.

Federal aid, while it is directly applied to the Federal aid road system, has helped to make possible the taking over of local roads as a state responsibility and the adding of these to the state systems.

In 1921, the state highway system consisted of 203,000 miles. In 1930, it contained 324,000 miles. In that nine-year period there was an increase of 121,000 miles of roads, lifted from the county systems and added to the state systems, to be constructed and maintained at the expense of the states, which means at the expense of the road users. During the same period, about 109,000 miles of roads received Federal funds.

Since the roads taken over by the states include those most heavily traveled, Federal aid has been one of the major factors in making it possible to relieve the burden of road taxation upon the counties and local units which are in the main supported from property taxes. The relief by Federal aid of local property taxation is strikingly illustrated in Wisconsin. In 1930, the cost of Federal aid roads was paid 17.8 per cent from Federal aid, 59.2 per cent by the state from road user taxes, and 23 per cent by the counties. The state trunk-line roads not on the Federal aid system were paid 59.8 per cent by the state and 40.2 per cent by the counties. That is, the entire Federal contribution was applied to decrease the cost to the counties of the Federal aid roads.

It has been stated that Federal aid takes from the rich states and gives to the poor states. Most of the states as such pay no road taxes, but in a few, small property taxes combined with miscellaneous revenues and appropriations, total for the total state road programs about 3 per cent. But the revenues from which Federal aid is paid are not state taxes in any sense. They are indi-

vidual taxes, and there is no justification for claiming that Federal income taxes are any part of the state revenues. The income of the wealthier individuals and large corporations of the United States, from which the major portion of the Federal taxes come, are the results of production and sales in all of the states. The profits on the mines of Arizona accrue to individuals in the Eastern states, and the income tax is credited to the district in which they have their residence. If Federal income tax were credited to its source rather than purely arbitrarily to the place where it is paid, we would have a very different distribution of the Federal income tax payments, and there is absolutely no basis for any state to claim that the Federal income taxes paid in that state belong to the state or are taken from the state. The return throughout the United States of a certain part of these revenues for road improvement is probably one of the fairest distributions of this form of taxation that could possibly be devised, and one of the most healthy for the good of the nation. Thus, we find the Federal road aid and the income from the road user on the main roads and streets of the nation assisting in lifting the burden of taxation from the rural areas which have gone through an unprecedented period of capital depreciation and loss of income.

It does not seem possible to go much further in this direction at the present time, since there must be some assistance given to the cities and towns on their streets which are parts of the main state highway system, and it is fair that this shall come about. But there is an adjustment which can and must be made in the management of finances for rural roads. Improved methods of travel and the development of equipment capable of much greater production, both in construction and maintenance, indicate the desirability of consolidating the smaller road units into larger single units. In some sections it would possibly be sufficient to consolidate all units under the county. In others, a number of counties can be consolidated into one district. There has already been progress in this direction, and a considerable number of states have extended their facilities for direct or general engineering supervision and administration as well as financial help. There are many counties where the road problem is sufficiently large that the road organizations should be maintained. To attempt to place all of these counties under a single state administration would make an unwieldy and inefficient machine. But there is no doubt that through co-operation between the state highway departments and the county engineering units, a correlation and unification of results could be secured at a lessened cost. We have more than 3,000 counties in the United States.

A large number of these could be consolidated for road purposes at least with a resultant lowering of overhead costs, and the doing away with inefficient administrative

Golden State Flooring Corporation Hardwood Flooring Headquarters

C. E. COATES, Manager

RHODE ISLAND STREET, Bet. 16th and 17th Street
San Francisco, California
Telephone MARKET 3177

Normandie 4303

Normandie 7715

LEO HONEK

EXCAVATING CONTRACTOR
CONCRETE PAVEMENT BREAKING
Compressed Air Equipment

2941 Denby Avenue

Los Angeles, Calif.

boards. Only such a re-organization can effectively increase the field for efficient and economical engineering and contracting in the building of local or secondary roads.

There is a tremendous reaction against taxation, particularly the taxation of real estate and agricultural property. So long as taxation authority is vested in the very large number of boards existing, and so long as the incessant demands for expenditures for public improvements and for other purposes have their impacts upon these same boards, there is little possibility of any rapid relief from taxation.

It is possible to put our house in order in the highway field, taken as a whole by the elimination of small taxing and expending districts, by the application of modern methods of engineering, construction and maintenance to the problems of consolidated districts. These are necessary to secure the continuation of an adequate road program if road revenues are materially reduced.

I believe that we are on a permanently lower level of prices for road work, but it is impossible to expect, and unfair to ask, that today's prices be continued when the nation's affairs have readjusted themselves to a more normal basis. Yet, I do not see in the present situation any real economic trends that are antagonistic to a continuation of a large annual program of road work or the lessened importance of highways and their utilization to the public; rather the opposite.

There should not be, and I do not believe there does exist, any hostility on the part of responsible individuals engaged in the highway field in whatever activity, toward other agencies of transportation, but rather a desire to co-operate and to co-ordinate highway transport with other agencies, retaining only the fair field which it can economically fill.

It is my hope that under the existing difficult conditions the utmost spirit of friendliness and good will shall prevail within the highway industry through the coming year in the effort to improve our whole economic condition.

TANK SPECIFICATIONS AVAILABLE

A revision of its Regulations for the Construction and Installation of Tanks—Gravity and Pressure, Towers, etc., has just been published by the National Board of Fire Underwriters. The regulations are recommended by the National Fire Protection Association. The revision includes specifications for steel gravity water tanks, for steel towers, wooden water tanks, foundations, pipe connections and fittings, valve enclosures and front protection, tank heating equipment, and pressure tanks.

Colonel William C. Gardenhire, head of the Quartermaster's Construction Department at March Field, Riverside, announces he has made application for retirement after 33 years service. Colonel Gardenhire was the builder of the \$5,000,000 air headquarters at March Field. He had been ordered to report to Fort Benning, Georgia, on May 14. He said he intended to make his home in California after retirement.

Pacific Clay Products

General Offices: 650 Chamber of Commerce Bldg.,
1151 SOUTH BROADWAY
Los Angeles, Calif.

AMERICAN STANDARD FOR REINFORCING BARS O. K'D

An American standard for steel reinforcing bars (A47-1932) has just been approved by the American Standards Bureau. The new American standard gives 11 standard cross-sectional areas for steel reinforcing bars, ranging from 0.05 to 1.56 square inches. Such designation is commonly used for this product, rather than designating a round bar by its diameter or a square bar by its side.

The standard was submitted to A. S. A. jointly by the Concrete Reinforcing Institute and the National Bureau of Standards, as endorsing sponsors. The Institute, which represents a large percentage of the fabricators of steel reinforcing bars, has strongly promoted the establishment of the standard in question, while the Bureau of Standards has published the standard as Simplified Practice Recommendation R-26-30.

Copies of the standard are available from the American Standards Association, 29 West 39th St., New York City, on payment of five cents each.

Worthington Pump and Machinery Corp., Harrison, N. J., announces the following changes in personnel: C. E. Wilson, from general sales manager to vice-president in charge of industrial relations; Clarence E. Searle, formerly of Allis-Chalmers Mfg. Co., has been made vice-president in charge of sales; Charles N. Barney, former secretary and general counsel, is now secretary, treasurer and general counsel.

Don't Fire Your Stenographer



... ON FRIDAY

MAYBE she just seems dumb because your nerves are on edge by the end of the week. Come to San Francisco for relaxation. Enjoy a week-end like this . . . all for . . .

\$11.30 for 2

Saturday: Park view room and private bath; dinner dance at gay Bal Tabarin, or dinner at the Plaza; corsage for the lady. Sunday: Breakfast in your room; matinee at any Fox West Coast theater; dinner de luxe in Plaza dining room. \$11.30 pays for it all . . . for two, if reservations made in advance. RAY MAXWELL, Mgr.

HOTEL PLAZA
POST STREET AT STOCKTON
SAN FRANCISCO

Supreme Court of Utah Bars Hand-Labor on Public Works

(The accompanying article was prepared for PACIFIC CONSTRUCTOR by Mr. H. A. Rich, attorney for the Intermountain Branch, A.G.C., at the request of Mark Tuttle, manager of the branch with headquarters at Salt Lake City, Utah.)

A most interesting decision has, during the last few weeks, been handed down by the Supreme Court of the State of Utah in the case of L. D. Bohn v. Salt Lake City.

The citizens of Salt Lake voted \$600,000 in sewer bonds for the purpose of constructing a drainage sewer, and Salt Lake City, for the purpose of getting the maximum amount of benefit to the unemployed, required contractors to bid on the project upon the basis of contracts containing the following provisions:

"(1) So far as possible, there being no substantial and material difference in price to them, that all materials shall be Salt Lake City products and manufacture, and if not procurable in Salt Lake City, then Utah products and manufacture, and if not procurable in Utah, the contractor shall have the right of selection.

"(2) That all excavating, loading and backfilling shall be done with hand labor, except that teams and tractors may be used for plowing and loosening the materials to be mined.

"(3) That contract shall rotate all common labor, and, so far as practicable, all other labor once each week and shall not employ any workmen more than two weeks in any month, nor shall they employ any workman in any month who has had two weeks work from any source during any given month if there are other men who are unemployed and available. An agency is set up by the commissioners to register all laborers with reference to such desired information; such agency shall not refuse registration to any able-bodied citizen of the United States who has been a bona fide resident of Salt Lake City for the past year:

"(4) Preference in employment shall be given to citizens of the United States or those having declared their intention to become such, and particularly residents and heads of families of Salt Lake City;

"(5) Eight hours shall constitute a day's labor;

"(6) That \$3.50 per day shall be paid as a minimum wage."

These provisions were defended by the city upon the grounds:

(a) That a national emergency exists, and that it was not wasteful or improper to increase the cost of the project for the purpose of aiding unemployment;

(b) That the City Commissioners are vested with wide powers of discretion, and that it was not an abuse of discretion to do the work in the manner specified; and

(c) That the city has the power under the general welfare clause to make appropriations for charitable purposes, and that granting this to be in effect the giving of aid to charity that it was within its power to do so.

The Supreme Court of Utah held each and all of the provisions invalid, excepting the provision for an eight-hour day, and the further provision with reference to the purchase of Utah products. The following excerpts from the opinion are very interesting to contractors:

"It is not only obvious, but it is specifically admitted, as well, that the very unusual specifications in respect to the employment and rotation of hand labor were inserted in the proposed contracts on the city's instance for the purpose of creating employment. We then have a situation before us where the city and its commissioners, in discharging the obligation resting on them by the bond and contract, have insisted on restrictive specifications being made a condition of the proposed contracts, which, they frankly admit, will enlarge the cost thereof to the extent of \$55,000. It is not urged that this extra expenditure adds anything to the value or to the merit of the work to be accomplished. It is frankly admitted that it does not. The decision to make this extra expenditure was not the result of any consideration tending to advance or promote the interest of the storm sewers, but was motivated entirely by considerations affecting the unemployment situation. These statements are all conceded."

"Controlled by these elementary and well settled principles, and keeping in mind that the city is engaged in carrying into effect a given power authorizing it to provide a system of storm sewers, it is plain that the city's action in insisting that the labor specifications we are now considering be made a condition

of the contracts and proposed contracts for the sole and admitted purpose of alleviating in part the unemployment situation carries it far beyond the orbit of the power it is ostensibly asserting. Its action in this respect is wholly without authority. We say again that it is not conceded that the United States question were inserted in the proposed contracts to enhance or promote any interest pertaining to the construction, character or condition of the storm sewers. The only justification offered for the insertion of such provision as conditions of the contracts is that of the employment situation."

"There is in this state no express or implied power conferred upon a municipality which directly or by implication authorizes a city to dictate to a contractor the wages that he shall pay his employees."

"The power and right of Salt Lake City to impose restrictions in the proposed contracts that give preference to heads of families of Salt Lake City is also fairly brought in question under the issues before us. In considering this question it should be kept in mind that the public policy of this state is fixed primarily by the Constitution of the state and the legislative enactments and to a very inconsequential extent by the decisions of this court. There is a statute in this state bearing directly upon the proposition we are now considering. Comp. Laws Utah, 1917, Section 819, provides:

"In employing workmen in or on the construction of public works by the state, county or municipality, or by persons contracting with the state, county or municipality, preference shall be given citizens of the United States, or those having declared their intention of becoming citizens. In each contract for the construction of public works the provisions shall be inserted to the effect that the provisions of this section are not complied with the contract shall be void."

"It is thus seen that the statute, in the employment of labor on public works, whether by contract or otherwise, has given the preference to the heads of families of the state, and voters who declared their intention to become citizens. But the city, in letting the contracts, has imposed conditions that preference be given to residents of Salt Lake City and who are heads of families. It is thus obvious that the city by so doing imposed a preference not embraced nor included in the statutes, and contrary to the statute restricted and limited the preference to heads of families of Salt Lake City. The city was, as we are, bound by the Constitution of the state and the legislative enactments, and which may not lawfully be enlarged or restricted. This provision of the contract cannot be sustained."

"Though it be argued and assumed that because of the depression and the conditions of employment the voters voting for the bonds did so to construct the contemplated works now so as to give employment to those out of employment, yet it may not be assumed or implied they did so upon any understanding or consent that the construction of the works was to be on a basis other than on a practical and economical one, and certainly not on any basis of waste, or of a diversion of the funds, or by the application of any part of them to some collateral purpose or to anything not directly incident to the construction of the works themselves."

"Mindful must we also be of local and state-wide public demand that public expenditures be reduced as far as practicable, and not increased by additional revenues unless actually necessary, and that all public expenditures be made in the most practical and economical manner."

"Still, it may not be inappropriate to observe that in view of prior decisions of this court it is not at all clear that the city lawfully could enter upon the construction of such a contemplated public improvement as here, amounting to \$500,000, without making estimates of its cost thereof and submitting proposals for bids and letting contracts for the construction of it. Bonneville Irrigation Dist. v. Ririe, 57 Utah, 306, 195 Pac., 204. It was there stated that, 'it may be said to be the general policy of the state, that no contract shall be awarded by any municipality or public corporation for any public improvements except to the lowest responsible bidder after publication.' Comp. Laws Utah, 1917, Section 819, as amended by Utah Laws, 1918, 1919, Utah Stats. & Tr. Co. v. Salt Lake City, et al., 44 Utah, 150, 138 Pac., 1165."

"It is claimed such statement was not necessary to the decision, and therefore is of no binding effect. The statement as to the declared policy of the state was correct and relevant. Considering the general scope and purpose of our laws on the subject, it may not well be disputed that such is the general policy of the state. Nor may it successfully be contended that such is not a wholesome policy. As is stated in the cited Section 819 as amended by Laws Utah, 1918, Chap. 14, as supporting such declared policy. The effect of what is now claimed is that the citation does not support the proposition for which it was cited. This court thought it did, and for that purpose cited it."

"The expressed policy in the Bonneville case is but in harmony with the general doctrine that proposals for bids for certain municipal contracts to be let to the lowest responsible bidder are for the purpose of inviting competition, to guard against favoritism, improvidence, extravagance and fraud in awarding contracts, and for the benefit of taxpayers to secure the best work and supplies at the lowest price practicable. III McQuillin Municipal Corporations, Second Edition, Section 1286."

"The principle is also well discussed and upheld by Mr. Justice Brewer in the case of State v. Township of Osawkee, 14 Kan. 322. The Lovell Case, in the case of The Citizens Savings and Loan Association v. Topeka City, 20 Wall., 655, 22 U. S. Ed., 455, where the basic principle of law was involved, is cited and approved; and Rose's Notes on U. S. Reports, Rev. Ed. Supp.

Vol. 1, page 1342, and Rev. Ed. Complete Citations, Vol. 8, age 57, show numerous cases where the Popoka City case was approved and followed to the effect that the taxing power must be exercised only for public purpose and not to aid private enterprise which may benefit public collaterally. Such principles are here applicable, not in the sense that the bonds are in themselves invalid, for they were duly authorized to construct the municipal improvement, and, as has been seen, were issued and negotiated stripped of the objectionable features complained of, but in the sense that the city, by imposing and requiring the performance of the complained of provisions in contracts let and to be let for the construction of the improvements, applied and will apply a substantial portion of the proceeds of the bonds to an object and a purpose which is not the essential character of the object and purpose intended, but in a claimed advancement of public welfare, to a purpose admittedly to promote private interests of individuals out of employment, and by such provisions requiring the employment of a larger number of men than is necessary to construct the improvements, which essentially constitutes an application of a substantial portion of such proceeds to a private and not to a public object, and hence, equally objectionable as though the submission and issue of the bonds had been directly based on such object and purpose.

"Thus, when the city admits that it is not prosecuting the work as a reasonable and practical cost, and that it is not required to do so admits that for collateral and ulterior purpose, and to promote private interests of a particular class, it is so prosecuting the work as unnecessarily to require the employment of a great many more men than are necessary and at a substantial and unnecessary cost to the taxpayers, and in proposed conditions requiring 90,000 eight-hour day shifts for common labor to complete the construction of the improvement, when without such conditions the construction could be completed with one-third the number of men, and under circumstances taxpayers may not legally complain, it is difficult to perceive under what circumstance they may do so, and still more difficult to perceive how to so prosecute the work was within the discretion of the Board of Commissioners, and was not a clear violation of the trust imposed upon it in handling and expending moneys of the taxpayers."

"There are so-called 'cracker-barrel philosophers,' who by their pseudo-philosophies, contend that the more difficult it is made to do a thing the better it is for those who have to sell labor, denounce the machine age and mass production, insist that modern labor-saving machinery diminish employment and drive the many to make necessary cost to the taxpayers, and in large extent the use of them should be restricted or prevented, that mankind would be better off by causing work to be less productive and by requiring additional labor to accomplish the same thing, or by getting the thing done as possible by as much labor as possible, all of which, Professor Tausig in his treatise on 'Principles of Economics,' Vol. 2, 194, has shown to be spurious, and that if all men did that, all would be worse off." To such effect are also other well recognized authorities on economics.

"It is further to be observed that one of the provisions embodied in the proposals for bids and contracts let and to be let for the construction of the work, requires the contractor to employ all workmen therein through the agency appointed, controlled and directed by the Board of Commissioners. While the contractor is permitted to select workmen furnished and supplied by such agency under rules and regulations promulgated by it and approved by the Board of Commissioners, yet otherwise he is given no choice in the selection of these workmen, and thereby a substantial limitation and restriction is put upon competition and opportunity in obtaining labor, as well as to the character and quality of it, except as the contractor may be able to select it through those good, bad and indifferent furnished and supplied by the agency. By his contract, the contractor is held to a strict compliance with the plans and specifications prepared and submitted by the city and to a full completion of the work to its satisfaction, and is in every way held liable and responsible for the manner in which the work is done by his workmen, yet, to a substantial degree is limited and restricted in the selection and hiring of his workmen. By the contract he even is not given the right, for cause or otherwise, to discharge any of his workmen, except as may result from a rotation of them as by the contract and rules and regulations of the agency provided. That such a provision materially affects competitive bidding and tends to influence the conclusion to be reached by a responsible bidder as to the amount or price for which he, in view of such restriction, may be willing to undertake the construction of the work, may not be so doubted. It is conceivable, because of such restriction, that some responsible bidder would even decline to bid or enter into contracts to do the work under such conditions and restrictions imposed and required. If competition with respect to any material element by proposals for bids and by contract be limited or restricted, the very purpose of submitting proposals for bids to obtain contracts to do the work at a reasonable and practical cost, is to that extent impaired, if not destroyed. *Frame v. Felix*, 167 Pac., 47, 37 Atl. 275, 27 L. R. A. 502, *Strey v. Varney Electric Sup. Co.*, 58 N. E., Ind., 61 L. R. A. 154, *Fiske v. People*, 111, 58 N. E., 985; *Wright v. Hocter*, —Neb.—, 145 N. W., 704."

When these provisions were first attempted to be inserted in Salt Lake City contracts, the Associated General Contractors of America appeared before the City Commission and protested against their insertion, and at

that time advised the City Commission that in the judgment of the Association the taxpayers would not consent to their insertion. They urged, on the contrary, that the city, instead of adopting more expensive methods, adopt the policy of doing more work and thus arrive at the same result, so far as the unemployed workmen were concerned; in this manner giving the maximum amount of employment to workmen, and at the same time, giving the taxpayers full value for their money.

The city at that time adopted the advice of the Contractors' Association, but subsequently, when unemployment increased, and under the urge of the "Make-Work" Committee of the government, decided to insert the questionable provisions. A suit was filed by a taxpayer in the District Court, as a result of which all work was stopped. Realizing that this state of uncertainty would be for the benefit of no one, and that it was to the advantage of everyone to have the matter determined as speedily as possible, the contractors, through their counsel, decided to file a suit in the Supreme Court petitioning for a writ of prohibition against the insertion of these provisions in city contracts. In doing so, the contractors requested that the taxpayer who had filed his suit in the District Court be requested to present his case in the Supreme Court, which he did, with the results noted. The attitude of the contractors in this state was that while they questioned the validity of the provisions, they were perfectly willing to be good sports and citizens by not questioning them themselves, but when they were questioned by taxpayers they likewise felt that as good citizens they should assume the burden and responsibility of presenting the issue to the Supreme Court in order that the matter might be put at rest.

While the decision was rather hard for the unemployed to take, it undoubtedly is the law of this state, and contains some expressions which will very materially aid the contractor in the future in dealing with public agencies. It will be particularly noted that the Supreme Court of this state reaffirms its former pronouncement to the effect that it is the settled policy of the State of Utah that all work of a substantial nature shall be done by contract after calls for bids.

YARD SWITCHING BY CABLE CAR

Cable cars, or barneys, used for flat switching in a classification yard at Chemnitz, Germany, operate on narrow-gauge tracks between the running rails of the switching leads. They are handled by a remote-control system from an elevated cabin, the operator in which has communication with the yard switchmen by means of loudspeakers. Except that the tracks are level, the cable system is similar to that commonly used in this country for pushing cars up steep inclines onto coal docks, while the remote-control system corresponds to the handling of motor dump-cars at quarries and other industrial works.

National Equipment Corp., Milwaukee, announces the appointment of W. J. Koehring as president to succeed his late brother, Philip Koehring.

SMITH BROS. TRUCK CO.

"TRANSPORTATION SPECIALISTS"

Portable Crane Service—Rigging

1704 E. 16th St. Los Angeles WEstmore 3271

San Carlos Feed & Fuel Company

SAND, ROCK AND GRAVEL
ROAD AND BUILDING MATERIALS

Phone San Carlos 250

Old Highway San Carlos, Calif.

RADIO "MASS MEETING" HITS NEW AUTO TAXATION

In a coast to coast broadcast conducted on the evening of March 2, under the auspices of the American Automobile Association, representative men and women from every section of the country served notice on officialdom that recurring tax impositions on the motorist must cease. Members of Congress and of the Cabinet were formally invited to listen to the broadcast.

Fifteen speakers took part in the protest against proposed new federal taxation on automobile owners. They included officials of motorists' organizations and representatives of various classes of automobile users, including a salesman, a rancher, a farmer, a mechanic, an editor, a physician, two educators, a woman driver, a state road official, and a tourist.

The symposium of talks was conducted over facilities of the National Broadcasting Co., with San Francisco, Chicago, Washington, and New York as the key points for the rally. Concluding the program for the west, E. B. De-Golia, Acting President of the California State Automobile Association, spoke as follows:

"You have listened to a nationwide protest against the imposition of federal taxes on the motorist. We are now back in California. There are persons in this fair state of ours who desire to increase our gasoline tax for several new purposes. There are others who advocate the diversion of some of the funds now received from the motorist to other uses. The California State Automobile Association stands strongly against all of these schemes.

"Our sane and businesslike highway program can only be continued by leaving things alone. The motorist pays enough taxes now.

"We must resist these proposals, whether they be for a diversion of highway funds to the state's general fund, a change in the disposition of the moneys, or an increased tax. Can not we leave well enough alone?"

Other speakers from San Francisco were John Leonard of Cupertino, a rancher; Dr. E. B. McDaniel, of Portland, Oregon; and E. F. Jones, salesman, and James A. Gorman, motor touring enthusiast, both of San Francisco.

Thomas P. Henry of Detroit, president of the American Automobile Association, and Ernest N. Smith of Washington, D. C., executive vice-president, delivered keynote addresses on the program. In a statement following the broadcast, Mr. Henry commented on its significance as follows:

"The protest, representing the viewpoint of the average car owner, was specially addressed to Congress because of the wide apprehension that special federal motor taxes may be superimposed on the structure of topeheavy and discriminatory levies now enforced by the states and municipalities. National, state, and local officials now have before them what amounts to a complete summarization of the rising indignation of the mass of car owners against being made the scapegoats of the tax problem.

"This protest clearly shows that unfair motor taxes are proving a serious handicap to the farmer who depends on the motor vehicle to market his products; that they are adding to the cost of education; that they are increasing the cost of sickness; that they are compelling vital sacrifices in household budgets; that they are adding to the cost of selling; that they are affecting the standard of living of the working man; that they tend to diminish tourist travel; and that entry of the federal government into the field would entail grave results.

"We must get back to a sound foundation. We must

see to it that only the state can levy special motor taxes. We must insist that these taxes be used only for road purposes and not a cent for general tribute. We must have a guarantee that the rate of these taxes bears a fair ratio to road benefits, not to motorists alone but to other elements and interests as well. Otherwise the entire motor tax structure will assuredly break down."

STREET LIGHTING FOR CHICAGO

To produce the lighting standards for lighting 250 miles of Chicago residential districts within 120 days, the Cleveland, Ohio, plant of the Westinghouse Electric and Manufacturing Company was equipped with special machinery. Part of the equipment consisted of a special sand slinger which operates with great rapidity and force thereby eliminating all hand tamping. Eight thousand standards were cast at a minimum rate of ninety-six per day. All the fluted standards, capitals, sockets and aluminum canopies for this lighting installation were produced and shipped within the allotted time.



Pouring molten metal into moulds at the Cleveland Ohio Works of the Westinghouse Electric and Manufacturing Company. These castings will be used as part of the Chicago street lighting system.

OVERHAULING THE GASOLINE-DRIVEN SHOVEL

If the climate in your locality necessitates a complete shutdown for the winter, you should by all means utilize the time in getting your machine ready for a busy season next spring. Here are some of the things that most frequently require attention:

Remove the cylinder head; clean carbon, grind the valves, replace valves and piston rings if required; take up the bearings, clean the lubricating system and fuel tank. Clean the machine thoroughly. Inspect all gears and sprockets for alignment; chipped and badly worn gears should be replaced. Inspect and tighten all drum bearings; babbitt or replace bushings where needed. Adjust clutches and brakes; refine them if worn. Go over all sheaves; rebush where necessary; if sheaves are rough, turn them down or replace them. Replace or sharpen all blunt bucket teeth. If equipped as shovel, inspect dipper door, sticks, shipper-shaft, and crowd chain. Check over propelling mechanism, the gearing, sprockets, bushing, and link pins. Tighten all bolts.

Throughout the overhauling job it is well to remember that every moving part must be provided with ample means for lubrication. Unless defects in the lubricating system are corrected the newly installed parts will not give the long period of trouble-free service to which you are entitled, according to *The P. & H. Crowd*.

CONTRACTORS LEARNING UNITY THROUGH HARD EXPERIENCE

"Contractors have been hit severely by the depression. Decline in volume of work accentuated the ferocity of price competition. Profit margins have been wiped out or reduced to the narrowest limits. Managerial abilities are being taxed to the utmost."

So says E. J. Harding, managing director of the Associated General Contractors of America, in an article published in *Engineering News-Record*, (New York), issue of February 4. Continuing Mr. Harding says: "In themselves the problems arising out of internal competition are not new. They have always existed, and since 1924 they have been gradually increasing in intensity. They originate in loose credit practices, irresponsibility on the part of a few general contractors, and failure on the part of those awarding contracts to examine into the qualifications of their bidders. During the past year these internal maladjustments of the industry have been brought home to all elements involved in construction.

"External business conditions have also played havoc with many otherwise responsible general contracting concerns. Finances have been tied up in closed banks. Assets have been depreciated. On the other hand, irresponsible firms that operated on false credit during boom times have been eliminated from the field. The breakdown of credit unfortunately hits some responsible as well as irresponsible firms and presents new problems to organized contractors. The solution to those problems requires that ways must be found to safeguard the depleted credit of responsible concerns. It requires that the chain of co-operative credit bureaus already established be extended nationally and the plan for the creation of a sound credit structure for the entire industry be carried out in full.

"Altogether, it appears that the long-time program of the A. G. C., involving the creation of a sound credit structure, sound merchandising procedure, prequalification of all contractors who desire to bid, and the general curbing of irresponsibility is essential in both good and hard times.

"To sum up; the one outstanding result of the current depression has been to cause general contractors to come closer together in their national association. Local isolation has been broken down to a greater extent than ever before. Bidders go farther afield in search of work. The national aspect of problems is better recognized. It is further recognized that only national action can succeed in working out of present conditions, and that general contractors alone are unable to initiate that action.

"Present conditions will not adjust themselves. They must be adjusted. There are two processes for carrying out the readjustment: protection of high wages and of security values on a pre-depression basis can only be brought about by some process of inflation of currency, the final result of which will be the indirect liquidation or marking down of real values; on the other hand, continuing the present process of deflation will have the same final result.

"To the A. G. C. it seems that the inauguration of an extensive program of construction of needed public and semi-public works provides the means of softening the process of readjustment. We are convinced that the financing of such a program will be less burdensome in the long run than any attempt to carry out a readjustment without such construction activity."

Blaw-Knox Co., Pittsburgh, is entering the dust-collector field with two lines of equipment developed and ready

STANDARDS FOR MANHOLE FRAMES AND COVERS PROPOSED

A proposal for an American standard for manhole frames and covers containing recommendations for thirteen types of frames and seven types of covers, to replace the thousands of types now in use, has been published by the American Standards Association, 29 West Thirty-ninth Street, New York City. The demand for innumerable, different designs and sizes of openings for manholes by the various public utilities and municipal supply departments which make use of manholes for their underground pipes and lines has caused many difficulties in manufacture and replacement of manhole frames and covers. The present concerted effort of over twenty-five engineering associations, engineering societies, and public utilities to standardize on a few sizes and styles is the result of these difficulties. Since nineteen-twenty-four a technical committee has been working on the subject under the procedure of the American Standards Association, going through a long process of elimination, selection, and redesign.

The committee is now circulating a questionnaire to all those concerned with the production and use of manhole frames and covers to determine whether producers and users find the recommendations satisfactory or whether they wish to make suggestions for changes. The proposed standard includes drawing showing designs and dimensions for the thirteen types of manhole frames and the seven types of manhole covers which are recommended. It is believed that this limited number of frames and covers will meet the present requirements of the various utilities concerned.

According to Mr. Fish, the chairman of the committee, in one city alone, having a population of about five hundred thousand, it is estimated that there are at least one hundred different types and sizes of frames and covers in use. A single foundry in another city reports that it has about two thousand different sets of patterns for manhole frames and covers, and nearly six hundred of them are listed as being active. Copies of the proposed American tentative standard manhole frames and covers, published for general comment and criticism, are available from the American Standards Association, 29 West Thirty-ninth Street, New York City.

KEEP COOL AND HINDER FLIES

If it gets too hot in the cab of your shovel, mount an electric fan if your shovel is electric-driven; but if it is driven by steam or gasoline you might rig up an automobile fan, and belt it to a large-diameter pulley face, which may be that of the clutch driver. By using such a fan you will also shut down the parking space for flies and mosquitos.

WANT A CALENDAR?

Link-Belt Company, 910 South Michigan Avenue, Chicago, Illinois, has issued a twelve-page art gravure calendar of twenty-four by fifteen inch size, each page illustrating material handling, screening or positive power transmission equipment. The calendar furnishes at a glance three months, namely the current, past and future month. Any engineer or contractor requesting a copy of the Link-Belt calendar on his letterhead is assured one.

for the market and other lines in process of development. M. I. Dorfan, formerly of the Panghorn Corp., has been appointed manager of the new dust-collector division of Blaw-Knox.

UNIT BID SUMMARY

Compiled from the Daily News Service of Pacific Constructor

RECONSTRUCT HIGHWAY—NEVADA STATE

NEVADA STATE—As previously reported, Mahoney-Cline Co., Las Vegas, Nevada, at \$120,008.60 awarded contract by State Highway Commission to reconstruct a portion of the state highway system in Elko County between Wells and east foot of Pequops, Route 1, Sections E2, E1 and F, a length of 24.33 miles, involving:

- (1) 113,100 cu. yds. rdwy. excav.;
- (2) 2520 cu. yds. struc. excav.;
- (3) 11,061 cu. yds. sel. borrow excav. in place;
- (4) 101,123 yd. sta. overhaul;
- (5) 21.33 miles prepare subgrade and shoulders;
- (6) 111 demolish headwalls;
- (7) 113,300 cu. yds. crushed gravel or crushed rock surface in place;
- (8) furnish water equipment;
- (9) 7409 M. gal. apply water;
- (10) 17 cu. yds. Class A concrete;

- (11) 153 cu. yds. Class B concrete;
- (12) 470 lin. ft. 15-in. corr. metal pipe in place;
- (13) 1788 lin. ft. 18-in. do.;
- (14) 658 lin. ft. 24-in. do.;
- (15) 492 lin. ft. 30-in. do.;
- (16) 286 lin. ft. 36-in. do.;
- (17) 72 lin. ft. 48-in. do.;
- (18) 278 lin. ft. remove corr. metal pipe;
- (19) 164 lin. ft. remove and reset corr. metal pipe;
- (20) 72 corr. metal pipe culvert extensions;
- (21) 9040 lin. ft. stand. timber guard rail;
- (22) 326 monuments;
- (23) 2 federal aid markers;
- (24) 24.33 miles finish roadway;
- (25) 2835 lin. ft. remove and reconstruct fence.

- (A) Mahoney-Cline Co., Las Vegas, Nevada, \$120,008.60.
- (B) Nevada Rock & Sand Co., Inc., Reno, Nev., \$120,968.07.
- (C) Utah Const. Co., Ogden, Utah, \$122,201.56.
- (D) Nevada Const. Co., Fallon, Nev., \$125,048.01.
- (E) Gibbons & Reed, Salt Lake City, Utah, \$127,525.25.
- (F) J. N. Tedford, Fallon, Nev., \$133,057.96.
- (G) W. W. Clyde Co., Springville, Utah, \$141,006.19.
- (H) Dodge Eros., Inc., Fallon, Nev., \$149,792.33.
- (I) Ishell Const. Co., Carson City, Nev., \$159,038.51.
- (J) Claf Nelson, Logan, Utah, \$171,900.59.
- (K) Engineer's estimate, \$184,219.44.

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) |
|------|---------|---------|---------|--------|---------|---------|---------|---------|---------|--------|---------|
| (1) | 20 | 24 | 24 | 26 | 27 | 24 | 29 | 35 | 32 | 37 | 35 |
| (2) | .75 | 1.00 | .70 | .60 | 1.00 | .75 | .75 | 1.00 | 1.00 | .75 | .50 |
| (3) | .30 | .30 | .30 | .30 | .33 | .25 | .30 | .35 | .30 | .40 | .45 |
| (4) | .0175 | .02 | .02 | .02 | .02 | .02 | .015 | .01 | .02 | .02 | .02 |
| (5) | 60.00 | .50 | 160.00 | 60.00 | 100.00 | 50.00 | 75.00 | 75.00 | 100.00 | 100.00 | 100.00 |
| (6) | 4.00 | 2.50 | 4.00 | 5.00 | 3.00 | 1.50 | 2.50 | 3.00 | 2.00 | 3.00 | 5.00 |
| (7) | .54 | .50 | .49 | .49 | .52 | .55 | .59 | .60 | .62 | .70 | .80 |
| (8) | 1000.00 | 3000.00 | 1000.00 | 500.00 | 2000.00 | 1000.00 | 1000.00 | 1000.00 | 1000.00 | 500.00 | 1000.00 |
| (9) | 1.00 | .25 | 1.00 | .30 | .50 | 1.50 | 1.75 | 1.00 | 2.00 | 2.00 | 2.00 |
| (10) | 25.00 | 25.00 | 28.00 | 30.00 | 24.00 | 30.00 | 30.00 | 30.00 | 30.00 | 24.00 | 37.00 |
| (11) | 25.00 | 25.00 | 22.00 | 30.00 | 22.00 | 30.00 | 20.00 | 25.00 | 30.00 | 24.00 | 35.00 |
| (12) | 1.00 | 1.35 | 1.00 | 1.00 | 1.16 | 1.20 | 1.00 | 1.25 | 1.40 | 1.20 | 1.25 |
| (13) | 1.20 | 1.50 | 1.15 | 1.25 | 1.20 | 1.25 | 1.10 | 1.50 | 1.45 | 1.50 | 1.50 |
| (14) | 1.85 | 2.00 | 1.70 | 2.00 | 1.92 | 1.85 | 1.60 | 2.00 | 2.10 | 2.00 | 2.25 |
| (15) | 2.50 | 2.70 | 2.20 | 3.00 | 2.47 | 2.25 | 2.19 | 2.50 | 2.70 | 2.50 | 2.90 |
| (16) | 3.50 | 3.80 | 3.40 | 3.80 | 3.75 | 3.25 | 3.15 | 3.50 | 3.50 | 3.50 | 3.25 |
| (17) | 6.25 | 6.10 | 5.40 | 6.00 | 6.08 | 5.50 | 6.00 | 6.50 | 6.60 | 6.00 | 6.25 |
| (18) | .50 | .50 | 1.00 | .50 | 1.00 | .50 | .50 | .50 | .50 | 1.00 | .50 |
| (19) | 1.00 | 1.50 | 1.00 | 1.25 | .75 | .90 | .75 | 1.00 | 1.00 | 1.00 | 1.00 |
| (20) | 19.00 | 24.00 | 22.00 | 16.00 | 34.00 | 20.00 | 25.00 | 20.00 | 24.00 | 15.00 | 20.00 |
| (21) | .45 | .75 | .60 | .75 | .55 | .80 | .53 | .80 | .90 | .75 | .90 |
| (22) | 3.00 | 2.50 | 3.00 | 3.00 | 1.00 | 2.50 | 2.00 | 3.00 | 3.00 | 3.00 | 3.00 |
| (23) | 10.00 | 5.00 | 5.00 | 3.50 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 | 10.00 |
| (24) | 50.00 | 100.00 | 100.00 | 100.00 | 100.00 | 75.00 | 60.00 | 100.00 | 100.00 | 100.00 | 50.00 |
| (25) | .07 | .10 | .04 | .05 | .10 | .04 | .05 | .10 | .05 | .10 | .10 |

CONCRETE VIADUCT—OREGON STATE

OREGON STATE—Barham Bros., Salem, Ore., at \$17,462 submitted low bid to State Highway Commission to construct a concrete viaduct over the Southern Pacific Railway tracks on The Dailles-California Highway north of Klamath Falls, involving:

- (A) Excavation, 520 cu. yds.
- (B) Class A concrete, 460 cu. yds.

- (C) Class D concrete, 182 cu. yds.
- (D) Metal reinforcement, 112,000 lbs.
- (E) Concrete handrail, 340 lin. ft.

Bidders follow:

- (1) Kuckenberger-Wittman, Portland.
- (2) W. T. Butler, Seattle.
- (3) R. H. Jones, Baker.
- (4) A. Guthrie, Portland.
- (5) E. T. Lilly & Kelly, La Grande.

- (6) Lindstrom & Feigenson, Portland
- (7) F. L. Odom, Salem.
- (8) Barham Bros., Salem.
- (9) Claekamas Const. Co., Tillamook.
- (10) E. P. Brosterhaus, Bend.
- (11) O. M. Pierce, Portland.
- (12) Dunn & Baker, Klamath Falls.
- (13) A. G. Enright, Eugene.
- (14) Quinn Const. Co., Portland.

Unit bids follow:

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| (A) | 2.50 | 3.50 | 1.25 | 2.25 | 1.60 | 1.00 | 2.50 | 2.50 | 2.00 | 1.05 | 2.50 | 1.25 | 3.00 | 1.00 |
| (B) | 20.00 | 25.50 | 18.25 | 22.00 | 18.50 | 17.00 | 16.80 | 16.00 | 17.00 | 21.47 | 20.00 | 23.00 | 17.00 | 18.45 |
| (C) | .05 | 22.50 | 18.25 | 21.00 | 19.40 | 17.00 | 17.00 | 16.00 | 16.00 | 14.00 | 20.00 | 24.00 | 15.00 | 18.45 |
| (D) | 4.50 | .05 | .041 | .05 | .0425 | .04 | .042 | .045 | .0415 | .0457 | .045 | .045 | .041 | .042 |
| (E) | | 3.50 | 4.25 | 4.50 | 4.00 | 4.00 | 3.75 | 2.50 | 4.00 | 3.38 | 5.00 | 4.00 | 4.00 | 4.00 |

DAILY PACIFIC BUILDER

Features in every issue a summary of the developments in the construction field; work contemplated, bids wanted, bids opened and contracts awarded for all types of building and engineering construction. The subscription price is \$1.50 per month or \$15.00 per year when paid in advance. Send for sample copy. Daily Pacific Builder, 545 Mission St., San Francisco, or phone GARfield 8744.

CAPISTRANO SANITARY DISTRICT—BIDS OPENED

CAPISTRANO, Orange Co., Calif.—
Low bids submitted to the Capistrano Sanitary District to construct lateral sewers, sewage treatment plant and ocean outfall, follow:

Section No. I, lateral sewers (1911 Act)—Chutuk, Kordich & Vukojevich, 4623 West Blvd., South Gate, at \$9,200.
Section II—treatment plant—J. B. McIntosh, 1136 N Berendo St., Los Angeles, at \$8,895.

Section III—ocean outfall—A. Giebisch, 12 Virgil Walk, Long Beach, at \$6700.

Bids were taken on items as follows:

SECTION NO. I

(Lateral Sewers—Lump sum bid)

The work involves:

- (1) 1235 ft. 12-in. vitrified pipe;
- (2) 4210 ft. 8-in. do;
- (3) 3887 ft. 6-in. do;
- (4) 31 manholes;
- (5) one drop manhole;
- (6) 8 lampholes;
- (7) 43 6x12-in. wyes;
- (8) 96 6x8-in. wyes;
- (9) 138 4x6-in. wyes;
- (10) 110 ft. 8-in. C. I. pipe;
- (11) 497 lin. ft. rock and oil surface (cut and replace);
- (12) 180 lin. ft. oiled surface (cut and replace).

SECTION NO. II

(Treatment Plant)

- (A) 2000 ft. 8-in. cast iron pipe;
- (B) Concrete work, clarifier, and all other work.

SECTION III—Treatment Plant

—Extra Work Prices—

| | (A) | (B) | Total | (1) | (2) | (3) | (4) |
|------------------------------|--------|----------|----------|---------|--------|--------|-------|
| J. B. McIntosh..... | \$2090 | \$ 6,805 | \$ 8,895 | \$11.00 | \$.035 | \$1.50 | \$.75 |
| Edward Green..... | 2085 | 7,600 | 9,685 | 17.00 | .05 | 6.50 | .50 |
| Merritt-Chapman & Scott..... | 2770 | 7,541 | 10,311 | 25.00 | .04 | 2.00 | .30 |
| O. U. Miracle..... | 2100 | 8,279 | 10,379 | 26.00 | .0225 | 1.50 | .50 |
| K. S. Littlejohn..... | 1900 | 8,900 | 10,800 | 18.00 | .05 | 1.00 | .50 |
| H. A. Teget..... | 2600 | 8,250 | 10,850 | 20.00 | .045 | 3.00 | .35 |
| Mlagovich & Gillespie..... | 3060 | 8,000 | 11,060 | 12.00 | .05 | 1.05 | .30 |
| McIntire & Hughes..... | 2300 | 8,800 | 11,100 | 16.00 | .05 | 2.50 | .50 |
| Fred T. Greenfield Co..... | 2423 | 9,434 | 11,862 | 20.00 | .04 | 4.50 | .68 |
| A. Giebisch..... | 2300 | 9,638 | 11,938 | 16.00 | .05 | 2.00 | 1.00 |
| Mike Radich..... | 8150 | 9,150 | 12,300 | 20.00 | .05 | 1.50 | .70 |
| Pernel Barnett..... | 2300 | 10,400 | 12,700 | 11.00 | .03 | 6.00 | .40 |
| Floyd Shofner..... | 2592 | 9,460 | 13,052 | 16.00 | .05 | 15.00 | .20 |
| Jules W. Markel..... | 2300 | 8,498 | 10,798 | 20.00 | .035 | 4.00 | 1.00 |

SECTION III—Ocean Outfall

| | (1) | (1) |
|------------------------------|--------|--------------------------------|
| A. Giebisch..... | \$6700 | K. S. Littlejohn Co.....\$7508 |
| Merritt-Chapman & Scott..... | 7000 | McIntire & Hughes..... |
| Lee R. Weber..... | 7300 | Fred F. Greenfield Co..... |

The quantities for the Treatment Plant are:

- 76 cu. yds. concrete;
 - 6900 lbs. reinforcing steel;
 - 25 cu. yds. earth excavation;
 - 800 cu. yds. earth fill.
- Extra work items as follows:
- (1) concrete, per cu. yd.;
 - (2) reinforcing steel, per lb.;
 - (3) excavation, per cu. yd.;
 - (4) fill, per cu. yd.

SECTION NO. III

(Ocean Outfall—Lump Sum)

- (1) 2140 ft. 6-in. copper bearing steel pipe.

The bids, which were referred to the engineer, Burns-McDonnell-Smith Engineering Corp., 422 Western Pacific Bldg., Los Angeles, until 7:30 P. M., March 14, were as follows:

SECTION I—1911 Act Lateral

| | (1) |
|-----------------------------------|----------|
| Chutuk, Kordich & Vukojevich..... | \$ 9,200 |
| McIntire & Hughes..... | 9,500 |
| Culjak & Zelko..... | 9,797 |
| Pernel Barnett..... | 9,900 |
| Edward Green..... | 10,000 |
| M. Ramjak and Joe Sutalo..... | 10,300 |
| Mlagovich & Gillespie..... | 10,400 |
| F. W. & W. C. Seecombe..... | 10,764 |
| K. S. Littlejohn..... | 11,093 |
| O. U. Miracle..... | 11,497 |
| R. A. Wattson..... | 11,700 |
| Steve Pizula..... | 11,892 |
| Lee R. Weber..... | 12,200 |
| Floyd Shafner..... | 12,460 |
| N. & P. Artukovich..... | 13,300 |
| J. C. Hickey..... | 13,400 |
| Mike Radich..... | 14,900 |
| Kritovich & Wald..... | 17,612 |

BIDS OPENED

NEVADA STATE—As previously reported, Dodge Bros., Fallon, Nevada, at \$14,297.80 awarded contract by State Highway Commission to reconstruct approximately 0 miles of state highway system between Las Vegas and 10 miles southeast and a bridge over Las Vegas wash about 12 miles northeast of Las Vegas, Routes 5 and 6, involving:

- (1) 5300 cu. yds. rdwy. excav.;
- (2) 1320 cu. yds. struc. excav.;
- (3) 2312 cu. yds. sel. borrow excav. in place;
- (4) 12 demolish headwalls;
- (5) 740 cu. yds. remove salvage and replace surf.;
- (6) 25 cu. yds. demolish concrete;
- (7) 464 cu. yds. class "A" conc.;
- (8) 20 cu. yds. class "E" conc.;
- (9) 96 lin. ft. 18-in. corr. metal pipe in place, asph. coated;
- (10) 128 lin. ft. 24-in. corr. metal pipe in place, asph. coated;
- (11) 100 lin. ft. 30-in. corr. metal pipe in place, asph. coated;
- (12) 64 lin. ft. remove and reset corr. metal pipe;
- (13) 32 lin. ft. remove corr. metal pipe
- (14) 47,800 lbs. reinf. steel complete in place.

Complete bids follow:

- (A) Dodge Bros., Inc., Fallon, Nev., \$14,297.80.
 - (B) Thorn, Strong & Grant, Springville, Utah, \$15,963.80.
 - (C) Mahoney Cline Co., Las Vegas, Nevada, \$16,550.80.
 - (D) Engineer's Estimate, \$19,530.60.
- Unit bids follow:

| | (A) | (B) | (C) | (D) |
|------------|-------|-------|-------|-------|
| (1) | \$.15 | \$.25 | \$.20 | \$.25 |
| (2) | .50 | .75 | .40 | .75 |
| (3) | .40 | .40 | .40 | .50 |
| (4) | 5.00 | 3.00 | 5.00 | 5.00 |
| (5) | .75 | .50 | .50 | .50 |
| (6) | 6.00 | 3.00 | 5.00 | 3.00 |
| (7) | 17.00 | 19.00 | 22.00 | 25.00 |
| (8) | 20.00 | 20.00 | 25.00 | 24.00 |
| (9) | 1.50 | 2.00 | 1.25 | 1.85 |
| (10) | 2.00 | 2.50 | 1.75 | 2.50 |
| (11) | 2.50 | 3.00 | 2.00 | 3.00 |
| (12) | .75 | .75 | 1.00 | .50 |
| (13) | .50 | .50 | .50 | .50 |
| (14) | .045 | .045 | .045 | .055 |

BIDS OPENED

DEEP WELL TURBINE PUMPS—FRESNO

FRESNO, Calif.—As previously reported, Fultons, Inc., 301 Broadway, Fresno, at \$7858 (allowance of \$1450 on old pumps) submitted low bid to City Commission to furnish five deep well Turbine Pumps, 700 g.p.m., 150-ft. head, installed complete, less electric wiring.

Also two deep well Turbine Pumps, 800 g.p.m., 150-ft. head, installed complete, less electric wiring.

Allowance to be made for the following:

| | |
|--|-----------|
| Fulton's, Inc., Fresno (Bean pumps)..... | \$7585.85 |
| Peerless Pump Co., Los Angeles..... | \$169.79 |
| Kimball Krogh Co., Fresno..... | \$186.85 |
| W. V. Pelton Co., San Francisco..... | \$147.00 |
| Campbell-Budlong, Son Jose..... | 7500.00 |
| Pomona Pump Co., Pomona..... | 7110.98 |
| Sterling Pump Co., Inc., Stockton..... | 7233.45 |
| Western Pump Co., San Jose..... | 7698.00 |
| Submersible Motor Pump Co., L. A..... | 7925.00 |
| Layne Pump Co., Fresno..... | 8405.00 |
| Johnston Pump Co., Los Angeles..... | \$813.50 |
| Valley Foundry Machine Co., Fresno..... | \$514.00 |
| United Iron Works, Oakland..... | 7800.00 |
| Wintroath Pump Co., Ltd., L. A..... | \$525.41 |
| Byron Jackson Co., Berkeley..... | \$522.77 |
| Frairbanks-Morse Co., San Francisco..... | \$928.88 |

*5% deducted from bid for cash.

All bids held under advisement for one week.

lowing: One 1800 Speed Allis-Chalmers 75-hp. motor, and one 8-inch Allis-Chalmers horizontal pump, one 440-V. 1200 speed 75-hp. G. E. horizontal motor, and one 8-in. Byron Jackson horizontal pump, one 2300-V. 1200-r.p.m. 75-hp. G. E. motor and one 8-in. Byron Jackson horizontal pump, one 2300 V. 1200-r.p.m. 75-hp. G. E. motor and one 8-inch Byron Jackson horizontal pump.

Complete bids follow:

| Bid | Allowance | Net |
|--|-----------|-----------|
| Fulton's, Inc., Fresno (Bean pumps)..... | \$1450.00 | \$6135.00 |
| Peerless Pump Co., Los Angeles..... | 1230.00 | 6540.00* |
| Kimball Krogh Co., Fresno..... | 1067.00 | 6613.00* |
| W. V. Pelton Co., San Francisco..... | 1067.00 | 6673.00* |
| Campbell-Budlong, Son Jose..... | 800.00 | 6700.00 |
| Pomona Pump Co., Pomona..... | 7110.98 | 6756.00* |
| Sterling Pump Co., Inc., Stockton..... | 7233.45 | 6770.00* |
| Western Pump Co., San Jose..... | 7698.00 | 6798.00 |
| Submersible Motor Pump Co., L. A..... | 7925.00 | 6875.00 |
| Layne Pump Co., Fresno..... | 1193.50 | 7212.00 |
| Johnston Pump Co., Los Angeles..... | 1067.00 | 7305.00 |
| Valley Foundry Machine Co., Fresno..... | 700.00 | 7388.00* |
| United Iron Works, Oakland..... | 400.00 | 7400.00 |
| Wintroath Pump Co., Ltd., L. A..... | 1067.00 | 7454.00 |
| Byron Jackson Co., Berkeley..... | 1067.00 | 7455.77 |
| Frairbanks-Morse Co., San Francisco..... | 950.00 | 7626.00* |

OAKLAND, Cal.—Heafey-Moore Co., 314 High St., Oakland, submitted low bid to city council to improve portions of San Leandro St. between 85th and Jones Ave. and 92nd Ave., involving:

- (1) 5995 cu. yds. fill;
- (2) 910 yds. mineral aggregate;
- (3) 49 tons sand (seal coat);
- (4) 48 tons fuel oil (surf. mix);
- (5) 2602 sq. ft. penetrating macadam;
- (6) 41 lin. ft. 12-in. c. i. pipe conduit;
- (7) crossing over railroad tracks at 92nd Ave.

Bidders follow:

- (A) Heafey-Moore Co., Oakland.
- (B) Joe Catucci, Oakland.
- (C) Lee J. Immel, Berkeley.
- (D) U. B. Lee, San Leandro.
- (E) W. H. Larson, Berkeley.

Unit bids follow:

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
|-----------|------|--------|--------|--------|--------|--------|--------|
| (A) | \$45 | \$2.22 | \$2.00 | \$9.04 | \$4.14 | \$1.85 | \$1512 |
| (B) | .70 | 2.25 | 1.90 | 9.50 | 1.2 | 2.60 | 1600 |
| (C) | .63 | 3.00 | 2.00 | 10.00 | 1.2 | 1.60 | 1530 |
| (D) | .90 | 3.10 | 1.50 | 12.10 | .15 | 2.00 | 1530 |
| (E) | .85 | 3.00 | 3.00 | 15.00 | 2.00 | 2.00 | 1500 |

Total bids will be published shortly.

BELMONT CIRCLE PAVING—FRESNO

FRESNO, Calif.—As previously reported, Valley Paving Co., P. O. Box 1349, Fresno, at \$30,920.50 awarded contract by City Commission to pave traffic circle at the west end of Belmont Ave. subway, involving:

- (1) 135,000 sq. ft. excav. and grading;
- (2) 71,500 sq. ft. reinf. conc. pave., 7x9-in.;
- (3) 32,600 sq. ft. do 6x8-in.;
- (4) 4,370 sq. ft. conc. sidewalk;
- (5a) 720 lin. ft. Type A concrete curb;
- (5b) 1,035 lin. ft. Type B do;
- (5c) 555 lin. ft. Type C do;
- (5d) 65 lin. ft. Type C, with steel curb guard;
- (6a) 125 lin. ft. 15-in. reinf. conc. culvert pipe;
- (6b) 75 lin. ft. 12-in. do;
- (7a) 252 lin. ft. 15-in. concrete pipe;
- (7b) 460 lin. ft. 8-in. do;

- (8) 70 lin. ft. conc. pipe with conc. cover;
 - (9) 4 storm water manholes;
 - (10) 1 inlet manhole;
 - (11) 1 culvert manhole;
 - (12) 3 storm water inlets;
 - (13) 57 lin. ft. corr. iron culvert, 18-in.;
 - (14) electrical work.
- Complete bids follow:
- (A) Valley Paving Co., Fresno, \$30,925.50.
 - (B) W. A. Dontanville, Salinas, \$31,624.25.
 - (C) Thompson Const. Co., Fresno, \$32,712.05.
 - (D) Chas. Franklin, Fresno, \$33,211.05.
 - (E) Harrahan Co., San Francisco, \$37,157.40.

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) |
|------|---------|---------|---------|---------|---------|
| (1) | \$.02 | \$.019 | \$.021 | \$.02 | \$.03 |
| (2) | .2150 | .2175 | .225 | .225 | .26 |
| (3) | .19 | .25 | .203 | .19 | .22 |
| (4) | .14 | .18 | .175 | .16 | .15 |
| (5a) | .50 | .40 | .50 | 1.08 | 1.25 |
| (5b) | .38 | .40 | .50 | .55 | .50 |
| (5c) | .49 | .40 | .50 | 1.00 | 1.20 |
| (5d) | .64 | 1.25 | .75 | 1.15 | 1.50 |
| (6a) | 1.50 | 1.70 | 1.50 | 1.65 | 1.50 |
| (6b) | 1.20 | 1.35 | 1.20 | 1.20 | 1.20 |
| (7a) | 1.20 | 1.35 | 1.15 | 1.32 | 1.20 |
| (7b) | .70 | .80 | .66 | .77 | .70 |
| (8) | 1.20 | 1.50 | 1.15 | 1.32 | 1.20 |
| (9) | 65.00 | 80.00 | 58.00 | 55.00 | 50.00 |
| (10) | 20.00 | 40.00 | 32.00 | 22.00 | 30.00 |
| (11) | 10.00 | 20.00 | 25.00 | 17.00 | 15.00 |
| (12) | 22.75 | 75.00 | 44.00 | 33.00 | 40.00 |
| (13) | 2.60 | 3.00 | 2.55 | 2.75 | 2.50 |
| (14) | 3475.00 | 3365.00 | 3675.00 | 2709.00 | 2982.00 |

PALACE OF FINE ARTS PAVING—AWARD

SAN FRANCISCO.—Pacific Pavements Co., 12 Oak Grove Ave., at \$10,950.60 awarded contract by Department of Public Works to improve roadway around Palace of Fine Arts from Marina Blvd. to the bay; estimated cost, \$13,000. Project involves:

- (1) 75,000 sq. ft. asph. conc. pave., 10-inch macadam;
- (2) 300 sq. ft. asph. conc. pavement, 6-in. concrete base;
- (3) 11,000 sq. ft. conc. sidewalks;
- (4) 1,170 sq. ft. 4-in. macadam sidewalk;
- (5) 1,900 sq. ft. unarmored conc. curb;
- (6) 60 ft. concrete curb;
- (7) 160 ft. redwood curb;
- (8) 20 ft. 8-in. V.C.P. sewer;

- (9) 30 ft. 10-in. do;
 - (10) 50 ft. 10-in. do;
 - (11) 1 brick catchbasin;
 - (12) 2 brick catchbasins to be reset;
 - (13) 7 concrete catchbasins;
 - (14) 4 concrete manholes;
 - (15) 1,300 ft. redwood headers.
- Complete bids follow:

| | |
|-----------------------------|-------------|
| (A) Pacific Pavements Co. | \$10,930.60 |
| (B) Meyer Rosenberg | 11,567.10 |
| (C) Theo. Cohn | 13,450.50 |
| (D) Eaton & Smith | 13,863.52 |
| (E) Pacific States Con. Co. | 13,962.10 |
| (F) E. J. Treacy | 14,103.80 |
| (G) Fay Limp. Co. | 14,237.20 |
| (H) A. G. Raisch | 14,601.50 |
| (I) Union Paving Co. | 17,210.60 |

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) |
|------|--------|--------|-------|--------|-------|--------|--------|-------|-------|
| (1) | \$.105 | \$.109 | \$.13 | \$.136 | \$.14 | \$.135 | \$.145 | \$.15 | \$.18 |
| (2) | .18 | .30 | .24 | .216 | .25 | .21 | .22 | .22 | .22 |
| (3) | .11 | .11 | .12 | .144 | .13 | .105 | .125 | .12 | .14 |
| (4) | .02 | .03 | .05 | .036 | .03 | .03 | .03 | .05 | .08 |
| (5) | .49 | .60 | .52 | .54 | .55 | .60 | .57 | .45 | .50 |
| (6) | .20 | .30 | .40 | .36 | .25 | .15 | .01 | .50 | .20 |
| (7) | .22 | .15 | .30 | .24 | .20 | .22 | .25 | .30 | .15 |
| (8) | 1.00 | 1.00 | 1.00 | 1.08 | 1.25 | 1.00 | 1.25 | 1.00 | 1.50 |
| (9) | 1.00 | 1.00 | 1.00 | 1.20 | 1.40 | 1.30 | 1.35 | 1.00 | 1.50 |
| (10) | 1.00 | 1.00 | 1.00 | 1.20 | 1.40 | 1.30 | 1.35 | 1.00 | 1.50 |
| (11) | 60.00 | 90.00 | 65.00 | 90.00 | 75.00 | 50.00 | 82.00 | 65.00 | 75.00 |
| (12) | 20.00 | 25.00 | 55.00 | 30.00 | 20.00 | 25.00 | 25.00 | 25.00 | 40.00 |
| (13) | 30.00 | 40.00 | 45.00 | 35.00 | 35.00 | 60.00 | 25.00 | 45.00 | 45.00 |
| (14) | 30.00 | 40.00 | 47.50 | 35.00 | 35.00 | 32.50 | 17.50 | 40.00 | 55.00 |
| (15) | .20 | .15 | .30 | .18 | .15 | .10 | .14 | .18 | .15 |

TO AWARD CONTRACT

MARIPOSA COUNTY, Calif.—Granfield, Farrar and Carlin, 67 Hoff Ave., San Francisco, at \$290,272 will be awarded a contract shortly by the U. S. Bureau of Public Roads for 8.947 miles of highway grading and structures on Section A-1 of Route 5, Yosemite National Park. Bids for this project were opened November 5, 1931 but award of contract was deferred. The project involves (prices noted are the contractor's figures):

- (1) 58 acres clearing, \$500;
- (2) 333,000 cu. yds. unclass. excav.; \$.70;
- (3) 558 cu. yds. unclass. excav. for struc., \$1.50;
- (4) 15 cu. yds. foundation fill, \$1.00;
- (5) 123,000 sta. yds. overhaul, \$.02;
- (6) 8,996 miles finish earth graded road, \$300;
- (7) 101 cu. yds. Class A conc., \$.35;
- (8) 11,000 lbs. reinf. steel, \$.07;
- (9) 120 cu. yds. masonry, \$.20;
- (10) 1,732 ft. 18-in. C.M.P., \$1.75;
- (11) 2,150 ft. 24-in. C.M.P. (14 gauge) \$2.50;
- (12) 230 ft. 24-in. C.M.P. (12 gauge) \$3.00;
- (13) 100 ft. 30-in. C.M.P. (12 gauge) \$3.50;
- (14) 50 ft. 36-in. C.M.P. (12 gauge) \$4;
- (15) 237 cu. yds. hand-laid embankment, \$4.00;
- (16) 484 lin. ft. 36-in. C.M.P. (10 ga.) \$4.50;
- (17) 70 lin. ft. 12-in. perf. C.M.P., \$1.50
- (18) 3000 cu. yds. miles hauling selected material, \$40;
- (19) 19 acres remove and stockpile duff, \$20;
- (20) extra and force account work, \$1,000.00.

SAN MATEO CO., Cal.—R. A. Farish, 14 Pinehurst Way, San Francisco at \$1098.60 awarded contract by county supervisors to improve Sawyer Camp or San Andreas Valley road, involving:

- (1) 3100 cu. yds. clear and grade;
- (2) 36 lin. ft. 24-in. corr. metal pipe culvert installed;
- (3) 46 lin. ft. 18-in. do;
- (4) 1 reinforced concrete wing wall culvert inlet;
- (5) 1 reinforced concrete all type culvert inlet;
- (6) 2 reinforced conc. straight headwalls.

County will furnish corrugated metal pipe. Complete bids follow:

| | |
|---|-----------|
| (A) R. A. Farish, S. F. | \$1098.60 |
| (B) J. B. Dillon, Napa | 1210.30 |
| (C) W. A. Dontanville, Salinas | 1219.80 |
| (D) L. K. Smith, San Mateo | 1239.00 |
| (E) C. V. Freeman, Palo Alto | 1247.00 |
| (F) H. Horton, Jr., Menlo Pk. | 1272.20 |
| (G) Harry Wolf, Menlo Park | 1418.00 |
| (H) C. P. Christensen, S. F. | 1538.20 |
| (I) A. B. Gerding, S. F. | 1571.40 |
| (J) J. F. Baker, Burlingame | 1668.00 |
| (K) Meyer Rosenberg, S. F. | 1701.00 |
| (L) A. G. Casey, San Mateo | 1773.80 |
| (M) McClure & Chamberlin, San Francisco | 1790.50 |

Unit bids follow:

| | (1) | (2) | (3) | (4) | (5) | (6) |
|-----|-------|-------|-------|---------|---------|---------|
| (A) | \$.32 | \$.30 | \$.30 | \$22.00 | \$20.00 | \$20.00 |
| (B) | .35 | .50 | .30 | 40.00 | 25.00 | 14.25 |
| (C) | .35 | .40 | .40 | 42.00 | 20.00 | 20.00 |
| (D) | .33 | .50 | .50 | 55.00 | 50.00 | 35.00 |
| (E) | .35 | 1.00 | 1.00 | 20.00 | 20.00 | 20.00 |
| (F) | .37 | .40 | .30 | 35.00 | 22.00 | 20.00 |
| (G) | .43 | .25 | .25 | 18.50 | 16.00 | 15.00 |
| (H) | .44 | .60 | .60 | 60.00 | 35.00 | 15.00 |
| (I) | .45 | .35 | .30 | 75.00 | 30.00 | 22.50 |
| (J) | .44 | 2.00 | 2.00 | 35.00 | 35.00 | 35.00 |
| (K) | .49 | 1.00 | 1.00 | 25.00 | 25.00 | 25.00 |
| (L) | .60 | .40 | .40 | 106.00 | 45.00 | 20.00 |
| (M) | .50 | .55 | .45 | 50.00 | 50.00 | 50.00 |

Member Insurance Brokers' Exchange

FRED H. BOGGS

INSURANCE

490 GEARY STREET

Phone FRanklin 9400

San Francisco

GRADING — SUBGRADE STABILIZER — ARIZONA

ARIZONA STATE.—Lewis Brothers, Winslow, Ariz., submitted the low bid to the Arizona State Highway Commission, Phoenix, at \$37,510.91 for highway construction on the Holbrook-St. Johns Highway, F. A. P. 78-C, Sec. 1. The work, which begins at a point approximately 5½ miles west of the town of St. Johns and extends easterly to St. Johns, consists of grading, draining and placing of subgrade stabilizer, and is to be completed on or before Aug. 31, 1932. The approximate quantities are:

- (1) 26,576 cu. yds. rdwy. excav., unclass.;
- (2) 5393 cu. yds. drainage excav., unclass.;
- (3) 839 cu. yds. struc. excav., unclass.;
- (4) 21,861 cu. yds. borrow excav., unclass.;
- (5) 110,167 sta. yds. earthwork overhaul;
- (6) 16,288 cu. yds. subgrade stabilizer
- (7) 12,614 cu. yds. mi. subgrade stabilizer, haul;
- (8) 284 cu. yds. Class A conc. (inc. cement);
- (9) 102 cu. yds. Class B do;
- (10) 25,643 lbs. reinf. steel, C.I.P.;
- (11) 522 lin. ft. 24-in. C.M.P., C.I.P.;
- (12) 120 lin. ft. 36-in. do
- (13) 25 cu. yds. plain rip rap, C.I.P.;
- (14) 650 lin. ft. cable road guard C.I.P.
- (15) 534,211 lin. ft. stand. line fence, C.I.P.;

- (16) 4 each metal fence gates, C.I.P.;
- (17) Structures over 20 ft. Clear Span
- (17) 1500 cu. yds. drainage excav., unclass.;
- (18) 82 cu. yds. struc. excav., unclass.;
- (19) 26.4 MBM treated timber, C.I.P.;
- (20) 1.4 MBM untreated timber, C.I.P.
- (21) 840 lin. ft. treated timber piles, C.I.P.;
- (22) 30 lin. ft. treated timber piles cut-off;
- (23) 1 each water barrels, C.I.P.;
- (24) 148 sq. yds. timber br. floor coating, C.I.P.

Total—Alternate in lieu of items 19 and 20—29.0 MBM redwood timber C. I. P. Total with alternate.

- The total bids were:
- (A) Lewis Bros., Winslow, Ariz., \$37,510.58; Alt., \$37,510.91.
 - (B) R. E. Canion, Phoenix, \$41,443; Alt., \$41,427.06.
 - (C) Whiting Bros., St. Johns, Ariz., \$42,323.69; Alt., \$42,329.69.
 - (D) Everly & Allison, Albuquerque, N. M., \$42,642.74; Alt., \$42,547.74.
 - (E) R. H. Martin, Tucson, \$44,473.60; Alt., \$44,577.
 - (F) O. F. Fisher, Phoenix, \$45,222.83; Alt., \$45,128.83.
 - (G) C. G. Willis & Sons, Los Angeles, \$46,436.21; Alt., \$46,653.50.
 - (H) Packard & Tanner, Phoenix, \$47,264.58; Alt., \$47,208.58.
 - (I) Skeels & Graham Co., Tucson, \$55,835.25 Alt., \$55,657.25.

The unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) |
|------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| (1) | \$.25 | \$.24 | \$.26 | \$.27 | \$.25 | \$.30 | \$.30 | \$.26 | \$.35 |
| (2) | .17 | .20 | .15 | .27 | .25 | .25 | .30 | .20 | .35 |
| (3) | .70 | .75 | .60 | .60 | 1.00 | .50 | .75 | 1.00 | 1.00 |
| (4) | .20 | .19 | .15 | .17 | .20 | .18 | .22 | .17 | .25 |
| (5) | .01 | .0125 | .02 | .015 | .03 | .02 | .02 | .02 | .01 |
| (6) | .35 | .49 | .55 | .55 | .50 | .48 | .50 | .60 | .55 |
| (7) | .11 | .12 | .10 | .11 | .11 | .15 | .12 | .18 | .12 |
| (8) | 19.00 | 20.00 | 23.00 | 19.00 | 20.00 | 19.00 | 20.50 | 22.00 | 27.50 |
| (9) | 19.00 | 20.00 | 17.00 | 19.00 | 19.00 | 18.50 | 20.00 | 22.00 | 27.50 |
| (10) | .04 | .05 | .055 | .05 | .045 | .04 | .05 | .04 | .06 |
| (11) | 2.50 | 3.00 | 4.00 | 2.25 | 3.00 | 2.25 | 2.00 | 2.25 | 2.75 |
| (12) | 4.00 | 5.00 | 5.00 | 4.00 | 4.20 | 3.30 | 3.50 | 4.25 | 5.00 |
| (13) | 5.00 | 4.00 | 2.00 | 4.00 | 5.00 | 2.00 | 3.00 | 3.00 | 5.00 |
| (14) | .55 | 1.00 | .50 | .80 | .80 | .80 | .60 | .75 | 1.00 |
| (15) | .04 | .04 | .035 | .05 | .06 | .10 | .075 | .07 | .12 |
| (16) | 20.00 | 15.00 | 30.00 | 15.00 | 25.00 | 15.00 | 20.00 | 23.00 | 25.00 |
| (17) | .17 | .20 | .15 | .27 | .25 | .25 | .30 | .20 | .35 |
| (18) | .70 | .75 | .60 | .60 | 1.00 | .50 | 1.00 | 1.00 | 1.00 |
| (19) | 85.00 | 90.00 | 90.00 | 90.00 | 87.00 | 87.00 | 98.00 | 105.00 | 115.00 |
| (20) | 70.00 | 75.00 | 80.00 | 90.00 | 67.00 | 63.00 | 68.00 | 90.00 | 100.00 |
| (21) | 1.45 | 1.50 | 1.25 | 1.30 | .90 | 1.10 | 1.29 | 1.75 | 1.75 |
| (22) | .90 | 1.00 | 1.00 | 1.30 | .60 | .75 | 1.29 | 1.40 | .75 |
| (23) | 5.00 | 10.00 | 10.00 | 10.00 | 5.00 | 20.00 | 5.00 | 12.00 | 5.00 |
| (24) | .35 | .50 | .25 | .50 | .10 | .10 | .30 | .50 | .75 |
| Alt. | 80.77 | 85.00 | 86.00 | 83.00 | 86.00 | 79.00 | 100.00 | 98.00 | 100.00 |

DAILY NEWS SERVICE

If you are interested in a daily construction news service featuring all types of building and engineering construction, send for free sample copies of Daily Pacific Builder. Subscription price, \$150 per month or \$15.00 per year when paid in advance.

Daily Pacific Builder features in each issue, timely reports on work contemplated, bids wanted, bids opened and contracts awarded for all types of building and engineering construction, machinery and equipment, Government work, supplies and equipment, business opportunities, etc.

Daily Pacific Builder is the only publication publishing listings of building permits, building contracts, mechanics liens, etc., in Northern and Central California.

Send for sample copies today or phone Garfield 8744.

Daily Pacific Builder
545 Mission St.
San Francisco, Calif.

BIDS OPENED

ARIZONA STATE.—Arizona Sand & Rock Co., Box 1522, Phoenix, submitted low bid to State Highway Commission March 4 at \$36,972.62 for highway construction on Phoenix-Tempe Highway, A. F. E. No. 8015. Work begins at the packing plant and extends easterly and southerly approximately 2.9 miles to the Tempe bridge, consists of the widening, removal and reconstruction of portions of the existing concrete pavement with asphaltic concrete pavement and is to be completed on or before May 14, 1932, involving:

- (1) 2067 sq. yds. removing old concrete pavement;
- (2) 36,182 sq. yds. 4-in. asphaltic pavement (complete in place).

Bids follow:
Arizona Sand & Rock Co. (1) \$40; (2) \$999; total, \$36,972.62.
Pacific Constr. Co., (1) \$25; (2) \$1,045; total, \$38,326.94.
Ralps Pleasant (1) \$50; (2) \$116; total, \$43,001.62.

AWARD

SALINAS, Monterey Co., Cal.—Granite Const. Co., Watsonville, at \$2553.70 awarded contract by city council to improve portions of Iverson St., involving:

- (1) 15,875 sq. ft. grading;
- (2) 603 lin. ft. curb;
- (3) 2575 sq. ft. 3½-in. sidewalk;
- (4) 12,225 sq. ft. 5-in. conc. grading.

Complete bids follow:
(A) Granite Const. Co., Watsonville, \$2553.70
(B) W. A. Dontanville, Salinas 2797.89
(C) Frank A. Stead, Berkeley, 2994.79
Unit bids follow:

| | (1) | (2) | (3) | (4) |
|-----|--------|-------|-------|-------|
| (A) | \$.015 | \$.14 | \$.33 | \$.14 |
| (B) | ..... | .015 | .32 | .15 |
| (C) | ..... | .015 | .35 | .14 |
| | | | | .175 |

BIDS OPENED

LOS ANGELES COUNTY, Calif.—Oilfields Trucking Co., Taft, at \$35,589.40 submitted low bid to District Engineer, State Highway Commission, Los Angeles, to treat with fuel oil as a dust palliative, two miles between Neenach School and Neenach and 4.1 miles between La Canada and Fern Canyon to be treated with asphaltic road oil and screenings. Complete list of bids follows:

| | (1) | (2) | (3) | Total |
|-----|---------|---------|--------|-----------|
| (A) | \$15.50 | \$18.00 | \$2.20 | \$3589.40 |
| (B) | 1.55 | 14.00 | 2.75 | 3676.00 |
| (C) | 1.70 | 15.05 | 2.60 | 3706.30 |
| (D) | 1.75 | 15.00 | 2.90 | 3936.30 |
| (E) | 3.00 | 25.00 | 2.50 | 4905.00 |

A MORE
COMPLETE
REVIEW
OF
UNIT BID
OPENINGS
COVERING
PACIFIC COAST
PROJECTS WILL
BE PUBLISHED
IN FUTURE
ISSUES OF
PACIFIC
CONSTRUCTOR

DOUGLAS COUNTY—OREGON STATE—BIDS OPENED

OREGON STATE—Earl L. McNutt,

Eugent, Ore., at \$29,066.50 (\$50,549 for West Unit and \$23,457.50 for East Unit), submitted low bid to State Highway Commission, improve 12 miles rock road, Douglas County. Grading project to be contracted in two units. West unit is 3.84 miles in length and requires approx. 170,000 cu. yds. of excavation. East unit is 4.13 miles in length and requires approx. 118,000 cu. yds. of excavation. Complete list of quantities and unit bids follow:

(A) Clearing and grubbing, all specified;

(B) Common excavation:

(C) Solid rock excavation:
 (D) Overhaul, 173,000 yd. sqd.;
 (E) Truck haul, 26,300 yd. sqd.;
 (F) 12-in. corr. galv. iron pipe, 600 lin. ft.;
 (G) 18-in. concrete pipe, 500 lin. ft.;
 (H) 24-in. concrete pipe, 150 lin. ft.;
 (I) 30-in. conc. pipe (heavy) 120 lin. ft.;
 (J) 12-in. corr. galv. iron pipe, 300 lin. ft.;
 (K) 18-in. corr. galv. iron pipe, 20 lin. ft.;
 (L) 24-in. corr galv iron pipe, 20 lin. ft.;
 (M) 8-in. porous drain tile, 4300 lin. ft.;
 (N) 9-in. perforated iron pipe, 300 lin. ft.;

(O) Rock, gravel backfill drains, 800 cu. yds.;

(P) Gravelopping, 10,500 cu. yds.
 (Q) W. & Greengrub, Portland.
 (R) Gilbert Goodwin, Portland.
 (S) Dunn & Baker, Klamath Falls.
 (T) E. L. Gates, Eugene.
 (U) A. Guthrie, Portland.
 (V) Kern & Kibbe, Corvallis.
 (W) Wm. Endicott, Corvallis.
 (X) Interstate Constr. Co., Portland.
 (Y) Knute Lien, Portland.
 (Z) Joplin & Eldon, Portland.
 (11) Cochran Constr. Co., Spray, Or.
 (12) Young, Harkness and Calli.
 (13) E. Young, Nyssa, Ore.
 (14) United Contracting Co., Portland.

(15) L. Young, Portland.
 (16) J. L. Shick, Portland.
 (17) F. L. Crockett, Boise.
 (18) W. H. Pickett, Boise.
 (19) Washburn & Hall, Portland.
 (20) Burke Bros., Portland.
 (21) F. C. Dillard, Medford.
 (22) J. Rehman, Portland.
 (23) Columbia Power & Inv. Co., Stevenson, Wash.
 (24) A. C. Greenwood, Portland.
 (25) Fred Christensen, Portland.
 (26) Newport Const. Co., Portland.
 (27) J. B. Johnson, Klamath Falls.
 (28) J. M. Lyons, Portland.
 (29) Roy L. Hauok, Independence.
 (30) Liesch & Toffe, Marshfield.

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) |
|------|---------------|---------------|---------------|---------------|---------------|---------------|------------|---------------|---------------|------------|---------------|---------------|---------------|------------|---------------|
| (A) | \$6,300.00 | \$4,000.00 | \$1,325.00 | \$5,000.00 | \$3,500.00 | \$3,650.00 | \$3,000.00 | \$11,000.00 | \$4,500.00 | \$5,400.00 | \$5,400.00 | \$7,000.00 | \$5,550.00 | \$7,500.00 | \$6,220.00 |
| (B) | .. 43 | .. 26 | .. 27 | .. 32 | .. 23 | .. 30 | .. 22 | .. 25 | .. 24 | .. 22 | .. 25 | .. 30 | .. 32 | .. 28 | .. 30 |
| (C) | .. 43 | .. 60 | .. 83 | .. 52 | .. 67 | .. 55 | .. 60 | .. 68 | .. 50 | .. 57 | .. 63 | .. 83 | .. 62 | .. 74 | .. 65 |
| (D) | .. 04 | .. 60 | .. 83 | .. 02 | .. 015 | .. 02 | .. 01 | .. 02 | .. 01 | .. 01 | .. 01 | .. 02 | .. 01 | .. 15 | .. 15 |
| (E) | .. 20 | .. 100 | .. 20 | .. 16 | .. 18 | .. 18 | .. 120 | .. 128 | .. 110 | .. 130 | .. 114 | .. 100 | .. 90 | .. 125 | .. 100 |
| (F) | .. 1.00 | .. 1.00 | .. 1.35 | .. 2.11 | .. 2.60 | .. 2.25 | .. 2.40 | .. 2.25 | .. 2.10 | .. 2.40 | .. 2.20 | .. 2.25 | .. 1.95 | .. 2.50 | .. 2.15 |
| (G) | .. 2.00 | .. 2.72 | .. 3.40 | .. 2.90 | .. 3.50 | .. 3.00 | .. 3.10 | .. 3.50 | .. 2.75 | .. 3.25 | .. 3.00 | .. 3.00 | .. 2.00 | .. 3.50 | .. 2.85 |
| (H) | .. 5.00 | .. 4.45 | .. 5.25 | .. 4.60 | .. 5.60 | .. 4.85 | .. 4.90 | .. 6.00 | .. 4.85 | .. 5.30 | .. 5.00 | .. 4.50 | .. 4.50 | .. 5.50 | .. 4.75 |
| (I) | .. 1.00 | .. 90 | .. 1.15 | .. 85 | .. 1.30 | .. 1.10 | .. 1.25 | .. 1.15 | .. 1.10 | .. 1.20 | .. 95 | .. 1.00 | .. 90 | .. 1.25 | .. 1.20 |
| (J) | .. 1.75 | .. 1.50 | .. 1.75 | .. 1.50 | .. 2.15 | .. 1.70 | .. 2.25 | .. 1.95 | .. 2.00 | .. 2.00 | .. 1.50 | .. 2.00 | .. 1.60 | .. 2.25 | .. 2.30 |
| (K) | .. 2.50 | .. 2.00 | .. 2.40 | .. 1.90 | .. 2.80 | .. 2.25 | .. 2.50 | .. 2.10 | .. 2.50 | .. 2.50 | .. 2.60 | .. 2.50 | .. 2.10 | .. 3.00 | .. 3.00 |
| (L) | .. 3.50 | .. 3.35 | .. 3.55 | .. 3.0 | .. 3.35 | .. 3.50 | .. 3.50 | .. 4.45 | .. 3.50 | .. 4.45 | .. 3.50 | .. 4.0 | .. 3.25 | .. 4.0 | .. 4.0 |
| (M) | .. 7.5 | .. 90 | .. 1.15 | .. 80 | .. 1.20 | .. 1.00 | .. 1.10 | .. 1.05 | .. 1.20 | .. 1.05 | .. 85 | .. 1.25 | .. 80 | .. 1.10 | .. 2.00 |
| (N) | .. 2.00 | .. 90 | .. 1.50 | .. 1.50 | .. 2.00 | .. 1.50 | .. 1.50 | .. 1.50 | .. 1.50 | .. 1.50 | .. 1.50 | .. 1.50 | .. 1.50 | .. 1.50 | .. 2.00 |
| (O) | .. 1.25 | .. 2.00 | .. 1.00 | .. 1.00 | .. 1.10 | .. 1.10 | .. 1.10 | .. 1.10 | .. 1.10 | .. 1.10 | .. 1.10 | .. 1.10 | .. 1.10 | .. 1.10 | .. 1.25 |
| (P) | .. 1.00 | .. 1.50 | .. 1.00 | .. 80 | .. 1.00 | .. 70 | .. 50 | .. 80 | .. 80 | .. 80 | .. 85 | .. 85 | .. 80 | .. 1.10 | .. 1.25 |
| (16) | .. \$9,000.00 | .. \$2,500.00 | .. \$3,500.00 | .. \$4,500.00 | .. \$5,000.00 | .. \$9,500.00 | .. .. | .. \$8,400.00 | .. \$4,900.00 | .. .. | .. \$5,000.00 | .. \$7,500.00 | .. \$8,000.00 | .. .. | .. \$4,200.00 |
| (A) | .. 35 | .. 25 | .. 25 | .. 41 | .. 34 | .. .. | .. .. | .. 28 | .. 27 | .. .. | .. 27 | .. 30 | .. 24 | .. .. | .. 40 |
| (B) | .. 35 | .. 70 | .. 91 | .. 64 | .. 54 | .. .. | .. .. | .. 60 | .. 60 | .. .. | .. 60 | .. 65 | .. 65 | .. .. | .. 40 |
| (C) | .. 02 | .. 01 | .. 01 | .. 02 | .. 015 | .. .. | .. .. | .. 005 | .. 02 | .. .. | .. 015 | .. 02 | .. 015 | .. .. | .. 015 |
| (D) | .. 20 | .. 120 | .. 150 | .. 115 | .. 115 | .. .. | .. .. | .. 16 | .. 30 | .. .. | .. 20 | .. 20 | .. 15 | .. .. | .. 16 |
| (E) | .. 1.20 | .. 1.20 | .. 1.20 | .. 1.25 | .. 1.00 | .. 1.25 | .. .. | .. 1.00 | .. 95 | .. .. | .. 1.10 | .. 1.10 | .. 1.25 | .. .. | .. 93 |
| (F) | .. 2.55 | .. 2.50 | .. 2.50 | .. 2.25 | .. 1.95 | .. 2.40 | .. .. | .. 2.40 | .. 2.00 | .. .. | .. 2.20 | .. 2.50 | .. 2.50 | .. .. | .. 2.10 |
| (G) | .. 3.00 | .. 3.00 | .. 3.00 | .. 3.00 | .. 3.00 | .. 3.00 | .. .. | .. 3.00 | .. 2.75 | .. .. | .. 3.00 | .. 3.00 | .. 3.50 | .. .. | .. 3.00 |
| (H) | .. 4.85 | .. 4.50 | .. 4.50 | .. 5.00 | .. 4.00 | .. 5.00 | .. .. | .. 5.00 | .. 4.50 | .. .. | .. 5.00 | .. 5.00 | .. 5.50 | .. .. | .. 4.80 |
| (I) | .. 1.00 | .. 1.20 | .. 1.20 | .. 1.00 | .. 1.00 | .. 1.00 | .. .. | .. 1.00 | .. 85 | .. .. | .. 1.00 | .. 1.10 | .. 1.25 | .. .. | .. 1.97 |
| (J) | .. 1.70 | .. 4.00 | .. 2.00 | .. 1.50 | .. 1.75 | .. 1.50 | .. .. | .. 1.50 | .. 1.50 | .. .. | .. 1.75 | .. 2.50 | .. 2.00 | .. .. | .. 1.50 |
| (K) | .. 2.20 | .. 5.00 | .. 3.00 | .. 3.00 | .. 2.00 | .. 2.25 | .. .. | .. 2.00 | .. 2.00 | .. .. | .. 2.20 | .. 3.00 | .. 3.00 | .. .. | .. 2.40 |
| (L) | .. 50 | .. 40 | .. 30 | .. 50 | .. 60 | .. 65 | .. .. | .. 65 | .. 65 | .. .. | .. 65 | .. 50 | .. 50 | .. .. | .. 85 |
| (M) | .. 1.00 | .. 1.00 | .. 1.00 | .. 1.00 | .. 1.00 | .. 1.00 | .. .. | .. 1.00 | .. 1.00 | .. .. | .. 1.00 | .. 1.25 | .. 1.00 | .. .. | .. 87 |
| (N) | .. 1.25 | .. 2.00 | .. 1.00 | .. 1.00 | .. 1.10 | .. 1.10 | .. .. | .. 1.00 | .. 3.00 | .. .. | .. 1.00 | .. 1.25 | .. 1.00 | .. .. | .. 87 |
| (O) | .. 1.50 | .. 1.50 | .. 1.00 | .. 1.00 | .. 1.00 | .. 1.00 | .. .. | .. 1.00 | .. 1.80 | .. .. | .. 1.00 | .. 1.50 | .. 1.00 | .. .. | .. 87 |

SACRAMENTO, Cal.—Bids for furnishing tracklaying tractor under Req. No. 10,193 opened by State Purchasing Agent at Sacramento March 3, follow:

Cleveland Tractor Co. (Cletrac), \$1,975; allowance on old machine, \$1600; net price, \$3375.

Associated Equip. Co. (Bates), \$4,925; allowance, \$975; net price, \$5900.

B. A. Sorden Co. (Caterpillar), \$4,635; allowance, \$525; net price, \$4108.

Sacramento Tractor & Equip. Co. (Allis-Chalmers), \$5116; allowance, \$1096.50; net price, \$1019.50.

RAILROADS

OAKLAND, Cal.—Until March 21, 4:30 P. M., bids will be received by G. B. Hegardt, Secretary, City Port Commission, Grove Street Pier, for track material to serve the 5-acre tract in rear of the Ninth Avenue Pier. Approximately 1200 lineal feet are involved.

MEXICO CITY, Mex.—Reconstruction of rights-of-way, including replacing light rails with those of 110 pounds, rebuilding bridges and constructing new ones, constructing new branches and terminating those now under construction, are features of a building program which the National Railways of Mexico will effect in the near future, according to Engineer J. S. Mejorada, executive president. The work will cost several million pesos but the exact amount has not yet been determined. The money will be provided from savings resulting from rigid economies in operation and the Railways' share of the \$5,000,000 refunded to Mexico by the International Committee of Bankers in view of the moratorium until 1934 of payments by Mexico on her foreign debt. The Railways propose to complete the Mexico City-Tampico short line and build branches between Hidalgo and Tlaxcala and Tampico and Ozuama.

FIRE ALARM SYSTEMS

OAKLAND, Cal.—Until March 24, 9 P. M., bids will be received by W. W. Chappell, city clerk, to furnish and install conduit for traffic signal cable, traffic signals, traffic signal timers and rubber insulated lead covered cable. Specifications on file in office of city clerk.

RESERVOIRS AND DAMS

SAN DIEGO.—Approximate quantities of materials involved in the construction of the El Capitan Dam, Spillway and Outlet Works, bids for which will be opened by the City Council April 11, 10 A. M., (previously reported) are as follows:

- (1) 40,000 cu. yds. excav. Class 1 solid rock originating in structure excav., incl. placing and sorting in dam;
- (2) 800,000 cu. yds. embank. Class 1 rock originating in borrow pit only, incl. placing and sorting in dam, measured in embankment;
- (3) 250,000 cu. yds. excav. Class 2 earth, over-burden, sand, gravel, and other excavation originating in structure excav., incl. placing and sorting of hydraulic fill;
- (4) 50,000 cu. yds. excav. Class 2 earth, over-burden, sand, gravel, and other excav. originating in structure excav., incl. placing and compacting in rolled-in embankment
- (5) 1,000,000 cu. yds. embank. Class 2, clay, earth, sand, gravel & other embankment, originating in borrow pit only, incl. sorting and

placing in hydraulic fill, measured in embankment;

- (6) 70,000 cu. yds. embank. Class 2, clay, earth, sand, gravel, and other embankment originating in borrow pit only, incl. placing and compacting in rolled embankment, measured in embankment;
- (7) 12,000 cu. yds. excav. Class 3 cut-off trench excav. under dam, incl. placing and sorting in dam;
- (8) 5000 cu. yds. excav. Class A cut-off trench excav. under spillway incl. placing and sorting in dam;
- (9) 20,000 cu. yds. excav. Class 5 outlet tunnel excavating, excepting open cut excavation and incl. placing and sorting in dam;
- (10) 20,000 cu. yds. excav. Class 1 solid rock originating in structure excav. and wasted;
- (11) 24,000 cu. yds. excav. Class 2 earth over-burden, sand, gravel, and other excav. originating in structure excav. and wasted;
- (12) 1000 cu. yds. Class 3 cut-off trench excav. under dam and wasted;
- (13) 500 cubic yards excavation Class 4 cut-off trench excav. under spillway and wasted;
- (14) 300 cu. yds. excav. Class 5 outlet tunnel excav. excepting open cut excav., but wasted;
- (15) 4000 cu. yds. rock masonry in place between tunnel plugs;
- (16) 1000 cu. yds. backfill;
- (17) 18,000 cu. yds. mass conc. Class 1 in overflow spillway, outlet tower base and elsewhere;
- (18) 3000 cu. yds. conc. Class 2 in spillway, side lining and retaining walls;
- (19) 6000 cu. yds. conc. Class 3 in floor lining of spillway;
- (20) 3000 cu. yds. conc. Class 4 unformed portion of main core wall;
- (21) 7500 cu. yds. conc. Class 5, in formed portion of main core wall;
- (22) 1200 cu. yds. conc. Class 6 in cut-off walls under spillway;
- (23) 2000 cu. yds. conc. Class 7 in outlet tower;
- (24) 10,500 cu. yds. conc. Class 8 in retaining walls at upstream and down-stream toes of dam;
- (25) 400 cu. yds. conc. Class 9 in drains at toe of dam;
- (26) 3200 cu. yds. conc. Class 10 in tunnel lining and cut and cover section excepting tunnel floor;
- (27) 1500 cu. yds. conc. Class 11 in floor of tunnel, excepting floor of outlet and inlet;
- (28) 1000 cu. yds. conc. Class 12 in floor of tunnel approach and outlet;
- (29) 2000 cu. yds. conc. Class 13 in retaining and guide and cut-off

- walls of tunnel approach and outlet;
- (30) 600 cu. yds. conc. Class 14 in tunnel plugs;
 - (31) 125 cu. yds. conc. Class 15 in place in pipe embedment in tunnel
 - (32) 500 cu. yds. cem. mortar used in laying up rock incl. shaping or rock and laying;
 - (33) 67,000 blis. cem. in place in the work;
 - (34) 2,400,000 lbs. reinf. steel in place in the work;
 - (35) 496,000 lbs. structural steel in place in the work;
 - (36) 6000 lin. ft. 4-in. tile drain in place in the work;
 - (37) 2000 lin. ft. 6-in. drain tile in place in the work;
 - (38) 1000 lin. ft. 8-in. drain tile in place in the work;
 - (39) 1000 lin. ft. 12-in. drain tile in place in the work;
 - (40) 3000 lin. ft. steel grout and drain pipe in place in the work;
 - (41) 1000 lin. ft. 4-in. steel grout pipe and connections in place in rock between tunnel plugs;
 - (42) 20,000 cu. ft. pressure grouting rock masonry in tunnel between plugs;
 - (43) 1000 lin. ft. holes drilled in rock or concrete with concussion drill;
 - (45) 5000 cu. ft. grouting by air pressure, except in masonry of tunnel plug;
 - (46) 9000 lbs. copper water stop complete in place;
 - (47) 200 lin. ft. 2-in. inside diameter pipe railing complete in place;
 - (48) 800,000 lbs. cast iron pipe and special castings complete in place;
 - (49) 30,000 lbs. placing castings and metal work, not furnished by the contractor, in place in concrete.

Allen H. Wright is city clerk. Plans are obtainable from H. N. Savage, Hydraulic Engineer in Charge of Water Development, 524 F St., San Diego, on deposit of \$25, returnable. A. V. Goedel is the Superintendent of the Purchasing Department. Each bid must be accompanied by a certified check for 10% of the amount bid.

LOS ANGELES, Cal.—Until Mar. 21, 2 P. M., new bids will be received by the Los Angeles County Supervisors to construct San Gabriel Dam No. 2. The contract for this project was previously awarded to the Merritt, Chapman & Scott Corp., of San Pedro, at \$1,690,264, which firm later declared an error in bidding. The contract award has been rescinded and new bids for construction authorized. A complete list of the unit and total bids received on the project, under the previous call, was published in our issue of February 10. The project involves:

Proposal No. 1

- (1) 250,000 cu. yds. A excav., open cut for dam foundation;
- (2) 7,200 cu. yds. B excav., cutoff trenches;
- (3) 180,000 cu. yds. C excavation;
- (4) 1,000 cu. yds. driving inlet tunnels;
- (5) 970,000 cu. yds. A rockfill, dumped rockfill in body of dam;
- (6) 95,000 cu. yds. B rockfill, large selected rock on downstream face;
- (7) 52,500 cu. yds. C rockfill, packed rock on upstream face of dam;
- (8) 8,000 cu. yds. concrete, A in upstream cutoff wall;
- (9) 6,500 cu. yds. concrete, B all plain concrete except in upstream cutoff wall;
- (10) 8,000 cu. yds. concrete, C, all reinforced concrete;
- (11) 2,000 cu. yds. concrete, D tunnel lining;

SKILSAW Portable Electric Saws (four models).

SKILSAW Portable Electric Sander.

SKILSAW Radial Arm Attachments.

SYNTRON Portable Electric Hammers (four models, motorless).

MALL Flexible Shaft Machines (50 models).

Electric Drills, Grinders, Buffers, Routers, Lock Mortisers.

Peter H. Nelson

Labor Saving Portable Electric Tools

1246 Mission St., San Francisco

Underhill 7662

SALES : SERVICE : RENTALS

- (12) 140,000 sq. ft. placing 6-in. reinf. gunite facing slabs;
 - (13) 3,000 lin. ft. drilling A grout holes less than 10 ft. deep;
 - (14) 7,500 lin. ft. drilling B grout holes less than 50 ft. deep, more than 10 ft.;
 - (15) 20,000 lin. ft. drilling grout holes, less than 150 ft. deep, more than 50 ft.;
 - (16) 7,500 lin. ft. drilling D grout holes re-drill through grout;
 - (17) 12,000 lin. ft. drilling E grout holes less than 20 ft. deep;
 - (18) 1,700 holes, placing fittings in grout holes;
 - (19) 1,300 lin. ft. placing grout pipe;
 - (20) 500 cu. yds. pressure grouting;
 - (21) 14,000 lin. ft. placing water seals;
 - (22) 275,000 lbs. placing gates and valves;
 - (23) 50,000 lbs. placing operating pipes and steel vent pipes;
 - (24) 100,000 lbs. placing steel trash rock and struc. steel and operating tank;
 - (25) 200,000 lbs. placing reinf. steel in plain concrete;
 - (26) 6,000 lbs. placing iron pipe hand rail;
 - (27) 150 lin. ft. placing tile drains;
 - (28) 4,500 lin. ft. placing steel dowels;
 - (29) 500 cu. yds. backfill, all types;
 - (30) 15,000 men to be furnished lodging;
 - (31) 15,000 men to be fed.
- Proposal No. 2 involves the same quantities except for item No. 12, which is 410,000 sq. ft. placing 6-inch reinforced gunite facing slab.

PIPE LINES, WELLS, ETC.

SAN DIEGO, Cal.—Call for bids to construct El Capitan pipe line, from the site of proposed dam to the reservoir at Lakeside, involving approximately 8.2 miles of pipe line, delayed by city council pending settlement of legal details. As the district will pay part of the cost, the district's approval of the plans must be procured before advertising for bids. A tentative date of April 11th had previously been set.

Excavation and backfill for 48-in. pipe;
 Trenching for 36-in. pipe;
 30,800 lin. ft. 48-in. pipe, furnish and lay;
 11,500 lin. ft. 36-in. pipe, furnish and lay;
 Valves, appurtenances and concrete structures.

Plans and specifications obtainable from office of Purchasing Superintendent. Est. cost, \$629,000. H. N. Savage, 524 F St., San Diego, City Hydraulic Engineer, prepared plans.

SAN DIEGO, Cal.—Until April 11, 9 A. M., bids will be received by city council to construct 8 miles of pipe line, involving in the main:

- (1) excavation and backfill for 48-in. pipe;
- (2) trenching for 36-in. pipe;
- (3) 30,800 lin. ft. 48-in. pipe furnish and lay;
- (4) 11,500 lin. ft. 36-in. pipe, furnish and lay;
- (5) valves, appurtenances, and conc. structures.

SAN DIEGO, Cal.—H. N. Savage, Hydraulic Engineer, 524 F St., San Diego, announced that alternative proposals will be received for proposed El Capitan Pipe Line from Lake side to site of El Capitan Dam, on steel cast iron, concrete and wood-stave pipe. Work will require about 30,800 lin. ft. trench for 48-in. pipe, and about 11,500 lin. ft. trench for 36-in. pipe,

furnishing and placing about 30,800 lin. ft. 48-in. pipe, furnishing and placing about 11,500 lin. ft. 36-in. pipe, furnishing and installing valves, connections, appurtenances, and concrete structures. Static head will range from 250 to 400 ft.

SEWERS AND SEWAGE DISPOSAL PLANTS

LOS ANGELES, Cal.—Until 10 A. M. March 30, bids will be received by the board of public works to construct sewers in Venice Blvd. bet. Sawtelle Blvd. and Centinela Ave. and other streets, in Venice Blvd and Lincoln Blvd. Sewer District, a total of 26-306.77 lin. ft. of sewer, under the 1911 Act, involving:

- 1631.65 ft. 27-in. vit. main line sewer, including 91 27x6-in. wyes;
- 1978.99 ft. 24-in. vit. main line sewer, incl. 114 24x6-in. wyes;
- 720.71 ft. 21-in. vit. main line sewer, incl. 31 21x6-in. wyes;
- 895.31 ft. 18-in. vit. main line sewer, incl. 67 18x6-in. wyes;
- 4591.13 ft. 15-in. vit. main line sewer, inc. 229 15x6-in. wyes;
- 7452.54 ft. 12-in. vit. main line sewer, incl. 293 12x6-in. wyes;
- 3300.54 ft. 8-in. cem. main line sewer, incl. 85 12x6-in. wyes;
- 5734.00 ft. 6-in. house connections (cement pipe), incl. 226 6x½-inch bends;
- 29 standard manhole B;
- 8 do G;
- 3 do H;
- 32 standard junction chamber F;
- 3 stand. drop manholes S;
- 2 stand. trap manholes;
- 6 stand. flushing struc. No. 0, special shallow;
- 1 stand. flushing struc. No. 1, shallow;
- 1 stand. flushing struc. No. 2 std.;
- 95 stand. manhole frame and cover sets;
- 4 exist struc. to be remodeled;
- 12 10x6-in. saddles;
- 186 vert. ft. of 6-in. chimney pipe, incl. 26 6-inch ¼ bends, 26 6-in. ¼ bends, 26 6x6-in. wyes.

SALT LAKE CITY, Utah.—Ryberg Bros., 207 Terminal Bldg., Salt Lake City, at \$117,953.34, using rectangular concrete pipe, awarded contract by city council to construct storm sewers in the East section of the city. American Concrete Pipe Co., Los Angeles, bid \$117,691.48. Ryberg Bros., at \$117,870.50, using

DAILY NEWS SERVICE

If you are interested in a daily construction news service featuring all types of building and engineering construction, send for free sample copies of Daily Pacific Builder. Subscription price, \$150 per month or \$15.00 per year when paid in advance.

Daily Pacific Builder features in each issue, timely reports on work contemplated, bids wanted, bids opened and contracts awarded for all types of building and engineering construction, machinery and equipment, Government work, supplies and equipment, business opportunities, etc.

Daily Pacific Builder is the only publication publishing listings of building permits, building contracts, mechanics liens, etc., in Northern and Central California.

Send for sample copies today or phone Garfield 8744.

Daily Pacific Builder
 545 Mission St.
 San Francisco, Calif.

rectangular concrete pipe, awarded contract to construct storm sewers in West section of city. American Concrete Pipe Co., Los Angeles, at \$120,911.20, only other bidders.

ALAMEDA, Alameda Co., Cal.—Geo. T. Williams, 66 Monte Vista Avenue, Oakland, at \$32,280 submitted low bid to Construction Quartermaster, Benton Air Field, Alameda, for the installation of a drainage system in connection with the Benton Air Depot Project. Following is a complete list of bids:

- Geo. T. Williams, Oakland.....\$32,280
- Jacobs & Pattiani, Oakland.....40,000
- Hutchinson Co., Oakland.....40,200
- City Const. Co., Oakland.....50,000
- Oakland Sewer Const. Co.....53,883
- M. B. McGowan, San Francisco.....54,525
- Robt. McNair, Oakland.....58,450
- Fredrickson & Watson, Oakland.....64,000
- W. E. Lyons, Oakland.....116,800

Bids held under advisement.

LOS ANGELES, Cal.—Until 10 A. M. March 30, bids will be received by the board of public works for constructing Section No. 34-E of the north outfall sewer, from Vanowen St. and White Oak Ave. to Vanowen St. and Corbin Ave., involving:

- (1) Type No. 1—Construct 13,225.03 lin. ft. vit. clay pipe sewer, inc. conc. reinf., if required, struc., etc.;
- (2) Type No. 2—Construct 13,225.03 lin. ft. centri. conc. pipe san. sewer, inc. structures, etc.;
- (3) Type No. 3—Construct 13,225.03 lin. ft. san. sewer, incl. 7975.30 lin. ft. cem. pipe sewer and 5249.73 lin. ft. of either vit. clay pipe sewer or centri. conc. pipe sewer, inc. conc. reinf., if required, struc., etc., involving:

- 5249.73 ft. 18-in. pipe, 2000-D load. pipe;
- 660.12 ft. 15-in. pipe, 2100-D load. pipe;
- 3000.62 ft. 15-in. pipe, 2000-D load. pipe;
- 4314.55 ft. 15-in. pipe, 1900-D load. pipe;

A total of 13,225.03 lin. ft. of sewer.

- 9 manholes B;
- 1 junction chamber F;
- 27 junction chambers G;
- 1 trap manhole.

LOS ANGELES, Cal.—Until 2 P. M., March 21, bids will be received by County Supervisors to construct reinforced concrete conduit on Sycamore Wash through Forest Lawn Memorial Park to Rosslyn St., involving:

- (1) 5500 cu. yds. excav.;
- (2) 5500 cu. yds. backfill;
- (3) 965 cu. yds. reinf. concr., class A;
- (4) 450 cu. yds. reinf. concr., class B;
- (5) 240 cu. yds. reinf. concr., class C;
- (6) 125 lin. ft. drilling dowel holes;
- (7) 50 lin. ft. placing tile drains;
- (8) 560 lin. ft. placing pipe and wire fence on channel walls.

E. C. Eaton, County Flood Control Engineer, Mame B. Beatty, 303 Hall of Records, Clerk of the Board.

LOS ANGELES, Cal.—County supervisors have started proceedings for County Imp. No. 770, involving the construction of sewers, estimated to cost \$36,553 and a hearing will be held August 22. Project involves in the main:

- 22,860 ft. 8-in. cem. pipe main sewer;
- 5540 ft. 8-in. cement pipe main sewer with concrete cradle;
- 1570 ft. 12-in. cement pipe main sewer;
- 2855 ft. 12-in. cement pipe main sewer with concrete cradle;
- 1070 ft. 15-in. cement pipe main sewer with concrete cradle;
- 15,630 ft. 6-in. cement pipe house sewers;
- 32 standard flushing manholes;
- 55 brick manholes;
- 16 drop manholes;
- 20 standard junction chambers.

SAN FRANCISCO.—Meyer Rosenberg, 1755 San Bruno Ave., at \$1,476 awarded contract by Department of Public Works to repair sewer in Endicott Park between Steiner Street and its westerly termination, involving:
 550 ft. 12-inch;
 600 ft. 6-inch;
 60 12x6-inch wyes.
 This contract previously reported awarded to Coleman O'Toole, low bidder at \$1,327.50, who was found to be an unlicensed contractor.

LOS ANGELES, Cal.—County supervisors have started proceedings for County Imp. 757, involving the construction of sewers, estimated to cost \$66,300 and a hearing will be held Mar. 22. Project involves in the main:
 17,380 ft. 8-in. vit. sewer;
 3500 ft. 8-in. vit. sewer with standard concrete cradle;
 1840 ft. 10-in. vit. sewer with standard concrete cradle;
 11,250 ft. 6-in. vit. house sewer;
 25 standard flushing manholes;
 5 stand. double flushing manholes;
 41 standard manholes;
 14 standard drop manholes.

LOS ANGELES, Cal.—L. W. Armstrong, storm drain engineer, room 751 City Hall, completed plans for storm drains to be built in the Main St. and 111th Place Storm Drain District. The approximated quantities are:
 416.53 ft. 72-in. R.C.P. double medium case III;
 2312.50 ft. 66-in. R.C.P. double medium, case III;
 25.50 ft. 45-in. R.C.P., double medium, case III;
 1139.73 ft. 42-in. R.C.P., double medium, case III;
 87.53 ft. 36-in. R.C.P., double medium, case III;
 42.50 ft. 33-in. R.C.P., double medium, case III;
 68 ft. 27-in. R.C.P., heavy medium, case III;
 50 ft. 24-in. R.C.P., double medium;
 146 ft. 2-in. cem. pipe;
 104 ft. 18-in. do;
 266 ft. 15-in. do;
 451.5 ft. 12-in. do;
 57 ft. conc. reinf. for 15-in. pipe;
 42 ft. conc. reinf. for 12-in. pipe;
 2 junction structures "A";
 1 junction chamber No. 2;
 1 manhole KYZ, case I;
 1 manhole KYZ, case I (6 ft.);
 3 manhole KYZ, case I (7½ ft.);
 6 manhole frame and cover sets;
 28 catchbasins No. 29;
 7 catchbasins No. 30;
 2 catchbasins No. 31 (14 ft.);
 3 catchbasins No. 31 (21 ft.);
 40 catchbasin frame and cover sets.
 Plans forwarded to L. J. Moyer, chief estimating engineer, for preparation of estimate.

WATERWORKS

WEST LOCH, T. H.—Bureau of Yards and Docks, Navy Department, is preparing Specification No. 6746 for water supply system at West Loch. Estimated cost, \$45,000. Bids will be asked shortly.

LA HABRA, Orange Co., Cal.—An election will be held April 11 to vote on a \$100,000 bond issue to provide funds for the installation of a municipal water system. John Sanks, city engineer, and Koebig & Koebig, consulting engineers, Rowan Bldg., Los Angeles, prepared the preliminary survey and estimate.

SUNNYVALE, Santa Clara Co., Cal.—As previously reported, Western Pump Co., 522 W Santa Clara St., San Jose, at \$20,796 awarded contract by Bureau of Yards and Docks, Navy Department, Washington, D. C., for two gravel-wall wells, pumps and pump houses at the Naval Air Station, Sunnyvale. Complete list of bids follows:
 Western Pump Co., San Jose...\$20,796
 Western Well Drilling Co., San Jose..... 22,066
 Campbell & Budlong Machine Works..... 22,664
 Pomona Pump Co., Pomona..... 22,886
 Food Machinery Corp., San Jose 23,665
 Robt. E. McKee, Los Angeles..... 24,800
 M. B. McGowan, Inc., S. F..... 27,655
 Wilkinson & Co., Gilroy..... 43,395
 Southern Drilling Corp., Norfolk, Va..... 47,500

FRESNO, Fresno Co., Cal.—Peerless Pump Co., 1902 E 67th St., Los Angeles, at \$8,169.79 with an allowance of \$1,230 for turn-ins, awarded contract by city council to furnish five deep well turbine pumps, 700-g.p.m., 150-ft. head, installed complete, less electric wiring. Also two deep well turbine pumps, 800-g.p.m., 150-ft. head, installed complete, less electric wiring. Allowance to be made for the following: One 1800 speed Allis-Chalmers 75-hp. motor, and one 8-in. Allis-Chalmers horizontal pump, one 410-v. 1200-speed 75-hp. G. E. horizontal motor, and one 8-in. Byron Jackson horizontal pump, one 2300-v. 1200-r.p.m. 75-hp. G. E. motor and one 8-in. Byron Jackson horizontal pump, one 2300-v. 1200-r.p.m. 75-hp. G. E. motor and one 8-in. Byron Jackson horizontal pump.
 Complete list of bids published in issue of February 29.

WALNUT CREEK, Contra Costa Co., Cal.—Saranap Water District sets April 7 as date to vote bonds to finance construction of a water distributing system. California Water Service Co. has offered to install the system outlined by the East Bay Municipal Water District for \$40,783, whereas the district wants \$46,023 for the same system. An alternate proposal outlined by the California Water Service Co., calling for a less extensive system, is estimated at \$32,076 and in addition the company offers to refund 50 per cent of the gross total revenue until the entire amount is repaid. This agreement applies to both company proposals. Directors of the Sarana district are Malcolm Whyte, L. D. Tyer, John Humble, Charles Faist and Harry Boomer.

LOS ANGELES, Cal.—Until 11 A. M. March 24, bids will be received by the city purchasing agent, Thomas Oughton, to furnish gate valves under Spec. No. 2767, involving:

- (1) one 36-in. gate valve;
- (2) one 30-in. gate valve;
- (3) one 24-in. gate valve.

OAKLAND, Cal.—R. D. Wood & Co., by Utilities Equipment Co., Call Bldg., San Francisco, at \$25,230 submitted low bid to East Bay Municipal Utility District to furnish cast iron pipe as follows:

- (1) 4,000 ft. 16-in. c. I. pipe;
 - (2) 2,000 ft. 10-in. do;
 - (3) 25,000 ft. 8-in. do;
- Complete bids follow:
 (A) R. D. Wood & Company.
 (B) U. S. Pipe & Foundry Company.
 (E) Lump sum bid.

(C) National C. I. Pipe Company.
 (D) American C. I. Pipe Company.
 (E) Pacific States C. I. Pipe Co.

| | (1) | (2) | (3) | Total |
|-----|--------|-------|--------|-------------|
| (A) | \$1.79 | \$.91 | \$8.65 | \$25,230.00 |
| (B) | 2.24 | 1.078 | .7717 | 30,408.50 |
| (E) | | | | 29,957.60 |
| (C) | 2.26 | 1.09 | .775 | 30,595.00 |
| (D) | 2.30 | 1.10 | .78 | 30,900.00 |
| (E) | | 1.10 | .80 | |

SAN FRANCISCO.—Until March 29, 3 P. M. bids will be received by U. S. Engineer Office, 401 Custom House, San Francisco, to furnish one Split Body for 26-inch gate valve for the U. S. Dredge "Dan C. Kingman", specification No. 93-2-23. Bid bond 10% required with bid.

SAN CLEMENTES, Orange Co., Cal.—Election will be held April 11 to vote on \$50,000 bond issue to provide for development of water system. James Bennett, supervisor of public works. A. W. Ayer, city engineer.

SAN DIEGO, Cal.—Until March 22, bids will be received by the Bureau of Supplies and Accounts, Navy Department, Washington, D. C., for furnishing one centrifugal horizontal pump for San Diego, Schedule No. 7615. Specifications may be obtained from the Naval Purchasing Agent, 100 Harrison St., San Francisco.

ALAMEDA, Cal.—Wilson Machinery Co., 919 18th St., Oakland, at \$1902 awarded contract by Constructing Quartermaster, Benton Field Air Depot, Alameda, to furnish and install one deep well turbine pump complete with electric motor, power connections, control panel with automatic and manual control, pipe connections to mains, etc. Also cleaning of well and testing pump, at the Benton Field Air Depot.

MONTPELIER, Idaho.—The Montpelier Water Commission plans to call a bond election for \$80,000 in the near future to provide funds for the following:

- 16,000 ft. 12-in. steel pipe to replace wood line in Montpelier Canyon, \$36,000.
- Replace 8-in. wood pipe on Clay St. with steel pipe, \$7500.
- 500,000 gallon concrete reservoir on "M" Hill, \$12,000.
- Meters and boxes to complete meter installation, \$5200.
- Pump, transformer, etc., pump installation at well and housing, \$2550.
- Valves and fittings for new pipe, \$800.
- Miscellaneous expenses, \$2000.
- H. G. Nuckols, L. S. Wedel and J. A. Burgoyne, members of City Water Commission.

LOS ANGELES, Cal.—Consolidated Steel Corp awarded contract by city purchasing agent, Thomas Oughton, March 2, at \$32,000 for furnishing penstock and appurtenances under Spec. No. 2574.

CAPITAL CITY TITLE COMPANY

J. C. PALEN,
 Manager

914 Seventh Street
 Sacramento :: California

DAVIS, Yolo Co., Cal.—Until March 21, 8 P. M., bids will be received by F. A. Plant, city clerk, to repair a 12-stage, 12-inch Layne and Bowler pump in well.—The repair of bowls, including new runner shaft and new bearings throughout; furnish approx. 60 ft. of 3-in. O. D. column; ten 3-in. by 1 1/16-in. shaft bearings; five 1 1/16-in. shaft couplings; 70 ft. 1 1/16 in. shaft; 20 ft. 8-in. O. D. suction pipe with galv. strainer; 20 ft. additional column complete; 100 ft. 3/4-in. galv. air-line complete; 100 ft. 3/4-in. black oil line. All pipe to be installed in well to be asphalt coated. Certified check 10% required with bid.

TULARE, Tulare Co., Cal.—Until 8 P. M., April 20, bids will be received by city clerk for sale, for cash, of equipment as follows:

Two Platt centrifugal 750-gal. pumps connected to two 50-hp., 2200-volt Ft. Wayne motors.

Two Platt centrifugal 750-gal. pumps connected to two 40-hp., 220-volt Ft. Wayne motors.

Each pump and motor mounted on solid base. Also switchboards, oil switches, etc. Equipment located at water works. W. M. Brown, city manager.

OJAI, Ventura Co., Calif.—Thomas Haverly Co., 8th St. and Maple Ave., Los Angeles, awarded contract by the Ojai Mutual Water Co. to construct about 15,000 ft. of 12-in. pipe line from city reservoir to pumping plant. Work will require about six weeks. American Cast Iron Pipe Co. is furnishing pipe. Estimated cost, \$25,000.

YAKIMA, Wash.—Federal Pipe & Tank Co., 5322 24th St., N. W., Seattle, submitted low bid to U. S. Bureau of Reclamation, Yakima, at \$14,877 for constructing Kennewick Highlands section of the Yakima Project. J. S. Moore, Federal Bldg., Yakima, superintendent.

MONTEREY PARK, Los Angeles Co., Cal.—All bids to furnish and install 1200-g.p.m. pump, including pulling 8-in. casing and installing about 65 ft. 10-in. casing, opened Feb. 15 rejected by the city council February 29.

Work will be done by day labor under direction of water superintendent, A. C. Saxton.

SANTA BARBARA, Cal.—Utilities Equipment Corp., Ltd., 110 N. Alameda St., Los Angeles, at \$1533.63 submitted low bid to city council to furnish c. i. pipe as follows:

- (a) 448 ft. 12-in. \$519.63
 - (b) 2000 ft. 6-in. 940.00
 - (c) 3000 ft. 4-in. no bid
 - (d) 1 1/4x12-in. reducer 14.50
 - (e) 14 6x4-in. reducers 59.50
- Other bidders were:
- American C. I. Pipe Co. (a) \$499.26;
 - (b) \$900; (c) \$954; (d) \$13.74; (e) \$65.02.

Pacific States C. I. Pipe Co., (a) \$515.20; (b) \$940; (c) \$960; (d) \$20; (e) \$65.30.

SAN FRANCISCO.—U. S. Pipe and Foundry Co., Monadnock Building, awarded contract by City Purchasing Agent, under Proposal No. 803, to furnish and deliver:

- 50,000 ft. 6-in. c.i. pipe at \$3.25;
 - 40,000 ft. 8-in. c.i. pipe at \$5.075.
- Complete list of unit bids published in issue of February 16

VALLEJO, Solano Co., Calif.—City council has authorized the installation

of a new pump at the Municipal Water plant; estimated cost \$2,000; capacity of 1,000-g.p.m. Alf. Edgcomb, city clerk. T. D. Kilkenny, city engineer.

STREETS AND HIGHWAYS

RIVERSIDE COUNTY, Calif.—Until March 30, 2 P. M., bids will be received by State Highway Commission to grade and surface with oil treated crushed gravel or stone 3.7 miles between Blythe and Ehrenberg Bridge, involving:

- (1) 4,500 cu. yds. rdwy. excav., without class;
- (2) 193,000 cu. yds. imp. borrow;
- (3) 4,000 cu. yds. struc. excav.;
- (4) 10,050 tons crushed gravel or stone surfacing;
- (5) 280 tons screenings (seal coat);
- (6) 3,250 bbls. fuel oil;
- (7) 60 cu. yds. Class A Port. cem. concrete (struc.);
- (8) 2,000 lbs. bar reinf. steel (struc.);
- (9) 170 lin. ft. 12-in. corr. metal pipe
- (10) 136 lin. ft. 30-in. do;
- (11) 170 lin. ft. 30-in. do;
- (12) 414 lin. ft. 36-in. do;
- (13) 210 lin. ft. 4-in. tile underdrains;
- (14) 25 tons gravel blanket for six-phons;
- (15) 11,300 lin. ft. furnish treated piles
- (16) 312 drive piles;
- (17) 253 M. ft. b.m. redwood timber, dense sel. all-heart structural grade;
- (18) 108 M. ft. b.m. redwood timber, sel. all-heart struc. grade;
- (19) 7 mi. new property fence;
- (20) 190 sta. finish rdwy.;
- (21) 60 monuments complete in place. State will furnish corrugated metal pipe.

SAN DIEGO COUNTY, Cal.—Until March 30, 2 P. M., bids will be received by State Highway Commission to grade and pave with Portland cement concrete 7.5 miles between Bostonia and Chocolate Creek, involving:

- (1) 397 sta. clear and grub right-of-way;
- (2) 150,000 cu. yds. rdwy. excav. without class;
- (3) 1,000,000 st. yds. overhaul;
- (4) 4,000 cu. yds. struc. excav.;
- (5) 70,000 sq. yds. subgrade for pave.;
- (6) 16,275 cu. yds. Class "A" Port. cem. conc. (pave.);
- (7) 680 cu. yds. Class "A" Port. cem. conc. (struc.);
- (8) 459,000 lbs. bar reinf. steel (pave struc.);
- (9) 200 lin. ft. 18" corr. metal pipe;
- (10) 1650 lin. ft. 24" do;
- (11) 240 lin. ft. 30" do;
- (12) 100 lin. ft. 42" do;
- (13) 20 lin. ft. 18" reinf. conc. pipe;
- (14) 40 lin. ft. 36" do;
- (15) 2040 cu. yds. Port. cem. conc. remove from exist. pave.;
- (16) 4000 M. gall. water (embankment)
- (17) 900 cu. yds. cushion course;
- (18) 780 bbls. fuel oil (shoulders and gutters);
- (19) 3.5 mi. move and reset property fences;
- (20) 10.6 mi. new property fences;
- (21) 40 gates complete in place;
- (22) 82 lin. ft. solid timber guard rail;
- (23) 84 culvert markers;
- (24) 397 sta. finish rdwy.;
- (25) 100 monuments complete in place. State will furnish corrugated metal pipe.

OREGON STATE.—Earl L. McNutt, Eugene, Ore., at \$92,006.50 (\$50,549 for West Unit and \$42,457.50 for East Unit), submitted low bid to State Highway Commission to improve Paradise Creek-Elkton Section of Umpqua

Highway in Douglas County. Grading project to be contracted in two units. West unit is 3.34 miles in length and requires approx. 170,000 cu. yds. of excavation. East unit is 4.18 miles in length and requires approx. 118,000 cu. yds. of excavation.

J. W. and J. R. Hillstrom, Marshfield, Ore., at \$73,170 low bidders for work to improve Doyle Hill-Nimrod Section of the McKenzie Highway in Lane County, involving: 14.24 miles of broken stone surfacing and the furnishing of 13,000 cu. yds. of broken stone in stock pile. Requires total of approx. 54,000 cu. yds. of broken stone

WASHINGTON STATE.—Until Apr. 5, 10 A. M., bids will be received by Samuel J. Humes, state director of highways, Olympia, Wash., for:

Paving with cem. conc. about 6.3 miles of State Road No. 9, Discovery Bay to Ludlow Road, Federal Aid Project No. 146-A, in Jefferson Co.

Grubbing, grading and draining about 6.2 miles of State Road No. 13, Cosmopolis to Arctic, Federal Aid Project No. 187-A, in Grays Harbor County, involving 35.5 acres grubbing, 447,580 cu. yds. excar.; 82 cu. yds. conc.; 6,070 lin. ft. pipe culverts and other items.

Construct bituminous mat, approx. 2-in. in thickness, by either the bituminous macadam or the plant mix method on State Road No. 14, Junction State Road No. 9 to Gig Harbor, Harper and Manchester in Mason, Kitsap and Pierce Counties, involving 2600 tons bit. cem.; 52,000 cu. yds. of crushed stone for bit. mac. method; or 3,350 tons of bit. cem. and 76,000 cu. yds. of crushed stone for plant mix method, and other items, and by the road mix method on a bit. mat by the road mix contracting 21 mi. about 4.8 miles of State Road No. 21, Bremerton to Junction Seabeck Road in Kitsap County, involving 310 tons of bit. cem. and other items.

Certified check 5% payable to State Treasurer required with bid. Plans obtainable from engineer on deposit of \$2, returnable.

NEVADA STATE.—Until March 16, 2 P. M., bids will be received by S. C. Durkee, State Highway Engineer, Carson City, Nevada, for reconstruction in Mineral County, consisting of grading and additional gravel surface between 13 miles east of Hawthorne and Hawthorne, a length of 13.65 miles.

Plans on file at office of U. S. Bureau of Public Roads, 461 Market St., San Francisco, and obtainable from the engineer on deposit of \$15, of which \$10 is returnable.

VENTURA, Cal.—March 24 has been set as tentative date for new election to vote on \$100,000 bond issue for the Meta Street cut-off. James L. Beebe, Los Angeles bond attorney, has announced to the Mayo. of Ventura and city officials that it will be necessary for the city to hold this election to vote on the \$100,000 bond issue for the reason that certain conditions attached to the previous issue make the bonds unsalable.

RIVERSIDE COUNTY, Cal.—Basich Bros., 20,550 Normandie Avenue, Torrance, at \$528,673.10 awarded contract by the State Highway Commission to grade and surface with oil treated crushed gravel or stone, 19.5 miles between Shavers Summit and Desert Center. Complete bids published in issue of March 3.

ARIZONA STATE — O. F. Fisher, 516 S. 7th St., Phoenix, submitted low bid to State Highway Commission, Phoenix, March 11, at \$51,493.09, for highway construction on the Globe-Safford Highway, F. A. P. 15-D and 87-E. Work begins at the end of the present oil surfacing near Bylas and extends southeasterly approximately 18½ miles to the beginning of the pavement near Matthews Wash, consists of the placing of mineral aggregate and the oil processing of the roadway by the road mix method, involving:

- (1) 27,000 cu. yds. mineral aggregate;
- (2) 76,000 cu. yds. ml. mineral aggregate, haul;
- (3) 459,000 gal. oil applied to rdwy.;
- (4) 1400 cu. yds. screenings for seal coat;
- (5) 18.4 mi. mix, laying down and finishing;
- (6) 36.7 mi. reshaping shoulders.

T. S. O'Connell, State Highway Engineer.

Second bidder was Martin Brothers Trucking Co., Long Beach, at \$51,996.35. Bids taken under advisement.

CARMEL, Monterey Co., Cal.—Due to "financial conditions," the city council has postponed temporarily proposed program to improve streets involving an expenditure of \$250,000, as previously reported. Preliminary surveys have been made by Howard F. Cozzens, city engineer.

MOUNTAIN VIEW, Cal.—City Engineer Hiram N. Bishop is making surveys for road into the Sunnyvale Dirigible Base beginning at the S. F. Highway, 3 blocks west of Murphy Ave. and running directly to the Bayshore Highway. Will have roadway 86 feet wide.

SAN MATEO, San Mateo Co., Cal.—Until March 21, 8 P. M., bids will be received by E. W. Foster, city clerk, to resurface Fifth Avenue between Railroad Avenue and Bayshore Highway, involving:

- (1) 650 cu. yds. coarse rock chips;
- (2) 100 cu. yds. base rock;
- (3) 40 cu. yds. fine rock chips;
- (4) 137,000 gals. emulsified asphalt;
- (5) 380 lin. ft. curb and gutter.

Alternate (B)

- (1) 1000 tons asphalt concrete;
 - (2) 380 lin. ft. curb and gutter.
- Specifications obtainable from city clerk. Certified check 10% required with bid. E. P. Wilsey, city manager.

SANTA BARBARA, Cal.—Until 1:30 P. M., March 24, new bids will be received by city council to improve Mission, Chino, Gillespie, Robbins and other streets, under the 1911 Act, involving:

- (1) 265,086.27 sq. ft. 7x5x5x7-in. cement concrete paving, involving grading (about 8055.72 cu. yds. excavation);
- (2) 5176.80 lin. ft. combined concrete curb and 3-ft. gutter;
- (3) 931.80 ft. combined concrete curb and 6-ft. gutter;
- (4) 1263.89 ft. curb;
- (5) 12,494.10 sq. ft. concrete gutter;
- (6) 84 side connections to sewer;
- (7) 90 ft. 6-in. vitrified pipe stub sewer;
- (8) 744 sq. ft. concrete walk;
- (9) raising junction box.

All bids received March 3 were rejected at the council meeting March 10. The low bid of J. L. McClain, Los Angeles, at \$76,926.37 was about \$6000 above the engineer's estimate.

TUOLUMNE-MARIPOSA COS., Cal.—Until March 24, 2 P. M., bids will be received by R. E. Pierce, district engineer, State Highway Commission, 502 State Office Bldg., Sacramento, to treat with fuel oil and asphaltic road oil as a dust palliative, 32.2 miles between Mountain Pass and Yosemite National Park. Specifications obtainable from district engineer.

CENTRAL CALIFORNIA—Oilfields Trucking Co., Ltd., 521 Supply Row, Taft, awarded contract by the State Director of Public Works, March 4, at \$2028.60 (or \$1.96 per bbl.) for applying Diesel oil to roadside vegetation over a distance of about 180 roadside miles in Amador, Calaveras, Tuolumne and Stanislaus Counties, as follows:

- (1) 760 bbls. Diesel oil in location A;
- (2) 275 bbls. Diesel oil in location B.

R. E. Pierce, district engineer Dist. X. Complete bids published in issue of February 25.

ARIZONA STATE—Arizona Sand & Rock Co., Box 1522, Phoenix, submitted low bid to State Highway Commission March 4 at \$39,926.61 for highway A. F. E. No. 8015. Work begins at the packing plant and extends easterly and southerly approx. 2.9 miles to the Tempe bridge, consisting of widening, removal and reconstruction of portions of existing concrete pavement with asphaltic concrete pavement and is to be completed on or before May 14, 1932. The work involves: 1,800 sq. yds. removing old concrete pavement; 36,200 sq. yds. 4-in. asph. pave. (complete in place);

Second low bidder was Pacific Const. Co. of Phoenix, at \$38,326.94. Bids were taken under advisement.

MOUNTAIN VIEW, Santa Clara Co., Cal.—Union Paving Co., Call Building, San Francisco, at \$34,110 awarded contract by city trustees to construct Moffett Blvd. within the city limits.

SAN DIEGO COUNTY, Cal.—C. R. Butterfield, 1410 N. Gaffey Street, San Pedro, at \$66,108 awarded contract by State Highway Commission to grade and pave with Portland cement concrete about 0.3 mile between Sorrento Creek and Del Mar. Complete bids published in issue of February 25.

DAILY NEWS SERVICE

If you are interested in a daily construction news service featuring all types of building and engineering construction, send for free sample copies of Daily Pacific Builder. Subscription price, \$150 per month or \$15.00 per year when paid in advance.

Daily Pacific Builder features in each issue, timely reports on work contemplated, bids wanted, bids opened and contracts awarded for all types of building and engineering construction, machinery and equipment, Government work, supplies and equipment, business opportunities, etc.

Daily Pacific Builder is the only publication publishing listings of building permits, building contracts, mechanics liens, etc., in Northern and Central California.

Send for sample copies today or phone GARfield 8744.

Daily Pacific Builder

545 Mission St.
San Francisco, Calif.

FREMONT COUNTY, Wyo.—Until March 22, 2 P. M., bids will be received by A. E. Palen, Acting District Engineer, 237 Custom House Building, Denver, Colo., to construct Section A, Wind River or Shoshone Indian Reservation Highway, 27.358 miles, involving:

- (1) 352,000 cu. yds. unclass. excav.;
- (2) 4,200 cu. yds. unclass. excav. for struc. A;
- (3) 450 cu. yds. unclas. excav. for Struc. B;
- (4) 158,000 sta. yds. overhaul;
- (5) 45,500 cu. yds. crushed gravel or crushed rock (1-course);
- (6) 2,700 cu. yds. suppl. crushed rock or crushed gravel;
- (7) 1,000 cu. yd. ml. binder hauled over 500 ft.;
- (8) 11.5 M.F.B.M. untreated timber;
- (9) 227 M.F.B.M. treated timber;
- (10) 73 cu. yds. Class A concrete;
- (11) 56 cu. yds. Class B concrete;
- (12) 64 cu. yds. Class S concrete;
- (13) 3,600 lbs. reinf. steel;
- (14) 5,642 lin. ft. 18-in. C.G.M.P. culverts;

- (15) 3,526 lin. ft. 24-in. do;
- (16) 906 lin. ft. 30-in. do;
- (17) 204 lin. ft. 36-in. do;
- (18) 71,000 lbs. struc. steel;
- (19) 3,208 lin. ft. treated timber piling;
- (20) 150 cu. yds. hand laid rock embankment;
- (21) 3,600 lin. ft. wire cable guard rail;
- (22) maintain detours;
- (23) remove old structures;
- (24) 1,227 sq. yds. asph. wearing surf.;
- (25) 20,600 lin. ft. move exist. fences;
- (26) 100,000 lin. ft. barbed wire fence;
- (27) 20 fence gates;
- (28) 6 head gates.

Specifications obtainable from above upon deposit of \$10, returnable, checks payable to the Treasury of the United States.

LOS ANGELES, Cal.—City Engineer J. J. Jessup has completed plans to improve streets in Smiley Drive and Moynier Lane Improvement District, 1911 Act. Project involves in the main: grading (3560 cu. yds. cut, 493 cu. yds. fill);

- 124,716 sq. ft. 6-in. Warrenite bitul. (granular) paving (2-in. surfl. on 4-in. A. C. base);
- storm drain (est. at \$1515);
- sanitary sewer (est. at \$5100);
- water system.

CENTRAL CALIFORNIA—Basalt Rock Co., 900 8th St., Napa, at \$4104 submitted low bid to State Highway Commission to apply Diesel oil to roadside vegetation over 85 miles in the counties of Fresno, Tulare and Kern. Complete bids follow:

- Basalt Rock Co., Napa.....\$4,104.00
- F. W. Nighber, Bakersfield..... 4,212.00
- Stewart & Nuss, Fresno..... 4,471.20
- Oilfield Trucking Co., Taft..... 4,492.80
- Pacific Tank Line, L. A..... 7,139.66

CENTRAL CALIFORNIA—Oilfield Trucking Co., 521 Supply Row, Taft, at \$8016.80 submitted low bid to State Highway Commission to apply Diesel oil to roadside vegetation over a distance of about 89 miles in the counties of San Benito, Monterey, San Luis Obispo and Santa Barbara. Complete bids follow:

- Oilfield Trucking Co., Taft.....\$ 8,016.80
- Pacific Tank Line, L. A..... 9,757.44
- Bradley Truck Company, Santa Barbara..... 9,116.80
- Fred W. Nighbert, Bakersfield, 10,500.00
- Western Motor Transfer, Santa Barbara..... 10,568.00

ARIZONA STATE.—Lewis Brothers, Winslow, Ariz., submitted low bid to State Highway Commission, Phoenix, March 2 at \$37,510.91 for highway construction of the Holbrook-St. Johns Highway, F. A. P. 78-C, Sch. 1. Work begins 5½ miles west of St. Johns and extends easterly to St. Johns, consisting of grading, draining and placing of subgrade stabilizer and is to be completed on or before Aug. 31, 1932. R. E. Canlon, Phoenix, submitted the second bid at \$41,427.06.

WASHINGTON STATE.—Until Mar. 29, 10 A. M., bids will be received by Samuel J. Humes, state director of highways, Olympia, for:

(1) Paving with Portland cement concrete about 8.5 miles of State Road No. 2, Fall City West, Federal Aid Project No. 181-B in King County.

(2) Paving with Portland cement concrete about 0.4 mile of State Road No. 3, Spokane, to Rosalia Gaps in Spokane County.

Certified check 5% payable to the State Treasurer required with bid. Plans obtainable from above office on deposit of \$2, returnable.

GLENN COUNTY, Calif.—As previously reported, until March 23, 2 P. M., bids will be received by the State Highway Commission to grade and surface with asphalt concrete 0.4 mile in Willows, involving:

- (1) 850 cu. yds. rdwy. excav. without class;
- (2) 4,400 cu. yds. pit run gravel;
- (3) 200 cu. yds. struc. excav.;
- (4) 5,400 sq. yds. subgrade for pave.;
- (5) 2,220 tons asph. conc.;
- (6) 250 sq. yds. asph. paint binder;
- (7) 35 bids. light fuel oil (detours);
- (8) 530 cu. yds. salvage mac. (borders);
- (9) 48 cu. yds. Class A Port. cement concrete (struc.);
- (10) 4,500 lbs. bar reinf. steel (struc.);
- (11) 142 lin. ft. 12-in. corr. metal pipe
- (12) 26 lin. ft. 18-in. do;
- (13) 18 lin. ft. 36-in. do;
- (14) 90 lin. ft. special timber headers;
- (15) 1 set. conc. headwall, move and re-set;
- (16) 20 cu. yds. conc. in existing pave., remove and dispose of;
- (17) 0.3 mi. new property fence;
- (18) 3 gates complete in place;
- (19) 50 lin. ft. existing guard rail remove and salvage;
- (20) 22 sta. finish rdwy.;
- (21) 7 monuments complete in place.

State will furnish corrugated metal pipe, cast steel frames and covers for drop inlets.

WASHINGTON STATE.—Until Apr. 1, 10 A. M., bids will be received by Samuel J. Humes, State Director of Highways, at Olympia, to improve Division No. 1 of the Aurora Avenue project, including Aurora Ave., Phinney Way, North 46th St., etc., involving paving, sewers, side sewers, water mains, hydrants, concrete sidewalks, grading or regrading.

GLENDALE, Los Angeles Co., Cal.—Until 10 A. M., March 24, bids will be received by city council to improve Verdugo Road bet. Canada Blvd. and a point adjacent to the northeast line and its extensions of La Crescenta Ave. and a portion of Canada Blvd. and portions of other streets, involving:

- 2,650 lin. ft. Class B curb;
- 12,500 sq. ft. 8-in. gutter;
- 124,500 sq. ft. 6-in. asph. conc. pave.;
- 1,400 sq. ft. 6-in. conc. pave
- corr. iron pipe storm drain complete.

Cash contract. Certified check 10%. G. E. Chapman, city clerk.

ORANGE CO., Cal.—As previously reported, until March 23, 2 P. M., bids will be received by State Highway Commission to grade and pave with Portland cement concrete about 4.8 miles between Newport Beach and Corona Del Mar, involving:

- (1) 251 sta. clear and grub right of way;
- (2) 63,000 cu. yds. rdwy. excav. without class;
- (3) 27,000 sq. yds. subgrade for pave.;
- (4) 40,000 mi. yds. overhaul;
- (5) 1,700 M. gals. water (embank.);
- (6) 700 cu. yds. struc. excav.;
- (7) 9,650 cu. yds. Class A Port. cem. conc. (pave.);
- (8) 70 cu. yds. Class A Port. cem. conc. (struc.);
- (9) 225,000 lbs. bar reinf. steel (pave. and struc.);
- (10) 300 cu. yds. salvage mac. (shoulders and gutters);
- (11) 4,700 tons sub-base material;
- (12) 210 tons broken stone (bit. mac. surfacing);
- (13) 20 tons grade E asphalt;
- (14) 460 lin. ft. 18-in. stand. reinf. concrete pipe;
- (15) 60 lin. ft. 24-in. do;
- (16) 1,150 cu. yds. Port. cem. conc. removed from existing pave.;
- (17) 14 culvert markers comp. in place;
- (18) 60 move and reset monuments;
- (19) 551 sta. finish roadway.

SAN JOSE, Cal.—Until March 21 (previously reported March 31), 11 A. M., bids will be received by Henry A. Pfister, county clerk, to improve Race Street, Supervisor District No. 4, involving 34,175 sq. ft. asphalt. Specifications obtainable from above. Robt. Chandler, County Surveyor.

AGNEW, Santa Clara Co., Cal.—Earl W. Heple, 494 Delmas St., San Jose, at \$6927 awarded contract by State Department of Public Works for grading and roadwork at the Agnew State Hospital.

CENTRAL CALIFORNIA — Lee J. Immel, 1031 Evelyn St., Berkeley, at \$2499 awarded contract by State Highway Commission for applying Diesel oil over 148 roadside miles in the counties Stanislaus, Sacramento, San Joaquin and Amador.

SALT LAKE CITY, Utah—Plans and specifications being prepared by State Road Commission, Salt Lake City, for highway projects as follows:

- (1) 30 miles oiling Evanston-Ogden and Evanston-Salt Lake City Rd, estimated cost, \$105,000;
 - (2) 1½ miles oiling in Juab County, estimated cost \$26,500;
 - (3) 17 miles oiling in Millard County, estimated cost \$75,000.
- H. S. Kerr, Utah Road, Salt Lake City, State Highway Engineer.

OAKLAND, Cal.—Heafey-Moore Co., 344 High St., and Hutchinson Co., 1450 Harrison St., Oakland, awarded contract by city council to furnish emulsified pre-mix for use of city during remainder of fiscal year, the former to supply the east section of the city at \$2.98 per ton and \$0.17 for loading and the latter at \$2.96 per ton and \$0.25 for loading.

SAN JOSE, Santa Clara Co., Cal.—Until March 21, 11 A. M., bids will be received by Henry A. Pfister, county clerk, to improve Capitol Ave., Supervisor District No. 3, involving: 157-

700 sq. ft. asphalt. Specifications obtainable from above. Robert Chandler, county surveyor.

HAYWARD, Alameda Co., Calif.—City Engineer Jesse E. Holly preparing plans to improve south end of Castro St. from the Hospital grounds to the termination of the car line, involving widening from 8- to 17-ft., eliminating a bottleneck in the Niles Highway.

ENGINEERING SOCIETIES EMPLOYMENT SERVICE

Further information regarding positions listed in this column is obtainable from Newton D. Cook, Room 715, 57 Post St., San Francisco. (Phone Sutter 1684).

R-3768-S EXECUTIVE VICE-PRESIDENT to act as General Manager of new company now producing programs for radio broadcast by electrical transcription. Position requires an experienced executive who has been accustomed to earning at least \$6000 per year and able to make investment in company, after investigation, of \$10,000-\$20,000. Company is expanding rapidly and has openings for a Research Director, an Assistance Sound Engineer and an Assistant Production Director. Company policy requires cash investment by all executives. Apply by letter. Location, Oakland.

R-3762-S SALESMAN, preferably with engineering training and some practical experience, to sell engineering instruments and supplies to engineers and architects. Must be a resident of Los Angeles Metropolitan area. Salary, \$150-175 mo. Permanent. Apply by letter. Location, Los Angeles.

R-3759-S SALES REPRESENTATIVES or manufacturers' agents to handle a line of meter service and safety switches for eastern manufacturer. Applicants should be well acquainted with electrical supply jobbers and experienced with standard switch company products. Territories open, San Francisco, Los Angeles, Seattle, Denver, and Saint Louis. Apply by letter.

R-3757-S OPPORTUNITY for some organization manufacturing and selling drop forgings, to acquire rights to a device which saves time and money in fitting up steel plate work. Developed by an engineer to meet actual conditions and its value is evident to any one who sees it. Full particulars upon request to this office.

W-3573-S (K-394) ASSISTANT PROFESSOR of mechanical engineering, five to ten years out of school, with experience in shop, drawings or teaching to enable him to successfully demonstrate and teach two sections of engineering shop work (pattern, foundry and machine shop). Also teach one section of drawing and direct the laboratory work in heat treatment and welding of metals. Salary, \$2400-\$3000, September 15 to June 15. Apply by letter. Location, South.

W-3552-C REFRIGERATION ENGINEER who has had at least four years' experience with the domestic type of refrigerators. Strictly technical man not wanted, but one who is practical in design. Apply by letter. Location, Middlewest.

BUILDING NEWS

APARTMENTS

Plans Completed.
APARTMENTS Cost, \$110,000
LOS ANGELES, Los Angeles Co., Cal.
 No. 1554 Laurel Canyon Road.
 Five-story Class B reinforced concrete apartments (63x136 ft.); 113 rooms; slate shingle and composition roof, electric elevator.
 Owner—Paul J. Guerin.
 Architect—Robert H. Orr, Corporation Bldg., Los Angeles.
 Bids will be taken in one week.

Plans Being Completed.
APARTMENTS Cost, \$150,000
SAN FRANCISCO, Twenty-first and Bartlett Streets.
 Six-story and basement steel frame and concrete apartments (54 2 and 3-room apts.); composition roof, steam heating system, electric refrigeration, hardwood floors, etc.
 Owner—F. W. Hanchett, 34 Highland Street.
 Architect—Wm. C. Ambrose, 605 Market Street.
 Structural Engineer—H. E. Hammill, 381 Bush Street.
 Mechanical Engrs.—Atkins & Parker, Hobart Bldg.
 Bids will be asked in about 3 weeks.

Preparing Working Drawings.
APARTMENTS Cost, \$150,000
SAN FRANCISCO, E. Mason St. bet. Sutter and Bush Sts.
 Six-story and basement steel frame reinf. concrete apartments (50 2- and 3-room apts.) tile and composition roof, steam heat, colored tile baths, hardwood floors, electric refrigeration, etc.
 Owner—James Welch.
 Architect—H. C. Baumann, 251 Kearny Street.
 Final plans will be completed within one week, at which time bids will be asked.

BONDS

NORTH SACRAMENTO, Calif.—A second bond election in the amount of \$100,000 is contemplated by the trustees of the Grant Union High School District to finance construction of a new high school group. The first election was defeated, the vote being 788 against and 754 in favor. Starks and Flanders, Forum Bldg., Sacramento, architects.

FACTORIES AND WAREHOUSES

Preparing Working Drawings.
LAUNDRY Cost, \$20,000
SAN FRANCISCO, N. Rickard St. W. San Bruno Ave.
 Two-story reinforced concrete and part structural steel laundry (100 by 100 ft.); wood roof, concrete floors, steel trusses.
 Owner—California Laundry & Supply Co., 399 7th St., San Francisco.
 Engineer—S. S. Gorman, 465 California St., San Francisco.
 Bids will be asked in about one week.

OAKLAND, Cal.—Coos Bay Lumber Co., Bay Point, Calif., has closed lease with the Oakland City Port Commission for city property adjoining the new Ninth Avenue Municipal Pier on which it proposes to construct a steel

umbrella shed, a planing mill and an office building. Approximately \$100,000 will be expended in construction and equipment. All work will be undertaken by the company's own forces.

Planned.
REFINERY Cost, \$50,000
FRESNO, Fresno Co., Calif.
 Refinery (capacity of 2,000 barrels per day).
 Owner—Whepley Oil Co. (rep. by A. M. Drew) Coalinga.
 Architect—Not Selected.
 More definite information will be given at a later date.

GOVERNMENT WORK AND SUPPLIES

Contract Awarded.
POSTOFFICE Cont. price, \$342,890
SACRAMENTO, Sacramento Co., Cal.
 T. St. bet. 8th and 9th Sts.
 Four-story Class A steel and concrete postoffice and federal bldg. (granite base, terra cotta and stone exterior, steel sash, electric elevators, marble and tile work, oil burning steam heating plant).
 Owner—United States Government.
 Architect—Starks & Flanders, Forum Bldg., Sacramento.
 Structural Engineer—Nathaniel Ellery, 2124 E. 39th St., Oakland.
 Contractor—N. P. Serevin, 222 West Adams St., Chicago.

SAN DIEGO, Cal.—Until March 29, 11 A. M., under Specification No. 6583, bids will be received by Public Works Officer, Eleventh Naval District, for gasoline storage tank at the Naval Operating Base (Air Station), San Diego. The work includes the provision and installation of (a) one steel tank of approximately 100,000 gallons capacity for the storage of aviation gasoline; (b) gasoline piping extending from the new tank to existing piping of pump house; (c) earthen berm around new tank, and (d) new steel stairs over earthen berm. The tank shall have sand foundation, with concrete retaining ring, steel late sides and bottom, steel roof with louvers, steel stairs and floating deck. Specifications obtainable from Public Works Officer on deposit of \$10, returnable, checks for same to be made payable to the Chief of the Bureau of Yards and Docks.

EL CENTRO, Imperial Co., Cal.—Treasury Department, Office of the Supervising Architect, Washington, D. C., will call for bids shortly for the

U. S. Post Office building to be erected in El Centro. It will be a masonry and steel structure, costing about \$140,000.

Contract Awarded.
POST OFFICE Cont. Price, \$109,000
ANACONDA, Montana.
 Fireproof post office.
 Owner—United States Government.
 Plans by Supervising Architect, Treasury Dept., Washington, D. C.
 Contractor—John L. Soderberg Constr. Co., Kennedy Bldg., Omaha, Neb.

Plans Being Prepared.
SHOP Cost, \$—
ALAMEDA, Alameda Co., Cal. Benton Field Air Depot.
 Shop building (330x480-ft.).
 Owner—United States Government.
 Plans by Quartermaster General, Washington, D. C.
 It is expected to ask bids shortly.

Preparing Working Drawings.
POST OFFICE Cost, \$300,000
SAN JOSE, Santa Clara Co., Cal. First and St. John Streets.
 Class A Post Office.
 Owner—United States Government.
 Architect—Ralph Wyckoff, San Jose National Bank Bldg., San Jose.

Contract Awarded.
POSTOFFICE Cont. price, \$151,573
POCATELLO, Idaho.
 Extend and remodel postoffice.
 Owner—United States Government.
 Plans by Supervising Architect, Treasury Dept., Washington, D. C.
 Contractor—Tapazzer Const. Co. Albert Lea, Minn.

Commissioned To Prepare Plans.
POST OFFICE Cost, \$350,000
SAN DIEGO, San Diego Co., Cal. E. Eighth and Ninth Sts.
 Class A Post Office.
 Owner—United States Government.
 Architect—William Templeton Johnson, San Diego Trust & Savings Bldg., San Diego.

Plans Being Prepared.
NURSES' HOME Cost, \$150,000
SEATTLE, Wash. Beacon Hill.
 Three-story fireproof Nurses' Home in connection with U. S. Marine Hospital (brick facing with terra cotta trim).
 Owner—United States Government.
 Architect—Bebb & Gould and Jahn Graham, Seattle.

Plans Being Figured—Bids Close Mar. 23, 3 P. M.
FOOTINGS, ETC. Cost, \$—
PHOENIX, Arizona.
 Construct footings and sub-basement walls of U. S. postoffice.
 Owner—United States Government.
 Plans by Supervising Architect, Treasury Dept., Washington, D. C.
 Plans obtainable from the Supervising Architect, Treasury Department Washington, D. C.

PANAMA CANAL—John W. Patience, 110 W. 40th St., New York City, awarded contract at \$175,300 by Department Quartermaster, Panama Canal Department, Quarry Heights, C. Z., for the erection of two air corps hangars, one warehouse and one machine shop at Albrook Field, C. Z.

SUB-CONTRACTORS MATERIALMEN Stop Your Losses

Credit information on general contractors, owners, builders and individuals.

MATERIALMEN'S CREDIT BUREAU

J. E. Higgins, General Manager
 564 Market St.—KEarny 6245-46
 Night Phone DOuglas 5304
 San Francisco

Plans Completed.

FOSTOFFICE Cost, \$155,000
MONTEREY, Monterey Co., Cal.
 One-story Class A steel frame Spanish type postoffice.
 Owner—United States Government.
 Architect—Wm.-O. Raiguel, Del Monte

ALAMEDA, Alameda Co., Cal.—Until March 22, 2 P. M., bids will be received by District Engineer, U. S. Bureau of Public Roads, 461 Market St., San Francisco, to furnish and install one steel panel switchboard and two 100-K.V.A. electrical transformers, all a portion of Unit No. 4 Government Island Construction, Government Island, Alameda, Calif.

Specifications obtainable from the above.

PACIFIC COAST—An army housing program bill carrying appropriations of \$15,000,000 for construction in all sections of the United States was introduced in the house on February 29 by Representative James. The bill, which is understood to have approval of the military affairs committee, includes the following appropriations: Albrook Field, C. Z., \$62,000; Fort Hauchuca, Ariz., \$10,000; Letterman General Hospital, San Francisco, \$150,000; March Field, Calif., \$252,000; Fort Mason, Calif., \$110,000; Presidio of San Francisco \$110,000; Rockwell Field, Calif., \$500,000; Fort Winfield Scott, Calif., \$140,000.

WEST LOCH, T. H.—Bureau of Yards and Docks, Navy Department, is preparing Specification No. 6746 for water supply system at West Loch. Estimated cost, \$45,000. Bids will be asked shortly.

SUNNYVALE, Santa Clara Co., Cal.—Bureau of Yards and Docks, Navy Department, Washington, D. C., is preparing plans for the following improvements in connection with Sunnyvale Dirigible Base in Santa Clara County:

Spec. No. 6817—Electric distributing system, estimated cost, \$112,000.
 Spec. No. 6791—Industrial buildings, estimated cost, \$275,000.
 Spec. No. 6748—Passenger elevator for hangar, estimated cost, \$10,000.

WASHINGTON, D. C.—Bids are being received by the Bureau of Supplies and Accounts, Navy Dept., Washington, D. C., to furnish materials and equipment to Pacific Coast navy yards and stations, further information on the schedules listed being obtainable from the Navy Purchasing Officer, 100 Harrison St., San Francisco:

Bids Close March 22

Mare Island, 20,000 lbs. corrugated rubber matting; sch. 7610.
 Puget Sound, 8 governors and spares sch. 7614.

Mare Island, 20,000 lbs. slab zinc; sch. 7611.

Mare Island, 1 motor-driven sewing machine; sch. 7628.

Mare Island, 22,000 lbs. drp cuprous oxide; sch. 7626.

Puget Sound, 2 electric baking ovens and spares; sch. 7622.

San Diego, 1 centrifugal horizontal pump; sch. 7619.

Mare Island, 1000 aircraft float lights with water impact fuses; sch. 7616.

San Diego, 1 gasoline motor driven street sweeper; sch. 7602.

Mare Island, 12 cor. boiler furnaces; sch. 7608.

Bids Close March 29

West yards, radio transmitting equipment and spares; sch. 7615.

PEARL HARBOR, T. H.—Bureau of Yards and Docks, Navy Department, Washington, D. C., is preparing plans and bids will be asked shortly for improvements at Pearl Harbor, under:

Specification No. 6819—partitions and services for overhaul shop at Pearl Harbor, estimated cost, \$25,000.

Specification No. 6711—sea plane beach and runway, estimated cost, \$100,000.

SAN DIEGO, Cal.—Bureau of Yards and Docks, Navy Department is preparing plans and bids will be asked in the immediate future for the following improvements at San Diego:

Specification No. 6735—Repairs to crane, estimated cost, \$6,000.

Specification No. 6808—Shelving in storehouse, estimated cost, \$3,000.

Specification No. 6812—Pill behind quay wall, estimated cost, \$23,000.

Specification No. 6665—Improving drainage system, estimated cost, \$40,000.

Specification No. 6717—Extension to building, estimated cost, \$15,000.

Preliminary Plans Completed.

FEDERAL BLDG. Cost, 2,800,000
SAN FRANCISCO. Civic Center.

Four-story Class A steel and concrete Federal Office Building (stone and terra cotta, brick work, etc.)

Owner—United States Government.
 Architect—Arthur Brown Jr., 251 Kearny St., San Francisco.

Mechanical Engineer—Leland & Haley 58 Sutter St., San Francisco.
 Structural Engineer—C. H. Snyder, 251 Kearny St., San Francisco.

Preliminary plans have been forwarded to Washington for approval.

HOSPITALS

Preparing Working Drawings.

MEDICAL BLDG. Total cost, \$600,000
SAN FRANCISCO. Second and Parnassus Aves.

Seven-story and basement steel frame and concrete medical building (340 ft. overall); steel beams, composition roof.

Owner—Regents of the University of California.

Architect—Wm. C. Hays, Crocker 1st National Bank Bldg., S. F.

Mechanical Engineer—Frank Walsh, % Architect.

To Start Construction Immediately.
HOSPITAL Cost, \$70,000

WEST LOS ANGELES, Los Angeles Co., Cal.

Two-story reinforced concrete Class A hospital (64x176 ft.); reinforced concrete roof, cast stone balusters, electric elevator, etc.)

Owner—Marion Davies Foundation Clinic.

Architect—Miss Julia Morgan, Merchants Exchange Bldg., S. F.

Contractor—Frank A. Henthall, 911 10th St., Santa Monica.

Commissioned To Prepare Plans.

ADDITION Cost, \$40,000
HANFORD, Kings Co., Cal.

Two wing addition to County Hospital.

Owner—County of Kings.
 Architect—H. Rafael Lake, Pacific Southwest Bldg., Fresno.

Preliminary plans will be submitted to Board of Supervisors for approval on April 6.

HOTELS

Plans Being Completed.

HOTEL Cost, \$50,000
MADERA, Madera Co., Cal.

Three-story Class C hotel (concrete foundations, brick walls, stucco exterior, tile and composition roof, combined steam heating and cooling system, elevator, etc.)

Owner—Mrs. Sarah E. Gross, 167 S. 14th St., San Jose.

Architect—J. W. Rowell, % Davis, Pearce Co., Grant and Weber Sts., Stockton.

Bids will be taken for a general contract in three weeks.

ICE AND COLD STORAGE PLANTS

Construction Started.

ICE PLANT Cost, \$—
MARYSVILLE, Yuba Co., Cal. Ninth and A Streets.

Reinforced concrete ice storage plant (1200-ton capacity).

Owner—Marysville Ice & Cold Storage Co., Marysville.

Plans by W. W. Williamson.
 Contractor—W. W. Williamson, 320 Market St., San Francisco.

POWER PLANTS

LOS ANGELES, Cal.—H. C. Garrett, engineer of power plant design and construction, Los Angeles Water and Power Bureau, announces that

excavation for Harbor steam plant of the department has started. About 65 men are now at work preparing the site for the initial generating unit of the plant.

Present plans for the plant involve the installation of a turbo-generating unit of 60,000 K.W. capacity, which may ultimately be increased to 300,000 K.W. The extent to which these units may be added is somewhat dependent upon the result of the \$34,000,000 power bond issue to be voted in May.

Boiler equipment will require a capacity of from 575,000 to 700,000 lbs. steam per hour. There will be two sets of water tube boilers, each with the above rating, in order to provide continuous service. The specifications call for 450 lbs. or 1400 lbs. pressure per square inch. Bids will be taken both ways.

The equipment will be bid on as follows:

(1) Turbo-generator;

(2) Boiler;

(3) Condenser.

A building to house the plant is being designed by the department, but it is probable that the work will be done by the day. It will be 150x200 ft. (for two units) and of reinforced concrete construction of type similar to other power plant and substation construction.

PUBLIC BUILDINGS, FIRE HOUSES AND JAILS

SAN FRANCISCO—Board of Supervisors have authorized the purchase of the Sneath Ranch, 1 1/4 miles west of the Skyline Boulevard, owned by the Jersey Farm Company, on which to erect the proposed new county jail replacing the present structure within the San Francisco city limits. Bonds of \$850,000 have been voted to finance construction. No architect has been selected as yet.

Plans Being Figured.

Plans Completed.
CITY HALL Cost, \$275,000
 VAN NUYS, Los Angeles Co., Cal.
 No. 3, 416 Sycamore Street.
 Two-story and part 8-story reinforced concrete and steel frame City Hall (25x190 ft.); granite & terra cotta facing, reinforced concrete floors, automatic sprinkler system.
 Owner—City of Los Angeles.
 Plans by L. A. Bureau of Construction.
 Bids will be asked shortly.

Plans Being Figured — Bids Close
 March 28, 5 P. M.
FIRE STATION Cost, \$22,000
 WOODLAND, Yolo Co., Cal.
 Two-story frame and stucco fire department building in connection with city hall plant (dormitory to accommodate 10; Spanish type).
 Owner—City of Woodland.
 Architect — Charles Dean, California State Life Bldg., Sacramento.

Contracts Awarded.

ARMORY Cost, \$60,000
 SALINAS, Monterey Co., Calif. Howard and Salinas Sts. and Lincoln Avenue.
 One-story reinforced concrete armory (seating capacity of 1400 to 1500; locker rooms, kitchen, stage, shops and club rooms).
 Owner—State of California.
 Architect—Koepp & Campbell, Carmel.
 Following is a complete list of bids:
General Work
 Guth & Fox, 1516 27th Street, Sacramento\$45,786
Electrical Work
 Rodeo Electric Co., Salinas.....\$1,845
Plumbing and Heating
 Phillips Heating & Plumbing Co., Salinas\$6,127

SCHOOLS

Low Bidders.
SCHOOL ADDITION Cost, \$—
 LOS ANGELES, Cal. Olympic Blvd.
 Class B reinforced concrete and brick high school addition.
 Owner—Los Angeles City School Dist.
 Architect—A. S. Nibecker, Jr., Los Angeles.
 Low Bidder—Floyd Shofner, 5670 Wilshire Blvd., Los Angeles, \$122,928.
Plumbing—Coony and Winterbottom, 2425 Hunter St., Los Angeles, \$11,867.
Electric—Consolidated Elec. Co., Beverly Hills, \$4,597.
Heating & Ventilating—Jones Heating Co., Pasadena, \$18,388.
Painting—J. H. Conner, Huntington Park, \$6,391.

MISSCULA, Mont.—John E. Hightower, Missoula, at \$121,348 awarded contract by County School Board to erect high school replacing structure destroyed by fire. Plumbing awarded to Missoula Hardware Co. at \$25,749.

Completing Plans—Take Bids Shortly
LAW SCHOOL Cost, \$325,000
 FULLMAN, Wash. U. of W. Campus
 Four-story Class A law school (170x60 ft.) with book stack wing, 40x50 ft. (Tudor Design).
 Owner—Regents of the University of Washington.
 Architect—A. H. Albertson, Jos. Willson and Paul Richardson, Associated, Seattle, Wash.

BERKELEY, Alameda Co., Cal.—Until March 18, A. M., bids will be received by Regents of the University of California to construct enclosing walls and fences at North End of

Track Area, George C. Edwards Field, on the Campus of the University Plans obtainable from the Cashier's Window, California Hall, Berkeley, on deposit of \$25, returnable.

Plans Being Figured—Bids Close Mar. 16th, 2 P. M.
COLLEGE BLDGS. Cost, \$300,000
 SAN FRANCISCO, Turk St. and Masonic Avenue.

Group of reinforced concrete college buildings (women's college) tile roof, steel sash, steam heating system, electric refrigeration, etc.
 Owner—Sisters of Sacred Heart.
 Architect—H. A. Minton, 525 Market Street.
 Engineer—L. H. Nishkian, 525 Market Street.

Bids are being taken for a general contract with separate bids for plumbing, heating and electrical work.

Construction Postponed.
SCIENCE BLDG. Cost, \$130,000
 SAN FRANCISCO, State Teachers College (124 Buchanan St.)

Three-story reinforced concrete Class B science and chemistry building (classrooms, lecture auditorium to seat 200, chemistry laboratories and supply rooms, tile roof, wood floors, linoleum covered, steam heat).

Owner—State of California.
 Architect—S. Heiman, 605 Market St.
 Construction of this project has been postponed indefinitely.

Contracts Awarded.
SCHOOL ADDITION Cost, \$—
 LOS ANGELES, Los Angeles Co., Cal. Griffith Park Blvd. near Mono Street.

Three-story Class A reinforced concrete and brick high school addition (24 classrooms; 64x168 ft.)
 Owner—L. A. City School District.
 Architect—Geo. M. Lindsey and E. P. Elden, Union Insurance Bldg., Los Angeles.

Contractor—Anton Johnson Co., Inc., 921 Monterey Road, South Pasadena, at \$96,446.

Plumbing—Coony & Winterbottom, 2425 Hunter St., Los Angeles, at \$3911.

Electric—Culver City Electric Co., Culver City, at \$1534.

Heating & Ventilating—American Engineers & Contractors, 3063 Oregon St., Los Angeles, at \$3593.

Painting—J. H. Conner, Huntington Park, at \$2450.

DAILY NEWS SERVICE

If you are interested in a daily construction news service featuring all types of building and engineering construction, send for free sample copies of Daily Pacific Builder. Subscription price \$1.50 per month or \$15.00 per year when paid in advance.

Daily Pacific Builder features in each issue, timely reports on work contemplated, bids wanted, bids opened and contracts awarded for all types of building and engineering construction, machinery and equipment, Government work, supplies and equipment, business opportunities, etc.

Daily Pacific Builder is the only publication publishing listings of building permits, building contracts, mechanics liens, etc., in Northern and Central California.

Send for sample copies today or phone GARfield 8744.

Daily Pacific Builder

545 Mission St.
 San Francisco, Calif.

Planned.
ADDITION Cost, \$100,000
 SANTA BARBARA, Santa Barbara Co., Cal.
 New wing addition (12 classrooms and cafeteria).
 Owner—Santa Barbara High School District.
 Architect—Not Selected.
 Half of the funds will be raised by a bond issue and the remainder by taxation.

BANKS, STORES & OFFICES

Preparing Plans.
MEDICAL BLDG. Cost, \$1,000,000
 LONG BEACH, Los Angeles Co., Cal. NW Ocean and Atlantic Aves.
 Limit height, Class A medical-dental building (150x200-ft.)
 Owner—Medical-Dental Bldg. of Long Beach, Ltd.
 Architect—Gilbert Stanley Underwood & Co., California Reserve Bldg., Los Angeles.

Plans Being Prepared.
SALESROOMS, ETC. Cost, \$—
 SAN FRANCISCO, Eleventh and Mission Streets.
 Salesrooms, offices and lofts.
 Owner—Goodyear Tire & Rubber Co., 6701 S. Central St., Los Angeles.
 Architect—Eng. Dept. of Owner.
 Agent—Milton Meyer, 50 Sutter St., San Francisco.
 More definite information will be given shortly.

Preliminary Sketches Completed.
STORES & OFFICES Cost, \$35,000
 PLACERVILLE, El Dorado Co., Cal.
 Two-story masonry stores, offices and garage (70x90 ft.) ten year J. M. composition roof, T. C. tile copings, brick and stucco exterior finish, face brick trim and sills, reinforcing concrete frame, oil burning and steam heating system, wall footings and concrete piers, wood sash windows, concrete and wood floors, Crane plumbing goods
 Owner—Withheld.
 Architect—Frederick S. Harrison, 1005 Tenth St., Sacramento.
 Structural Engineer—F. W. Kellberg, 544 Market St., San Francisco.
 Plans will be completed about March 20 and segregated bids will be taken.

Contract Awarded.
STORES Cost, \$20,000
 SAN JOSE, Santa Clara Co., Cal. No. 40 E-First Street.

One and two-story steel frame and brick stores (1 stores); Spanish type, tile and composition roof, tile floors, iron work, individual gas steam radiators or floor furnaces.

Owner—Mrs. Owen Richardson, Commercial Bldg., San Jose.
 Architect—Chas. McKenzie, Twohy Bldg., San Jose.
 Contractor—G. P. W. Jensen, 320 Market St., San Francisco.

Bids Wanted—To Close March 28th, 8 P. M.
ADDITION Cost, \$—
 GRIDLEY, Butte Co., Cal.

One-story concrete and tile addition to municipal utilities bldg. (composition roof electric heat [by owner] to house water and lighting plants).

Owner—City of Gridley.
 Architect—Geo. S. Sellon, California State Life Bldg., Sacramento.

On previous bid opening lowest bid was submitted by Guth & Fox, 1523 27th St., Sacramento, at \$10,646.

Plans Being Revised.
MEDICAL BLDG. Cost, \$20,000
SAN FRANCISCO. Location Withheld.
 Two-story frame and stucco medical building and stores (Modernistic type; inoleum floors, flat composition roof, steam heating system, medical equipment, etc.)
 Owner—Withheld.
 Plans by Irvine & Ebbets, Call Bldg.
 Contractor—Selected, Name Withheld.

Contract Awarded.
STORE Cost, \$25,000
OAKLAND. Alameda Co., Calif. SW 19th and Broadway.
 Two-story reinforced concrete store 37½x36-ft.; composition roof, wood floors, etc.)
 Owner—Mrs. J. H. Dougery, 2646 Dana St., Berkeley.
 Architect—Alben Froberg, Ray Bldg., Oakland.
 Contractor—H. J. Christensen, Ray Bldg., Oakland.

Plans To Be Prepared.
OFFICES Cost, \$2,000,000
SAN FRANCISCO. Montgomery near California St.
 Twenty-eight-story Class A offices.
 Owner—Louis R. Lurie, 333 Montgomery Street.
 Architect—O'Brien Brothers & W. D. Feugh, 333 Montgomery St.
 More definite information will be given in about ten days.

THEATRES

Preparing Preliminary Plans.
THEATRE Cost, \$75,000
PITTSBURG, Contra Costa Co. Cal. SW Seventh and Cumberland Sts. (80x125 feet).
 One-story and balcony Class B reinforced concrete theatre (to seat 750).
 Owner—Andrew Portmand, 230 E-6th St., Pittsburg.
 Architect—A. A. Cantin, 544 Market St., San Francisco.
 Lessee—Phil A. Frease and Louis Tragner.

WHARVES AND DOCKS

To Take Bids March 7—To Close Mar. 17, 2 P. M.
WHARF EXTENSION \$225,000
SAN FRANCISCO. Islais Creek.
 Reinforced concrete and timber extension to Outer Islais Creek Wharf (800x160 ft.)
 Owner—State of California (Harbor Commission), Ferry Bldg., S. F.
 Engineer—Frank G. White, Ferry Bldg., San Francisco.

Plans Being Figured—Bids Close Mar. 17th, 2 P. M.
FOUNDATIONS Cost, \$—
SAN FRANCISCO. Islais Creek.
 Reinforced concrete foundations for additional bins at Islais Creek.
 Owner—State of California (Harbor Commission), Ferry Bldg.
 Engineer—Frank G. White, Ferry Building.

SAN FRANCISCO.—Until March 22, 4 P. M., bids will be received by E. F. Lamb, secretary, Board of Park Commissioners, Park Lodge, Golden Gate Park, for repairs to 2 T-head wharves at Yacht Harbor on the Marina, from plans prepared by Engineers Punnett, Farez & Hutchinson, 58 Sutter St. Certified check 10% payable to Board of Park Commissioners required with bid. Plans obtainable from engineers. Bond of 50% of contract price required of successful bidder.

Contract Awarded.
PIER SHEET Cont. Price, \$26,877
SAN FRANCISCO. Waterfront, Pier No. 41.
 Two-story timber shed extension (structural steel beams on second floor; timber floor; 100x160 ft.)
 Owner—State of California (Harbor Commission).
 Engineer—Frank G. White, Ferry Bldg., San Francisco.
 Contractor—Leo Epp, 4745 Geary St., San Francisco.

Plans Being Figured—Bids Close Mar. 17th, 2 P. M.
WHARF EXTENSION \$225,000
SAN FRANCISCO. Islais Creek.
 Reinforced concrete and timber extension to Outer Islais Creek Wharf (800x160-ft.)
 Owner—State of California (Harbor Commission), Ferry Bldg.
 Engineer—Frank G. White, Ferry Building.

Following is a partial list of the prospective bidders:
 San Francisco Bridge Co., 503 Market Street.
 E. L. Soule, 1750 Army St.
 Healy-Tibbitts Const. Co., 64 Pine Street.
 A. W. Kitchen, 110 Market St.
 Clinton Const. Co., 923 Folsom St.

MISCELLANEOUS CONSTRUCTION

Preparing Working Drawings.
MORTUARY Cost, \$65,000
MODESTO, Stanislaus Co., Cal.
 Two-story frame and stucco mortuary (18 rooms; Spanish type; some concrete work, tile and composition roof.)
 Owner—Carl Shannon, 921 12th Street, Modesto.
 Architect—Russell Guerne De Lappe, 374 17th St., Oakland.
 Bids will be taken in about 60 days.

To Start Construction Soon.
MAUSOLEUM Cost, \$100,000
SANTA MONICA, Los Angeles Co., Cal. 14th St. and Pico Blvd.
 Reinforced concrete mausoleum addition (600 crypts).
 Owner—Woodlawn Mausoleum, G. H. Sanders, President, 1839 14th St., Santa Monica.
 Architect—Eng. Dept. of Owner.
 Construction will be done under the supervision of Mr. Sanders.

DAILY NEWS SERVICE

If you are interested in a daily construction news service featuring all types of building and engineering construction, send for free sample copies of Daily Pacific Builder. Subscription price, \$1.50 per month or \$15.00 per year when paid in advance.
 Daily Pacific Builder features in each issue, timely reports on work contemplated, bids wanted, bids opened and contracts awarded for all types of building and engineering construction, machinery and equipment, Government work, supplies and equipment, business opportunities, etc.

Daily Pacific Builder is the only publication publishing listings of building permits, building contracts, mechanics liens, etc., in Northern and Central California.
 Send for sample copies today or phone GArdfield 8744.

Daily Pacific Builder
 545 Mission St.
 San Francisco, Calif.

SALEM, Ore.—Spalding Lumber Co. of Salem, preparing plans to determine the feasibility of constructing a 7-mile logging railway out of Falls City into a stand of timber owned by them, estimated at 250,000,000 F. B. M. Line will connect with Southern Pacific at Falls City. Estimated cost, \$75,000.

Plans Being Figured—Bids Close Apr. 4, 11 A. M.
BLEACHERS Cost, \$35,000
BERKELEY, Alameda Co., Cal. SW of campus.
 Reinforced concrete bleachers.
 Owner—University of California.
 Architect—Geo. W. Kelham, 315 Montgomery St., San Francisco.
 Plans obtainable from the Cashier's Window, California Hall, Berkeley, on deposit of \$100, returnable.

OAKLAND, Cal.—Until March 24, 9 P. M., bids will be received by W. W. Chappell, city clerk, to furnish and install conduit for traffic signal cable, traffic signals, traffic signal timers and rubber insulated lead covered cable. Specifications on file in office of city clerk.

Contract Awarded.
CREMATORY Cost, \$15,000
SANTA CRUZ, Santa Cruz Co., Cal.
 Reinforced concrete crematory (70x50 ft.); tile roof. Mission style of architecture.
 Owner—Order of Odd Fellows.
 Plans by Wilson & McGranahan.
 Contractor—Wilson & McGranahan, West Cliff and Chico Sts., Santa Cruz.

Informal Bids Wanted—To Close Mar. 22nd, 2 P. M.
TENNIS COURTS Cost, \$11,000
ARCATA, Humboldt Co., Calif. State Teachers' College.
 Four tennis courts (work involves grading, fencing, paving, mastic topping, flume work, pipe, and painting).
 Owner—State of California.
 Architect—George B. McDougall, state architect, Public Works Building, Sacramento.
 On previous bid opening Fred. J. Maurer, Eureka, submitted the lowest regular bid at \$11,509.

SAN FRANCISCO—Marine Elec. Co. 195 Fremont St., at \$16,500 awarded contract by Pacific Gas & Electric Co., 245 Market St., for installing complete all electrical wiring systems and equipment required in the Palace of Fine Arts located on the Marina Blvd. and Lyon Street.

MISCELLANEOUS SUPPLIES AND MATERIALS

BEVERLY HILLS, Los Angeles Co. Cal.—Until 8 P. M., March 29, bids will be received by city council for approximately 50,000 ft. (one year's supply) of No. 8 lead-covered cable. B. J. Firminiger, city clerk.

SAN FRANCISCO—Piombo Bros. & Co., 1553 Turk St., at \$64 cu. yd., awarded contract by City Purchasing Agent, under Proposal No. 807, to furnish 1,000 cu. yds. of loam for the Trocadero Playgrounds and at \$74 cu. yd. for 3,000 cu. yds. loam for the Julius Kahn Playground. Complete list of bids published in issue of Feb. 23.

MEMBERS OF THE ASSOCIATED GENERAL CONTRACTORS

PACIFIC COAST AND INTERMOUNTAIN TERRITORY

CALIFORNIA STATE BRANCH

1318 Pershing Square Bldg.—Trinity 9418—Los Angeles

O. C. STRUTHERS, President

E. L. KIER, Vice-President

GEORGE HERZ, Secretary

MELVILLE DOZIER, JR., Manager

SOUTHERN CALIFORNIA CHAPTER

1318 Pershing Square Bldg.—Trinity 9418
Los Angeles, Calif.

C. G. FitzGerald, President Melville Dozier, Jr., Manager
LYNN S. ATKINSON, First Vice-President (Engineering Div.)
WM. A. SIMPSON, Second Vice-President (Building Div.)

The address of the firm is the same city in which is located the Chapter office unless otherwise shown in membership list.

Building Contractors

| | | |
|----------------------------|---|------|
| Atkinson, J. F. | 1102 Story Bldg., VAndike | 7783 |
| Baruch Corp., Herbert M. | 1015 Lincoln Bldg., Trinity | 5473 |
| Bradley Constr. Co., K. R. | 1833 West Pico, Washington | 2786 |
| Burgin, W. Jay | 1100 Redondo Ave., Long Beach, L. B. | 8103 |
| Byerts & Dunn | 7908 Santa Monica Blvd., CRestview | 5902 |
| Clinton Construction Co. | 1103 Spring Arcade Bldg., MADison | 5708 |
| Crowell, Wm. C. | 495 S. Bdwy., Pasadena, WEstmore | 6692 |
| Crowell Co., Weymouth | 2104 E. 15th St., WEstmore | 5708 |
| DeCamp-Hudson Co., Ltd. | 1277 W. 24th St., WEstmore | 3382 |
| Dixon, L. E., Co. | 609 So. Grand Ave., TRinity | 4925 |
| Escherich Bros. | 234 W. 37th Place, ADams | 6294 |
| Hall, J. F. | 531 Douglas Bldg., MUtual | 6722 |
| Houghton & Anderson | 143 Rose St., MUtual | 5430 |
| K. P. Lowell & Co., Ltd. | 606 Union Bank Bldg., VAndike | 4072 |
| Macdonald & Driver | 311 Board of Trade Bldg., TUCKer | 6467 |
| McKee, Robert E. | 1128 Central Bldg., TRinity | 0291 |
| Miller, Geo. E. | 401 N. Canon Dr., B. H., OXford | 7404 |
| Simpson Construction Co. | 1007 Architects Bldg., MUtual | 7261 |
| Snell, Fred C. | 339 N. Beverly Dr., Beverly Hills, OXford | 6409 |
| Willard Brent Co. | 254 E. 27th St., RIchmond | 2101 |

Bridges, Foundations

| | | |
|---------------------------|---------------------------------|-------|
| Ledbetter Co., W. M. | Box 1264, Arcade St., CApitol | 13415 |
| Oberg Brothers | 707 San Fernando Bldg., ANgelus | 8759 |
| Raymond Concrete Pile Co. | 1008 Washington Bldg., VAndike | 6536 |

Highways, Paving, Grading

| | | |
|-----------------------------|---|--------|
| Basich Bros. | Torrance, Gardena | 446 |
| Brook, Geo. J. | 1007 S. Harvard, EMpire | 7614 |
| Donovan & Sons, J. C. | 4031 Goodwin Ave., OLYmpic | 0423 |
| Ferry, Peter L. | San Fernando Rd. and Bdwy., Glendale, OLYmpic | 0164 |
| Fleming Construction Co. | Pomona | |
| Griffith Company | L. A. Railway Bldg., WEstmore | 9343 |
| Hall-Johnson Co. | P. O. Box 387, Alhambra, ELiot | 1855 |
| Hez & Co., Geo. | 310 Platte Bldg., San Bernardino, S. B. | 241-42 |
| Heuser, Chas. U. | 316 Allen Ave., Glendale, DOuglas | 3965 |
| Hudson, Chas. H. | 408 Rives-Strong Bldg., VAndike | 3374 |
| Jahn & Bressler | 701 Lane Mortgage Bldg., TRinity | 8674 |
| Lang Transportation Co. | 5501 Santa Fe Ave., JEFFerson | 3104 |
| Lewis Construction Co. | 300 S. Juanita St., WASHINGTON | 1407 |
| Packard & Tanner | 905 W. Latham St., PHOENIX, ARIZ. | |
| Pearson & Dickerson | 4485 Cypress, RIVERSIDE, | 1600 |
| Ross, M. S. | 4011 Goodwin Ave., CApitol | 7603 |
| Wells & Bressler | P. O. Box 596, Santa Ana, 227 | |
| Willis, C. G., & Sons, Inc. | 2119 E. 25th St., LAfayette | 9826 |

Pipe Lines, Water Works

| | | |
|----------------------------|-----------------------------------|------|
| American Concrete Pipe Co. | P. O. Box 1428, Arcade Sta., JE. | 4211 |
| Haverly Co., Thos. | 316 E. 8th St., VAndike | 1171 |
| United Concrete Pipe Co. | Box 1, Station H, L. A., TWInoaks | 9196 |

Subways, Conduits

| | | |
|------------------------|-----------------------|--|
| Delta Construction Co. | P. O. Box 79, Compton | |
|------------------------|-----------------------|--|

General Engineering

| | | |
|--------------------------------|-------------------------------------|------|
| Atkinson, Lynn S. | 609 S. Grand, TRinity | 7451 |
| Bartmus, Peter | Hollywood Riviera, Redondo, Redondo | 6404 |
| Bent Bros., Inc. | 418 S. Pecan S., ANgelus | 7510 |
| Campbell-Reichert Co. | 4000 Whiteside Ave., ANgelus | 0598 |
| Cox, R. L. | 1100 Westminster, ALhambra | 1699 |
| Emsco Conc. Cutting Corp. | 1517 Santa Fe Ave., VAndike | 7168 |
| Fitz-Gerald Eng. & Constr. Co. | 216 Rowan Bldg., TRinity | 5086 |
| Foley, D. A., Construc. Co. | 716 Grant Bldg., TUCKer | 7814 |
| Kemper Const. Co., Ltd. | 3701 Overland, Los Angeles | |
| Macco Construction Co. | Hynes, JEFFerson | 1148 |
| Merritt-Chapman-Scott Corp. | P. O. Box 507, San Pedro, | 2880 |
| Mittry Bros. Construction Co. | 722 Detwiler Bldg., VAndike | 0210 |
| Morrison-Knudsen Co. | 411 West Fifth St., MUtual | 7684 |
| Robinson-Roberts Co. | 706 Rives-Strong Bldg., TRinity | 2889 |
| Spicer, C. A. | 818 Financial Center Bldg., TUCKer | 9570 |
| Standard Dredging Co. | 325 Central Bldg., TRinity | 3253 |
| Watson, R. A. | 1026 N. McCadden Pl., GRANite | 4121 |

Affiliates

| | | |
|------------------------------|---------------------------------------|-------|
| Brashears & Co., G. | 501 Security Bldg., TRinity | 5091 |
| Consolidated Rock Prod. Co. | 656 S. Los Angeles St., TRinity | 0241 |
| Gilmore Oil Co. | 2423 E. 28th St., JEFFerson | 1211 |
| Graham Brothers | 1215 W. 7th St., Long Beach, L. B. | 65251 |
| Hartford Accident & Ind. Co. | 548 S. Spring St., MADison | 1471 |
| L. A. Brick Co. | 1078 Mission Road, ANgelus | 5684 |
| Sun Lumber Co. | Crescent Drive, Beverly Hills, OXford | 6191 |
| Union Oil Co. | Union Oil Bldg., TUCKer | 7211 |

ALAMEDA COUNTY CHAPTER

354 Hobart St., Rm. 410—Glencourt 7400—Oakland, Calif.

S. G. Johnson, President H. J. Christensen, Treasurer
Geo. J. Maurer, Vice-President W. E. Hague, Manager

| | | |
|---------------------------|---------------------------------|------|
| Brennan, J. P. (B) | 2820 Regent, Berkeley, BE. | 0346 |
| Christensen, H. J. (B) | 1924 Broadway, Oakland, LA. | 7164 |
| DeVelbiss, C. Dudley (B) | 369 Pine St., S. F., CA. | 3225 |
| Dyer Construction (B) | 337 17th St., Oakland, GL. | 3203 |
| Furlong, Thos. H. L. (B) | 460 Jerome Ave., Piedmont, HU. | 0620 |
| Jacobs & Pattiani (BP) | 337 17th St., Oakland, GL. | 3203 |
| Johnson, S. G. (B) | 4652 Dolores Ave., Oakland, FR. | 6650 |
| Keating, W. C. (B) | 925 Forum Bldg., Sacramento | |
| Lesure, E. T. (B) | 87 Ross Circle, Oakland, OL. | 0389 |
| Littlefield, R. W. (B) | 337 17th St., Oakland, HI. | 0994 |
| Lyons, W. E. (B) | 354 Hobart St., Oakland, HO. | 5325 |
| Maurer, George J. Co. (B) | 50 York Drive, Oakland, HU. | 3457 |
| Nordstrom, David H. (B) | 354 Hobart St., Oakland, GL. | 7400 |
| Pedgrift, James H. (B) | 4106 Broadway, Oakland, HU. | 1300 |
| Petersen, George (B) | 1841 Bancroft, San Leandro, TR. | 2043 |
| Petersen, James B. (B) | 4021 Agua Vista, Oakland, FR. | 9887 |
| Schultz, Herbert (B) | 811 Mendocino, Berkeley, AS. | 2360 |
| Sullivan & Sullivan (B) | 2653 Best Ave., Oakland, AN. | 4724 |
| Thornally, W. G. (B) | 354 Hobart St., Oakland, GL. | 8476 |
| Westlund, Fred J. (B) | 354 Hobart St., Oakland, GL. | 7400 |

Class of Construction: (B) Building; (H) Highway; (P) Public Works; (R) Railroad.

| | |
|------------------------------------|---|
| Hoffman, L. H. (BP) | Public Service Bldg., Atw. 3181 |
| Jacobsen Construction Co. (BP) | McKay Bldg., Atw. 5027 |
| Johnson Contract Co. (HPR) | 407 Stanton, Gar. 3113 |
| Johnson-Gardner Co. (HPR) | 414 Exchange Bldg., Atw. 0678 |
| Kern & Kibbe (HPR) | 414 Exchange Bldg., Atw. 0678 |
| Kuckenberg & Wittman (BPR) | 290 E. Salmon St., Ea. 4116 |
| La Pointe Constr. Co. | Board of Trade Bldg., Br. 1999 |
| Lindstrom & Feigenson (BPHR) | 421 Rlwy. Exch. Bldg., Atw. 2662 |
| Lyons, J. A. (BPHR) | 1001 Halsey St., Tr. 2841 |
| McNerney Bros. (BPHR) | 201 Worcester Bldg., Atw. 6444 |
| Mastate Contract Co. (HP) | Box 391, Klamath Falls, Ore. |
| Milne & Dussault (PH) | 1853 E. Broadway, Tab. 7277 |
| Morrison & Knudsen (BHPR) | 319 Broadway, Boise, Idaho |
| Morgan, T. M. (H) | 5410 Wilshire Blvd., Los Angeles |
| Morrison Trucking Co. (BPHR) | 317 Exchange Bldg., Atw. 7209 |
| Newport Construction Co. (PHR) | Ft. of E. Salmon St., Ea. 2164 |
| Pacific Bridge Co. (BPHR) | 984 E. 17th St., Sel. 6182 |
| Parker & Banfield (BP) | Couch Bldg., Atw. 3735 |
| Parker-Schram Co. (PHR) | Drain, Oregon |
| Peck, E. C. & Co. (PHR) | 319 Broadway, Boise, Idaho |
| Purdin, Sandberg, Elk & Lind (P) | 55 W. Humboldt, Tr. 7564 |
| Quinn, J. L. (B) | Box 107, Klamath Falls, Ore. |
| Reburn, J. | 345 Vancouver Ave., Tr. 7825 |
| Robertson, Hay & Wallace (B) | 605 Weatherly Bldg., Ea. 3613 |
| *Saxton & Looney | Corvallis, Ore. |
| Seed, John S. (B) | 201 Worcester Bldg., Atw. 6444 |
| | Honorary Member and Director of Chapter |
| Sibaugh, C. E. (BPH) | Burns, Ore. |
| Shea & Co., J. F. (PHR) | 211 Henry Bldg., Atw. 2435 |
| Stebinger Bros. (B) | Worcester Bldg., Atw. 6444 |
| Sullivan & Doyle (PHR) | Ft. of Garry St., Atw. 5297 |
| | Box 104, Portland, Ore. |
| Traver, L. N. (B) | Corvallis, Ore. |
| Unpqua Dredging & Constr. Co. (PH) | Reedsport, Ore. |
| United Contracting Co. (BHPR) | 109-10 Stock Ex. Bldg., Naches, Wash. |
| von der Hellen & Pierson (HR) | 226 N. 2nd St., Twin Falls, Idaho |
| White, Ernest & Co. (B) | Washougal, Wash., 962 |
| Wolfe, O. D. (HR) | 1037 Ch. of Com. Bldg., Atw. 9882 |
| Wren & Greenough (PHR) | 1037 Ch. of Com. Bldg., Atw. 9882 |
| Wright Construction Co. (BPH) | 524 Henry Bldg., Atw. 0097 |
| Young, I. L. (BPH) | 524 Henry Bldg., Atw. 0097 |

Associate Members Portland Chapter

| | |
|-------------------------------------|----------------------------------|
| Balzer Machinery Co. | 275 Pine St., Atw. 9391 |
| Beall Pipe & Tank Co. | 85 Columbia Blvd., Wa. 3171 |
| Bitumuls Asphalt Sales Co. | 210 Thompson St., Tr. 1193 |
| Cascade Investment Co. | 309 E. Main St., Ea. 8315 |
| Clyde Equipment Co. | 555 Thurman St., Br. 0885 |
| Columbia Brick Works | 301 E. Madison, Ea. 1101 |
| Concrete Pipe Co. | 169 Thompson St., Tr. 1164 |
| Electric Steel Foundry | 475 N. 24th St., Bea. 6344 |
| Feenaghty Machinery Co. | 309 E. Yamhill, Ea. 2187 |
| Grand Sheet Metal Works | 60 E. Third N., Ea. 2181 |
| Howard Cooper Corporation | 361 Hawthorne, Ea. 8188 |
| Latture, J. L. Equip. Co. | 312-314 E. Madison St., Ea. 8166 |
| Loggers & Contractors Machy. Co. | 345 E. Madison St., Ea. 4128 |
| McCraken Ripley Co. | 65 Albina Ave., Wal. 7650 |
| McMillan, A. Co. | 350 E. Ankeney, Ea. 0178 |
| Metropolitan Casualty Ins. Co., The | Wilcox Bldg., Atw. 7521 |
| National Hospital Assn. | 400 Mahawk Bldg., Atw. 5291 |
| Nicolai-Neppach Co. | 227 Davis St., Berk. 0685 |
| Oregon City Sand & Gravel Co. | Oregon City, Oregon |
| Oregon Portland Cement | 321 E. Madison, Ea. 3116 |
| Phoenix Iron Works | 360 Hawthorne, Ea. 0029 |
| Pomeroy, J. H. & Co. | Box 48, Seattle, Wash. |
| Pure Iron Culvert & Mfg. Co. | 763 Gladstone, Sel. 2275 |
| Rodgers, Hart, Banks | Railway Exch. Bldg., Atw. 8496 |
| Santa Cruz Portland Cement | 45 Fourth St., Ea. 9848 |
| Snow, L. A. & Co. | 244 Union Ave., Ea. 6482 |
| Standard Oil Co. | Pacific Bldg., Bea. 4161 |
| Steel Tank & Pipe Co. | 404 Columbia Blvd., Wal. 2401 |
| Swigert, Hart & Yett | Ft. of E. Salmon St., Lan. 1125 |
| Union Oil Co. of California | Yeon Bldg., Atw. 9521 |
| Wallace Bridge & Structural Steel | P. O. Box 48, Seattle, Wash. |
| Western Road Machinery Co. | 220 E. Water, Ea. 4862 |
| Zimmerman, Wells & Brown | Ft. of Sheridan, At. 0221 |

Affiliated Builders Division, Portland Chapter

| | |
|------------------------------|------------------------------|
| Alt, Fred W. | 1118 Mallory Ave., Wal. 2083 |
| Allyn, B. T. | 7 E. 60th St. N., Tab. 0194 |
| Blackman, D. R. | 1140 Powell Blvd., Sel. 2400 |
| Carson Construction Co. | 400 E. of C. Bldg., Tr. 8034 |
| Chandler Const. Co. | 310 Oak St. |
| Dewitt Building Co., Geo. W. | 400 C. 41st N., Gar. 3412 |
| Duncan, J. A. | 474 E. Eighth N. |
| East Side Building Co. | 319 Railway Exchange Bldg. |
| Eklund, N. O. | 1595 Sandy Blvd., Gar. 42 |
| Goldenberg, C. C. | Abington Bldg., Atw. 1675 |
| Goodridge, D. A. | 449 E. 44th N., Tr. 9945 |
| Greiling, F. H., Director | 908 E. 23rd N., Gar. 7184 |
| Hurbert, Russell S. | Weatherly Bldg., Atw. 828 |
| Hwin, A. H. | 1193 Garfield, Lan. 1266 |
| Johnson & Neubert | 375 E. 52nd St., Tab. 7727 |
| Kiecher, Wm. | 1170 Mallory Ave., Wal. 6223 |
| Knott & Rogers | 24 E. 15th N., Gar. 1783 |
| Krause, Rudolph K. | 75 E. 15th N., Gar. 1783 |
| Leinster, C. | 775 E. 14th N., Gar. 4902 |
| Moore, J. Bryson | 1444 Sandy Blvd., Gar. 8260 |
| Murphy, John | 486 Raleigh St. |

| | |
|------------------------------|------------------------------|
| Nelson, Herman | 385 E. 11th N., Gar. 2508 |
| Nilson, Emil | 449 E. 48th N., Tr. 6433 |
| Quigley, Wm. | 56 E. 52nd, Tab. 9057 |
| Ryck, Frank | 1211 E. Kelly St., Tab. 1863 |
| Schenk, A. J. | 1275 Prescott, Tr. 7432 |
| Schmitt, H. A. | 2610 52nd St., Sun 7856 |
| Seed, J. S., Honorary Member | Worcester Bldg., Atw. 6444 |
| Stuart, Peter | 755 Irving, Bea. 3673 |
| Switcheh, P. A. | 567 E. 35th St. N., Tr. 1579 |
| Winchell, F. | 461 E. 48th N., Tr. 7706 |
| Harfel Shaddockford | 1040 Minnesota, Univ. 0904 |
| V. D. Reverman | 353 E. Burnside |
| L. L. Hickok | 1111 Sandy Blvd. |
| Fred Sandstrom | 201 Worcester Bldg. |
| C. W. Christiansen | 445 Multnomah |

SPOKANE CHAPTER

West 515 First Avenue—Main 6822—Spokane

| | |
|----------------------------------|--------------------------------|
| Max J. Kunej, President | I. G. Anderson, Vice-President |
| Nick Norman, Vice-President | Dan Hannah, Secy-Treas. |
| Alloway & Georg (B) | Hutton Bldg. |
| Applegate, W. E. (H) | 7 Buckingham App. Indiana |
| Arnold & Shinn (H) | 1121 Seward, Idaho |
| Boudrye, Sam R. (H) | Seward, Alaska |
| Burnette, C. A. (H) | 1118 Ide Ave. |
| Byers, W. A. (H) | W. 1204 Mansfield |
| Clifton, Applegate & Toole (HPR) | Hutton Bldg. |
| Collins, J. H. & Co. (H) | Colville, Wash. |
| Colonial Building Co. (BH) | Hutton Bldg. |
| Crick, James (H) | Realty Bldg. |
| Degerstrom, N. A. (HPR) | Peyton Bldg. |
| Edwards, J. E. (H) | S. 1423 Adams |
| Geist, W. L. (H) | W. 444 23rd Ave. |
| Gumaer, Robt. M. (H) | Copeland, Idaho |
| J. T. Halin | Sun Life Bldg. |
| Hansen Construction Co. | W. 157 Jackson |
| Harding, Geo. (H) | Walla Walla, Wash. |
| Hargrave Construction Co. (H) | W. 418 Twentieth |
| Hewett, F. R. (H) | W. 420 Twenty-second |
| Huetter Construction Co. | N. 1101 Division |
| Josin & McAllister (H) | Realty Bldg. |
| Kunej, Max J. (H) | Hutton Bldg. |
| Lafferty, A. B. (H) | Coeur d'Alene, Idaho |
| Larson Bros. (B) | Hyde Bldg. |
| Lohrenz, J. J. (B) | Paulsen Bldg. |
| Long, Oliver J. (H) | W. 1924 Mansfield |
| Lyon & Price (H) | W. 503 Fourteenth |
| March Construction Co. | W. 1313 First |
| Martin, F. (B) | W. 222 Grand |
| McLellan, A. (B) | E. 932 Ermina |
| Medby, M. C. (B) | S. 3614 Arthur |
| Meyers, W. C. | S. 2217 Tekoa St. |
| Morin, S. G. (B) | Paulsen Bldg. |
| Norman, Nick (B) | 231 Waverly Place |
| Nyberg, Carl (H) | Realty Bldg. |
| Orino, Sam (H) | Realty Bldg. |
| Power, F. A. (H) | S. 1703 Grand |
| Sienry Spokane Co. (BPHR) | Chronic Bldg. |
| Standard Asphalt Paving Co. (HP) | Chronic Bldg. |
| Teretling, J. A., & Sons (HP) | 511 Sound Ave. |
| Tobin, James, & Son (H) | Box 916 |
| Trinity Construction Co. (H) | N. 119 Wall |
| True-House Construction Co. (B) | N. 2008 Oneida |
| Webster, E. A., & Co. (HPR) | S. 11 Cedar St. |
| Young, Peter J. (B) | S. 11 Cedar St. |

Associate Members

| | |
|---|----------------------------------|
| Beall Pipe & Tank Corp. | Realty Bldg. |
| Beardmore Transfer Line | S. 162 Post St. |
| Brandt Bros. | W. 14 Main Ave. |
| Coeur d'Alene Hardware & Foundry | Wallace, Idaho |
| Commercial Importing Co. | 617 Western Ave., Seattle, Wash. |
| Consolidated Supply Co. | W. 1310 Ide Ave. |
| Construction Equipment Co. | 1118 Ide Ave. |
| Elmendorf-Anthony Co. | Sherwood Bldg. |
| Feenaghty Machinery Co. | N. 715 Division St. |
| W. P. Fuller & Co. | 212 Post St. |
| General Machinery Co. | E. 3501 Riverside |
| Gladding-McBean & Co. | 524 Old National Bldg. |
| Hawley Fuel Co. | N. 740 Division St. |
| Holmes & Mitchell | Hutton Bldg. |
| Holley-Mason Hardware Co. | S. 157 Howard |
| International Portland Cement Co. | 1124 Old National Bldg. |
| Jones & Dillingham Co. | W. 715 First Ave. |
| Jones & Mitchell | W. 728 Madison |
| Lehigh Portland Cement Co. | 1316 Old National Bldg. |
| Long Lake Lumber Co. | N. 348 Wall St. |
| W. S. McCrea & Co. | 212 Symons Bldg. |
| J. H. McGovern Co. | W. 728 Madison |
| North-Atwater Co. | S. 157 Monroe St. |
| Old National Insurance Agency | Old National Bank Bldg. |
| L. A. Snow Co. | 134 International Right-of-Way |
| Spokane Concrete Pipe Co. | N. 2627 Dakota |
| Spokane Culvert & Tank Co. | N. End Division Street |
| Spokane Woodworking Co. | N. 1249 Atlantic |
| Union Iron Works | E. 217 Montgomery Ave. |
| Union Oil Co. | 611 Chronicle Bldg. |
| Washington Brick, Lime & Sewer Pipe Co. | S. 151 Washington St. |

Class of Construction: (B) Building; (H) Highway; (P) Public Works; (R) Railroad.

PACIFIC

25c
per Copy

SKILL - INTEGRITY



RESPONSIBILITY

CONSTRUCTOR

CONSOLIDATED WITH

Building and Engineering News

IN THIS ISSUE



FIELD WELDING ON HETCH HETCHY AQUEDUCT

By SPENCER B. LANE

CALIFORNIA SCORES HIGH AMONG STATES FOR ECONOMY OF ROAD EXPENDITURES

FIVE BILLION GOVERNMENT BOND ISSUE PROPOSED FOR HOMES

WHERE THE HIGHWAY DOLLAR GOES (STAFF ARTICLE)

COUNTY HIGHWAY BOND ISSUES DESIRABLE FOR HEAVY TRAVELED ROADS

CONTRACT PROCEDURE OF THE U. S. BUREAU OF ROADS

By AUGUSTUS T. PARSONS

EDITORIAL COMMENT :: UNIT BID PRICES CONSTRUCTION NEWS



Send for a Sample Copy of

**DAILY
PACIFIC BUILDER**

The only daily construction newspaper affording complete coverage of the construction activities in Central and Northern California and the major projects undertaken in the Eleven Western States.

Features timely reports on all types of building and engineering construction—work contemplated, bids wanted, bids opened and contracts awarded. Building permits, building contracts, mechanics' liens and acceptances, business opportunities, official proposals, etc.

Free sample copies will be forwarded upon request.

Subscription price, \$1.50 per month or \$15.00 per year when paid in advance.



DAILY PACIFIC BUILDER

545-547 Mission Street

San Francisco, Calif.

PACIFIC CONSTRUCTOR

With which is Consolidated Building and Engineering News

Official Publication of the Associated General Contractors of America
for the Eleven Pacific Coast States

J. P. FARRELL, *Editor*

SPENCER B. LANE, *Assoc. Editor, Assoc. M. Am. Soc. C. E.*

VOL. 15

SAN FRANCISCO, CALIF., APRIL 15, 1932

No. 7

Editorial Comment

Forty-eight states in the Union constructed nearly 50,000 miles of State roads during 1931 at a cost of \$1,038,090,101.

The State of New York spent \$75,744,000 on state highways last year and Illinois was second with expenditures amounting to \$54,000,000.

How about California?

In comparative total expenditures on all types of highway construction, California ranks tenth with a total of \$38,073,273.

California with its vast area, large population, and high position in automobile registration is far behind comparable states. California, in comparison with other great states in the Union, is investigating a minimum amount in its state highway system and if the system is to adequately serve the California motorists and is to provide satisfactory lanes of travel throughout the State, that investment must be jealously guarded and judiciously expended.

In per capita expenditures on its highways, California ranked 37th in 1931 with \$6.71 expended per person of population. Nevada's per capita expenditure was the highest of any of the 48 states at \$47.22, and the average for the entire United States was \$8.47.

The American Association of State Highway Officials has compiled figures on state highway construction in all of the 48 states for 1931. The figures of the principal states, together with those of California, are reviewed in another article in this issue.

The subject of Unemployment Relief is one of paramount importance. It is a subject that is gaining more and more momentum as the unemployment situation continues to become more tense.

Public officials throughout the Nation are giving much attention to this all-important problem and in some instances are reaching a state of "hysteria" in an effort to find a suitable solution.

In reviewing some of the theories advanced, we find that "public funds" have in most instances been made a target, and that in the guise of construction under day-labor methods or through the establishment of labor-camps there are some who seem to have a faint glittering of hope that our vast unemployment problem might be solved.

To those who have made a study of the subject it is evident that any such attempt at a solution of unemployment can only result in widespread waste of funds contributed for a specific purpose and would in effect result in nothing more than a "concealed dole."

Concerning this most important subject the March issue of the "Highway Builder" says:

"Automobilists and truck operators who pay the gas taxes and license fees in the various states have a clear right to question the use of these funds for an indirect application of the dole such as is now being witnessed so widely.

Paternalism in government is a recent development in America. The theory of the founders and the vast majority of their followers to date has been that charity is distinctly a local problem and not a responsibility of either the State or Federal government. Since this country was able to pass through far worse crises than the present, notably the Revolutionary and Civil Wars, on that platform, it is open to question whether we are, in the present emergency, justified in departing from the wisdom of the fathers. And this question we project even though reference to ancient wisdom may be unpalatable to many in this most conceited and self-sufficient of ages which has apparently discovered so many things showing how backward our predecessors were, even in their theories.

"The funds derived by the various states from motor taxes were in practically all cases, legislated into existence upon the premise and promise that they would be expended upon an economical and not upon a charitable basis. It follows, therefore, that when such funds are diverted for the purpose of relieving distress and when it is openly stated that men are being employed upon the basis of their needs rather than their efficiency, the money is not being used in the manner specified by common consent and the people are being dealt with dishonestly, by implication at least, if not by intention. Is not such action tantamount to raids upon the public treasuries which were contemplated neither by the lawmakers who voted the taxes nor by the people who acquiesced in them?

"The employment of the unfit at the expense of depriving fit men of their jobs has no justification in the light of its permanent economic effect. Such a process greatly restricts the amount of labor which can be secured per dollar expended and adds enormously to the cost of improvements constructed in such manner. It is merely a method of distributing public money for charitable purposes, in other words, the dole.

"Insofar as the practice of substituting hand labor for machinery is concerned that is about as destructive, comparatively upon business and society in general as would be a decision to scrap the railroads and the automobiles in order to create more jobs for men and mules. Either can produce but one result, viz: a further dislocation of

(Continued on Page 4)

Limit Stakes and Levels

By THE EDITOR

The Committee on Expenditures of the House of Representatives has approved a bill to compel the use of American products in the construction of public works with the exception of things used for experimental or scientific purposes. It would become effective 60 days after enactment, but would not apply to contracts made before that time.

The Steel Founders' Society of America, Inc., last month mailed to its members a specific plan for combating destructive buying tactics. The plan embodies (1) stopping such practices in the member company's own purchasing department; (2) issuance of bulletins to all salesmen on how to emphasize the ill effects of such practices; (3) discussion of the subject in business associations, and (4) securing of editorial comment and constructive discussion of the problem in business papers and newspapers.

Headed by Mayor John C. Porter, the Los Angeles Home Owners' Trust Fund has been organized in Los Angeles to seek \$2,000,000 through popular subscription to save 5000 homes from expected foreclosure in Los Angeles this year. Under the plan \$2,000,000 will be placed in a trust fund, the donors receiving beneficial certificates entitling them to an equal division of assets when the trust is liquidated.

It was planned to loan the money in small amounts to hard-pressed home owners for payment of taxes, assessments and mortgage interest. The loan would call for payment of 6 per cent interest and would be secured by second or third trust deeds. It would be payable when the owner's earning power was restored.

More than 60,000 trade unionists, comprising the Cleveland Federation of Labor, united in a resolution at Cleveland, Ohio, last week, favoring unemployment insurance as a necessary and fair means of aiding the jobless.

The federation adopted the resolution unanimously, thus divorcing itself from a constitutional policy of the American Federation of Labor which at its convention in Vancouver, B. C., last year stressed its opposition to job insurance.

"Workers in Cleveland are not too proud to resort to charities for \$2.25 to \$5 a week to save their families and themselves from starvation," said Trent Longo, Painters' Union delegate, who introduced the resolution. "Over 65,000 families in Cleveland have no wage earner and 23,500 are kept by the Associated Charities. There is no more stigma to the dole than to workmen's compensation."

Low wages paid workers on the new Madden dam at Alejuela in the Canal Zone are threatening progress of the work. Two American firms combined their bids for the job, submitting a figure less than \$5,000,000, which was for labor alone, the United States Government furnishing all the material.

Their offer was a surprise to Canal Zone administration officials, being \$1,000,000 or more under the labor estimate made by the officials, and \$500,000 below the next highest bidder.

In order to "break even" on the contract, wages are kept at a minimum, and a demand is being prepared under which the contractors would be called on to pay United States standard wages.

More than 200 white skilled laborers are employed, 100 having been brought down from the States. One who came at his own expense declares he is paid 90 cents an hour for work which commands \$1.50 an hour in the States.

H. A. McConaughey, president of the Panama Metal Trades Council, affiliated with the American Federation of Labor, has visited the dam site and has prepared a report on the situation for the council.

SUB-CONTRACTORS ORGANIZE TO FIGHT EVILS IN INDUSTRY

Realizing there never was a time when the needs of those engaged in the sub-contracting building industry of San Francisco was more pressing than at the present, due to the forces and movements upon every hand that threaten the stability of their business, forty-six sub-contractors representing the brick masons, electrical, elevator construction, lathing, ornamental iron, painting, plastering, roofing, sheet metal, structural steel and tile crafts, meeting in the Builders' Exchange, organized the Allied Sub-Contractors of San Francisco.

The object of the organization is to join all reputable sub-contractors together for the purpose of observing the principles and methods in the conduct of business that tend to make the relations to and with each other just and harmonious, to act unitedly against the prevalent practice of "peddling bids," collection of progressive and final payments when due, establishment of forms of contracts and agreements, standards and methods for the adjustment of the varied relations between members, owners, architects and general contractors as well as between members, manufacturers and jobbers.

It is not the desire or intent of the organization to in any way endeavor to dictate, but to accomplish its purposes by friendly co-operation among the various interests in the building industry.

John L. McGrath is executive secretary of the new organization.

EDITORIAL COMMENT

(Continued from Page 3)

the balances in the various types of labor by which commerce and the social fabric are supported.

"Another phase of this matter of direct employment by public bodies of the needy, rather than the fit, lies in the virtual confiscation of property involved. In more than one state today, constructors, manufacturers and producers who have been encouraged directly by that state to invest millions of dollars in equipment and facilities for construction and the production of construction materials, find themselves literally faced with bankruptcy through virtual destruction of their business, in which a life-time has been spent acquiring special knowledge and efficiency from which the taxpayers have consistently derived benefits. The same condition obtains with their employees.

"But even this does not tell the entire story. As if to add insult to injury, we find, in states, municipalities and elsewhere, that the road and street building industry has apparently been singled out from all other industries to be slaughtered and to bear the whole burden of unemployment relief, and that, in the process, men are having the roofs removed from over their heads."

It is high time to get down to sound fundamentals of government and tax expenditure.

Field Welding On Hetch Hetchy Aqueduct

By SPENCER B. LANE

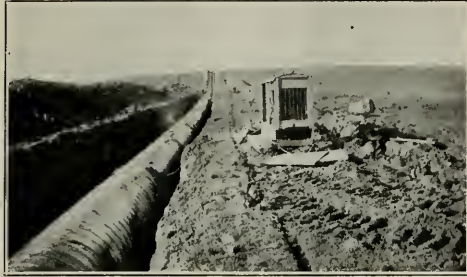
FIELD joints in the steel pipe being laid on the Hetch Hetchy project are being welded. This is true on the 35,000 feet of the San Joaquin pipe line and the 24 miles of the Corral Hollow pipe line. Modern welding methods make it the most satisfactory, the quickest and the most economical method. When modern welding can

of the pipe, above the welder's head. This is one of the difficulties which had to be overcome to make the welding successful.

On any welding job the ability of the welder is a matter of great importance. In this case the contractor installing the pipe trained 18 men particularly for the work. The contractor has had an extensive experience in welding and realized that competent welders were not enough to insure the success of the job; skilled welders who had been carefully trained for the particular work were absolutely necessary. A man who is an efficient welder on one kind of work is not necessarily competent to handle all kinds. The careful training of the field welders had a very important bearing on the success of the job.

The art of electric welding has been greatly assisted by the recent development of a new type of welding rod—the "fluxed" rod. This new type of rod was used exclusively on the job with very satisfactory results. These "fluxed" rods simplified the welding of the overhead seams, made a tough weld, and materially speeded up the work over the time which would have been required with the old type of bare rods.

The manufacture of these "fluxed" rods varies with the different manufacturers, but the idea is the same in all cases. The rods are coated with a substance which

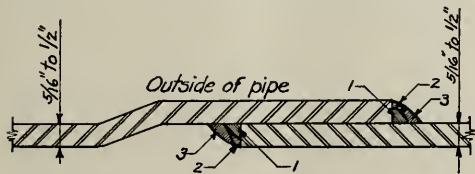


One type of generator used on job. (Lincoln Electric Photo.)

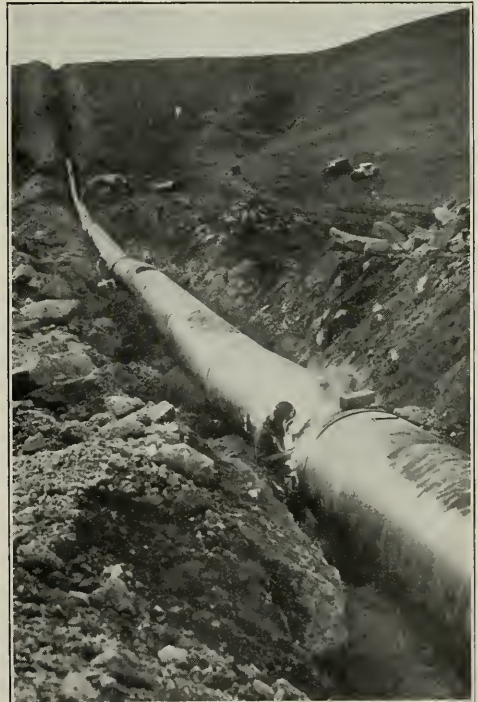
establish such a record it becomes of practical interest to contractors engaged in work which requires field connections of mild steel in pipe line or other work. The contractor who makes a careful and intelligent investigation of welding may find that it provides a way to reduce costs on his job. It always reduces construction noise, and its use on structural steel is increasing rapidly. There is a 19-story office building in Dallas, Texas, which has been built with all field joints made by welding—but, as Kipling would say, that is another story.

The San Joaquin pipe line is of particular interest. The pipe on this line has a diameter of 56 inches. The metal varies in thickness from 5/16 inch to 1/2 inch. The pipe is electric welded in 30-foot lengths at the fabricator's shop in South San Francisco. These sections are shipped to the job by rail. Each section is then coated with a half-inch of concrete before it is laid. A length of steel at each end of each section is left free of concrete for the field joints between sections.

The sections of pipe are jointed by a bell-and-spigot joint. Each is welded inside and out with a "three-pass" weld after the pipe is in position. A small fillet is first run at the bottom of the joint, another fillet is run on top of the first, and then a third fillet is run over the first two. These fillets are shown in the accompanying sketch. The first is marked "1," the second "2" and the third "3."



DETAIL OF FIELD WELDS



Fifty-six-inch pipe line. Three and a half miles above Knight's Ferry. (Western Pipe and Steel Co. Photo.)

Part of these welds have to be run on the under side

California Scores High Among States For Economy Of Road Expenditures

FORTY-EIGHT states constructed nearly 50,000 miles of state roads during 1931 at a cost of \$1,038,090,101.

The state of New York spent \$75,744,000 on state

over five times as much bitumen bound surfacing, with a total of 2146 miles.

Bridges Cost \$3,217,000

For bridges built on the state road systems California is well up in the running, being third in the number constructed and eighth in expenditures for this department of construction. Our state built 207 bridges at a total cost of \$3,217,000. Only New York, with 514, and Missouri, with 410, built a greater number, and of the seven states with higher expenditures Indiana led with \$15,000,000 and New York was second with \$7,500,000. A comparison of numbers of bridges does not mean a great deal, as a bridge may be 20 feet long or many thousand feet, but the expenditures for major structures on a state road system are barometers of progress in modernization.

In comparative total expenditures on all types of highway construction, California ranks tenth with a total of \$38,073,273 expended during 1931. The Empire State, in the lead with \$75,744,000, was followed by Illinois with \$54,000,000, Pennsylvania with \$52,500,000, New Jersey, \$48,000,000; Michigan, \$46,500,000; Texas, \$42,163,806; Minnesota, \$40,752,564; Louisiana, \$40,000,000; Iowa, \$39,902,000; California, \$38,073,273; Missouri, \$31,920,238, and South Carolina, \$31,000,878.

In the case of Pennsylvania, the state took over 20,000 miles of county roads and is engaged in improving them with an inexpensive type of oil surfacing which makes its mileage of 3022 show a cost per mile lower than other states putting in a higher standard modern surface.

It is readily noticed from the facts recited that California, with its vast area, large population and high position in automobile registration, is far behind comparable states. California, in comparison with the other great states in the Union, is investing a minimum amount in its state highway system and if the system is to adequately serve the California motorists and is to provide satisfactory lanes of travel throughout the state, that investment must be jealously guarded and judiciously expended.

Ten-Year Plan

California has adopted a systematic and economic plan for state highway improvement known as the ten-year plan by which the funds will be adequate under the present law to improve the state highway system, as it existed in 1930, to a standard adequate to serve traffic in 1942. This plan does not provide, under the present financial setup, for the construction of mileage added by the last Legislature, or that may be added by future legislation, without further provision being made for increased revenue. Progress toward the goal set by the ten-year plan is well under way.

If the California motorist were to demand the speeding up of work on state highway development and the completion of the proposed ten-year program at an earlier date, and increased revenue would have to be provided, then in this connection let Californians remember that in 1931 there was only one state in all of the 48 with a lower per car expenditure rate for state highways than California. The state of Ohio spent only \$17.05 per car, while California spent only \$18.65 per car. Louisiana's expenditures per car were the highest, being \$145.05. The average for all states amounted to \$39.14, so that the cost per car licensed in this state was less than one-



CHAS. H. PURCELL
State Highway Engineer

highways during 1931 and Illinois was second with expenditures amounting to \$54,000,000.

How about California?

The American Association of State Highway Officials has compiled figures on state highway construction in all of the 48 states for 1931 and a comparative tabulation of its findings was published in the January issue of "American Highways," the association's official quarterly publication, for the current year.

A study of this tabulation reveals that, proceeding under its orderly ten-year plan for the addition of highways, California—pioneer in highway development, a leader in high standards of construction, sixth among the states in population, but second in area and motor vehicle registrations—is 23rd in total mileage of state highways constructed in 1931, 37th in per capita cost to its populace for all state highway improvements during the year and 47th, or next to the lowest state in the Union, in the expenditure rate per registered car.

Nearly one-half of the 48 states built more mileage of state roads in 1931 than were constructed by California. Minnesota led with a total of 3281 miles, Pennsylvania followed with 3022, and the mileage of other states tapered from these, with California at 807 miles.

High Type Pavement

In the placing of high type pavement on the state highway system, New York was out in front with 960 miles of paving for the year and Louisiana's 900 miles placed the Creole State in second place. California ranked 20th with 218 miles of pavement.

In the placing of bituminous treated crushed rock surfacing California was exceeded by ten states. But though our 408 miles of treated surfacing placed California in 11th position, it should be noted that Pennsylvania, the leading state in this phase of highway construction, laid

half the average for the 48 states.

In per capita expenditures on its highways, California ranked 37th in 1931 with \$6.71 expended per person of population. Nevada's per capita expenditure was the highest of any of the 48 states at \$47.22, and the average for the entire United States was \$8.47.

ALLIED TRUCK OWNERS AIM TO PROTECT OWN INDUSTRY

A new state-wide organization, representing the motor truck industry, is well along in its organization work, according to Walter J. Wilkinson, well known contractor and a director of the new organization, known as Allied Truck Owners.

Following legislative and judicial precedents established in other states last year it became apparent that the nation-wide movement to curtail the profitable operation of motor trucks was reaching California.

Allied Truck Owners is being formed for the purpose of protecting the motor truck industry as a whole. While only truck owners and operators may hold office or vote, the manufacturers of trucks, trailers, tires and accessories are eligible to associate memberships and submit their recommendations to the board of directors in the capacity of an advisory committee. After three months of preliminary research work concerning operation of state-wide truck organizations, active work started in signing up members during September of last year, when Allied Truck Owners was incorporated. At the present time eleven prominent companies owning and operating trucks are represented on the board, which will be filled to its limit of 21 members within the next 60 days. The organization will have regional and district boards in every legislative and congressional district of the state. These local boards will convene regularly and submit recommendations to the board of directors.

It is reported that already 1100 firms representing every class of operation; i. e., commercial houses, agricultural organizations, city draymen, dump truck men, contract carriers and certificated operators are now members of Allied Truck Owners.

Although most of the companies thus far represented come from districts outside the population centers of Los Angeles and San Francisco counties, the work in these counties is now actively under way and it is anticipated that the membership will be doubled within the next 90 days.

The purposes of the organization as explained in the pledge blank are to sponsor favorable legislation, combat unfavorable legislation, represent the truck industry before governmental authorities, publicize it through the press and other media and carry on an educational campaign with manufacturers, owners and drivers to stabilize the industry.

DELAY BOND PROPOSAL

Decision not to place a proposed \$34,400,000 power bond issue proposal on the ballot for the May 3 election has been reached by the Los Angeles city council. Another date will be chosen, possibly the date of the general election in November. Proceeds of the issue, if voted, are to go toward the construction of a transmission line to Hoover Dam, construction of a steam-generating plant at Wilmington and extensions and betterments to the lines of the bureau of power and light.

MOTOR VEHICLE TAXES

(Continued from Page 6)

roads whether we have them or not" is held to be axiomatic by careful students of highway economics.

At the present rate of construction of state road systems, reconstruction of the systems will be upon us before the state highways are completed. There are 101,000 miles of primitive, unimproved roads included in the 324,000 miles of the combined federal aid and state highway systems, and only a small part of the federal aid system has been improved with high type surfaces. In cities, streets must be widened and arterial highways constructed to permit vehicles to operate economically. In rural areas, byways must be surfaced for motor vehicle travel, roads widened and safety of traffic at high speed insured by adequate highways. All this work to keep up with new vehicle developments is in addition to the improvement of the 2,500,000 miles of highways that are still primitive roads.

Suggested raids on the funds proposed, legislated and paid by motorists seek to divert to purposes other than the construction and maintenance of highways the income from motor vehicle taxes. Such diversion will breed dissatisfaction and can only result in the refusal of 25,000,000 motor vehicle owners to continue to supply a revenue that is vital to economical, safe and comfortable highway transportation.

Any diversion of these funds to meet other revenue needs, no matter how commendable the object, opens the way to replace other state taxes with those drawn from the motorist's fuel tank.

Since the earliest time the highway has been serenely useful, interwoven with the daily life of everyone. To break down the normal, balanced and well planned program of highway development made possible through motor vehicle user taxes will be a severe blow to the economical, safe, comfortable and expeditious public use of the highways. The comfort, happiness and well-being of the whole nation depends on the highways.

WYOMING ADOPTS PREQUALIFICATION

Prequalification requirements for contractors on state highway work in Wyoming were adopted by the highway commissioners of that state on March 15, in accordance with the state law. All persons proposing to bid on state highway work estimated to cost more than \$2000 must furnish a statement under oath in response to a questionnaire to be submitted by the state highway department. Such statement shall fully develop the financial ability, adequacy of plant and equipment, organization and prior experience and such other pertinent and material facts as may be desirable, and shall be submitted every twelve months, or as often as may be required by the commission. No bid will be considered from a contractor unless he shall have submitted his statement prior to twenty days before a letting. Upon receipt of a statement in response to the questionnaire the state highway superintendent will examine the information therein and will then classify the prospective bidder or reject him as unqualified. A rejected applicant may request a hearing before the state highway commission. Prospective bidders will be classified as general contractor, grading contractor, surface contractor or bridge contractor. Each bidder must file with his bid a statement of contracts in force and contracts entered into subsequent to the filing of his annual questionnaire. He must also file a plan and equipment questionnaire with each bid.

Five Billion Dollar Government Bond Issue Proposed For Homes

Issuance of five billion dollars in U. S. Government bonds, bearing interest at the rate of 4 per cent, to be loaned to home owners for a period of twenty years and to finance the erection of new one-family homes, is proposed by Albert Schroeffer, member of San Francisco Chapter, American Institute of Architects.

Issuance of these bonds, according to Mr. Schroeffer's plan, is not advocated in lieu of the appropriation contemplated for public works but is a companion move.

The five billion dollars would be apportioned per capita among the several states, each state is then to apportion its amount per capita among its cities and counties. Redemption of the bonds would commence five years after issuance and complete twenty-five years from date of issuance. They would be subject to call at any time the government deemed it advisable.

Mr. Schroeffer's proposal has received the endorsement of local business interests. It has been endorsed by local labor leaders and will shortly come before the general public as the most feasible and probably the only self-supporting plan advanced to relieve the depression.

The plan, as outlined by Mr. Schroeffer, who puts his proposal forward as a spoke in the big wheel for the return of business, is published herewith.—Editor.

what remains is to be shifted to other counties or states where the demand is greater than its apportionment.

REVOLVING FUND

The principal to be a revolving fund for a term of five (5) years, to permit reloaning as fast as the installments of the loan are repaid.

LOANING

The money is to be loaned to home owners for a term of twenty (20) years for the erection only of new one-family homes, which are to cost not less than five thousand dollars (\$5,000), each inclusive of land value, and



ALBERT SCHROEFFER

UNITED STATES GOVERNMENT HOME BUILDING LOAN BONDS

The United States Government to issue home building loan bonds of amount of five billion dollars (\$5,000,000,000) bearing four per cent (4%) interest per annum.

REDEMPTION

Redemption commencing five (5) years after issuance and completing twenty-five (25) years from date of issuance; also the bonds to be subject to call at any time the government deems it advisable.

APPORTIONMENT

The said five billion dollars (\$5,000,000,000) to be apportioned per capita among the several states; each state is then to apportion its amount per capita among its several counties and cities and counties. If any state or a county thereof does not take up its full allotment,

not more than ten thousand dollars (\$10,000), inclusive of land value. The value of the land shall always be at least ten per cent (10%) of the amount of the loan.

INTEREST

The home owner to pay interest at a rate of five per cent (5%) per annum on the deferred principal of the loan and payable monthly, which reduces the amount of interest each month.

REPAYMENT OF LOANS

The home owner is to repay the loan at a rate of five per cent (5%) per annum of the amount of the loan and payable monthly; in other words, the loan is paid off in 240 equal monthly payments. Also, the home owner is

COLTON CEMENT

Uniform Quality : Service : Satisfaction



Manufactured by

CALIFORNIA PORTLAND CEMENT COMPANY

1228 PACIFIC MUTUAL BUILDING

Mills at Colton, California

TR. 1271

Los Angeles

to have the option of paying off the entire loan at any time during the term of the loan, or in greater amounts than the specific monthly payments.

ENCUMBRANCES

No other encumbrance or lien (excepting taxes) will be permitted on the home. This is as a safeguard to the home owner to prevent the incurring of other indebtedness on the home.

APPLICATION

The home owner shall deposit with the government or its bank agency a sum equal to five per cent (5%) of the amount of the contemplated loan at the time of making the application, and if granted, the said deposit shall apply as the first repayment of the loan; if not granted, the deposit shall be returned to the applicant. The home owner is to be permitted to expend a greater sum of money than the amount of the loan for the cost of the home, providing that the cash difference is deposited with the government or its bank agency at the time the loan is granted.

INSURANCE

A form of insurance to be worked out and carried by the government and underwritten by insurance companies to insure the home owner against fire loss or other elements, forced non-employment, sickness, death, total or temporary disability. Perhaps the one per cent (1%) difference of the bearing interest and the loan charge is sufficient to take care of this insurance, or a slight charge to be made for same to the home owner.

AGENCY

The government is to appoint qualified banks as agents for all business concerning the loans.

PLANS AND SPECIFICATIONS

The plans and specifications for each home shall be prepared by a licensed or competent architect, and to be erected under his supervision.

All plans and specifications shall be passed upon by a committee composed of members of the American Institute of Architects, and the same committee shall make final inspection of the home at its completion.

This procedure will insure better constructed and designed homes and that the full contracted value will be incorporated. It will obviate the irresponsible and pirating speculator, who builds ignorantly designed homes with inferior materials and poor workmanship, which rapidly depreciate in value.

THE BENEFIT TO BE DERIVED BY THE UNITED STATES GOVERNMENT HOME BUILDING BONDS

The five billion dollars (\$5,000,000,000) immediately put into circulation would start the big wheel of prosperity in motion by the enormous sale of the various kinds of building materials, by the vast employment of mechanics, factory hands, clerical, labor, etc., the transportation of building materials, the manufacture of building materials, the sale of thousands of building lots.

The wages and profits from these building operations will be spent for food, clothing, all kinds of other merchandise, automobiles, amusements, etc., which would in a short time have all other lines working.

The sale of building lots would put a vast sum of money in circulation.

The furnishing of these new homes is another big item. With all this money in circulation it will soon find its way into banks and building and loan associations, and then they will have money to do business with, big construction work will follow, and other commercial ventures.

The project of the United States home building loan bonds will cost the government very little, if anything, as they are self-supporting.

To get business going again we must create sales of small amounts, but in large volume.

The allied building business is the second largest industry of the United States, so if this gets going other industries will follow naturally.

The home is the greatest institution of all, therefore it should be fostered by our government.

A man working for the ownership of his home is filled with pride; he is a better citizen; he takes interest in civic affairs; he is living in comfort and security; he is living under better social conditions, which will greatly obviate crime, correctural, charitable and other similar institutions. The home is the foundation of good government, which is the success of a nation.

The subscription for these home building loans will be substantially oversubscribed, for the incentive to own a home under such ideal loaning conditions is most encouraging, with the long loan term, reasonable interest, small installments and with the protective insurance. The home owner will not be so discouraged as he is today. Under the present conditions he must have a substantial down payment; the monthly installments are too great; the loan must be renewed every five years or oftener, which is costly; he is very often called upon to reduce the loan substantially, and usually unexpectedly, and pay brokerage fees for obtaining a new loan.

In building of homes there is a greater diversified volume of material, therefore a greater volume of labor. The material used for public buildings is expensive, therefore of less volume and a less volume of labor. After the home building is well under way, then the construction of public works can be commenced, for then the income taxes will be in a better shape.

This project of the United States Government home building loan bonds should be advocated by everyone, as it is self-supporting and will start all lines of business going again.

CONTRACTORS REQUESTED TO

ACCEPT BONDS IN PAYMENT

Road and bridge contractors and machinery and material firms that hold certificates of indebtedness of the Louisiana highway commission were given until April 11 to accept or reject a plan under which 80 per cent of their obligations will be paid in cash and the balance held as a credit under the recent sale of \$15,000,000 of state highway bonds to the Pyramid Securities Co., New Orleans.

The plan provides that those holding certificates shall receive 80 per cent in cash and 20 per cent in bonds. The bonds, however, must be deposited with the securities company to serve as collateral on the basis of which the cash is to be advanced.

Contractors Machinery Exchange

Rentals a Specialty

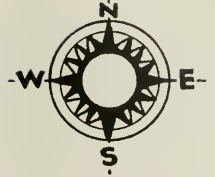
1135 - 57th Avenue

OAKLAND, CALIF.

FRUITVALE 0715



Here To There And Back Again



CH₃ COOC₅ H₁₁

Some good lodge brother of the A. G. C. has been putting us in the grease with our boss, the Publishers—wants to really know who writes this page—AND WHY.

CH₃ COOC₅ H₁₁

We don't know just where this squawk came from—but somehow we suspect MARK TUTTLE of Salt Lake City had something to do with it. MARK is a good egg, and to know this you have but to look at the lively A.G.C Chapter in Utah.

CH₃ COOC₅ H₁₁

Anyway, if you must know why we are in this "page writing" business—it is on account of CARITA. Carita felt that what the world needed was a Woman in the Contracting field. First, you should know Carita, and then you would realize how hard it is to say "no" to her, once she makes up her mind! Here she be:



Presenting "Carita" in person (but not much else!). Carita was quite successful as a Contractor—evidenced by the fact she still has her garters!

She found it easy to get contracts. All necessary was to find out, or guess the low bid, and then cut in under it. Worked fine until she ran out of anything to use for money!

* * *

Carita is now writing a book on "The Technique of Peddling"—tells all about "bid peddling."

* * *

CH₃ COOC₅ H₁₁

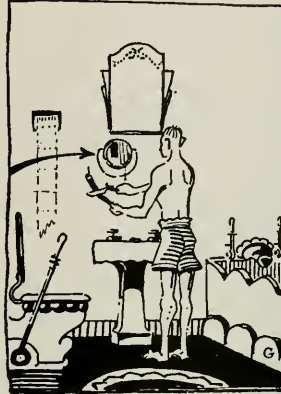
Next most important person on our Staff is "CAST-IRON KELLY." "Cast-Iron" it is who "fixes things up" for the contractor who bids too low—or too high—as the case may be.

CH₃ COOC₅ H₁₁

"Cast-Iron" has "fixed" many jobs for us at a cost only slightly higher than the total contract price of the job. He is a valuable man—expense account looks like the interest on a Liberty Loan.

CH₃ COOC₅ H₁₁

PIETRO COHEN, (Norwegian Schoolboy), the office-boy should be mentioned. Pietro is studying journalism. Bright boy. He studied the "ready-mixed aggregate" proposition, and sold the idea to the flour manufacturers who now sell a "biscuit mixture" requiring only the addition of water.



CH₃ COOC₅ H₁₁

This is "us"—this little informal picture tells the story of our home life. Bathroom is equipped with Dual-Ratio tub with Floating Power. Selective Free - Wheeling and Ride Control on the Can.

The arrow is pointing to our Lapeer Electric mirror. Every Contractor should have one—Times like these, the Contractors who are not shaving are getting shaved.

In Politics, we are Republicrat—meaning we are in favor of light wines and beer. However, in this we are modest. We don't think beer should contain over 8% alcohol, and the wines should not be heavier than 32% of alcoholic content.

CH₃ COOC₅ H₁₁

(We are not overly hopeful of a return of light wines and beer. There is too much opposition on the part of bath-tub makers and manufacturers of "Anti-freeze" solutions. Since people have been using bath-tubs for making gin instead of for washing purposes—the bath-tub replacement of the country has practically doubled!)

CH₃ COOC₅ H₁₁

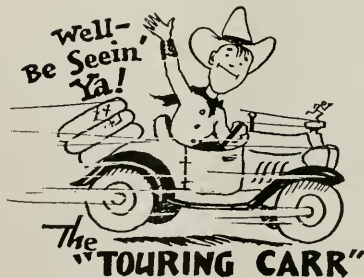
Two others should be mentioned: ANGELO, the trained Tapeworm is our Staff Statistician. Don't forget (and once having met him, you can never forget) OSCAR, the pet pole-cat, our Mascot.

CH₃ COOC₅ H₁₁

OUR SECOND THOUGHT DEPARTMENT

"The height of kabitzing is reached by the unmarried half of a set of Siamese Twins."

CH₃ COOC₅ H₁₁



THE LEGAL PAGE FOR CONTRACTORS

BY GEORGE N. CROCKER, Attorney for Associated General Contractors of America, California Branch, Russ Building, San Francisco

(Mr. Crocker will discuss in future issues of the Pacific Constructor any legal points which may be of particular interest to the subscribers to this publication. Address your request to Mr. Crocker at the above address.)

THE ENFORCIBILITY OF VERBAL UNDERSTANDINGS

There are two cardinal principles of law pertaining to all types of contracts and agreements which are of such importance and practical consequence that they should be known and understood by every contractor and materialman; in fact, by every business man who has occasion to enter into contracts.



By way of illustration, let us look at the facts of an actual case which occurred and which resulted in litigation. A well known tile company entered into a written contract by which it agreed to construct the tile roof of a building and to use "No. 2 Mission Tile." "No. 2 Mission Tile" simply meant red tile of a certain kind and quality, but did not indicate any particular shade of red, such tile varying in shades of red as the necessary result of its process of manufacture. There

was nothing in the written contract calling for tile of any particular shade of red; it simply called for "No. 2 Mission Tile." The roof was then built, and the tile company finally brought a lawsuit to collect the amount due under the contract. The defendant, for whom the roof had been built, claimed that at the time the written contract was entered into it was orally agreed and understood by both parties that the tile should be of a certain very definite shade of red, and that upon the arrival of the tile at the site of the building the defendant objected to it as not being as agreed. Whereupon the tile company insisted that the tile would look all right when the roof was finished and that if the roof should not be satisfactory when finished the tile company would remove the tile and replace it with tiling of the desired color. The defendant claimed that the tile used was not of the desired and agreed color and that the roof was never satisfactory and that he had frequently notified the tile company to that effect. He argued that under these circumstances he should not be compelled to pay for tile which was not in accordance with the agreement of the parties. The court decided, however, that inasmuch as the parties had entered into a written contract, the oral agreement or understanding of the parties as to an exact shade of color could be given no weight whatsoever. If there was such an agreement, it should have been inserted in the written contract itself. That written contract merely called for "No. 2 Mission Tile." The tile company had

furnished such tile and therefore was entitled to payment. As to the subsequent guarantee of the tile company, made at the time the tile first arrived to the effect that if the roof was not satisfactory when finished it would replace the tile with other tile of the desired shade, the court decided that inasmuch as this promise was likewise merely verbal it was ineffective to modify the terms of the written contract and therefore could not be enforced.

In reaching this decision, the court applied two fundamental rules of law. The first is that the execution of a contract in writing supersedes all the negotiations or stipulations concerning its subject matter which preceded or accompanied the execution of the written contract. In other words, if the parties choose to enter into a written contract, the law will assume that they have put into that written contract all of the terms of their agreement. Therefore, verbal understandings which are not incorporated in the written agreement will be given no weight whatsoever, and do not even constitute admissible evidence in a court of law. This is commonly referred to as the "parol evidence rule."

The second rule is that a contract in writing may not be subsequently altered by a verbal agreement. If such a verbal agreement is made and is actually carried out by the parties, then neither can repudiate it; but if it is not carried out, neither party can insist upon its being carried out, and the original written contract will stand in full force and effect.

It is of course true that these rules, like most rules of law, are subject to certain qualifications and exceptions, and that the facts of a particular case may offer some means of avoiding their application. However, they are of such wide application that their importance cannot be over-emphasized. In many instances they result in a considerable hardship to a party who has relied in all good faith upon an oral understanding. On the other hand, they frequently operate to discourage perjury and fraud, and it is for this purpose that they have been made part of our law. It is important, however, that they be understood so that business men, who only too often act without legal counsel, may guide their dealings accordingly.

This article does not purport to discuss the broad question of what contracts the law requires to be in writing and what contracts may be made verbally. It merely deals with the situation which is created when the parties actually do enter into a written contract and, in addition, have certain verbal understandings regarding the same subject matter.

Gardner-Denver Co., Quincy, Ill., has increased its series of drill steel sharpeners with the introduction of the Model DS-6, a larger and more powerful sharpener. Equipment can be supplied for handling any size of hexagon, quarter-octagon or round steel. Double taper bits up to 3 inches on steel up to and including 1½ inches round can be forged and sharpened. The machine incorporates a new and distinctive scale blower operated by a small lever within easy reach of the operator.

Where The Highway Dollar Goes

STAFF ARTICLE

A STUDY to determine the extent to which expenditures for highway improvement provide employment has just been completed by the Bureau of Public Roads



THOMAS H. McDONALD

of the U. S. Department of Agriculture. Concrete pavement was selected for this study because it is a widely used type and because the effect of expenditures for pavements of this type in providing employment is believed to be typical of the effect produced by expenditures on other high-type pavements. The effect in this field also appears to be typical of that produced by expenditures for public works generally.

All forms of construction have a wider influence on employment than appears

generally to be recognized, though the points at which this influence is applied differ. An expenditure for the erection of a steel bridge probably results in about the same gross payment to labor as the same expenditure for a concrete pavement, but the distribution of the payments that are made to labor affect a somewhat different group of industries and in neither case is the distribution the same that results from the construction of a monumental building. But this is of little consequence, for though this distribution reaches different industries, in all of these cases the general effect on business and on employment appears to be about the same.

In making this study, expenditures were traced through the various industries that are affected by them and the amounts paid as wages and salaries were set aside for accumulation. In the end, labor was found to receive the larger part of these expenditures, which is an altogether reasonable conclusion, since the materials entering into highway construction are of little value in their original state. Practically all of the value which the finished pavement possesses is created by the application of labor directly and through manufacturing processes and transportation.

For the purpose of indicating how labor creates the value of the finished concrete pavement, the following primary subdivision of its cost was made:

1. The direct cost of laying concrete pavement (production expense).
 - a. Labor.
 - b. Aggregate.
 - c. Cement.
 - d. Steel.
 - e. Equipment

These items cover the labor employed in connection with the various operations incident to laying the pavement, the cost of the materials of which the pavement is composed, and the costs represented by the equipment used.

2. Expense, other than for production, incurred in connection with laying concrete pavement.
 - f. Getting onto job and installation of plant.
 - g. Bonds and insurance.

The first of these items covers the preliminary expenses incident to this work such as the cost of getting equipment onto the job, the cost of employing men, the cost of developing a working organization, etc. The second item covers the cost of bonds and insurance and all closely related costs.

3. Job margin.
 - h. Overhead.
 - i. Financing.
 - j. New profit.

Such items as overhead (which includes central office salaries, rented quarters, the cost of bidding, etc.), and the cost of financing must be paid out of the job margin. After these and related expenses are satisfied, the remainder is the net profit on whatever money is invested in the enterprise.

An extended analysis of the cost of laying concrete pavement in three typical states during the calendar year 1929 produced the following distribution of cost among the above named items:

Table 1

| | Cents per sq. yd. | Dollars per \$1000 of expenditure |
|---|-------------------|-----------------------------------|
| Item a. Labor | \$.26 | \$141.00 |
| Item b. Aggregate | .60 | 324.00 |
| Item c. Cement | .60 | 324.00 |
| Item d. Steel | .05 | 27.00 |
| Item e. Equipment | .18½ | 100.00 |
| Item f. Getting onto job and installation of plant..... | .05 | 27.00 |
| Item g. Bonds and insurance..... | .04 | 22.00 |
| Item h. } Job margin | .06½ | 35.00 |
| Item i. } | | |
| Item j. } | | |

In order to ascertain the amount of labor involved in each of these items (except item a, which already is a labor item), the study included an intensive analysis of their component parts. This analysis resulted in a distribution of the costs these items involve under nine head-

HERCULES EXPLOSIVES

THE CONTRACTORS' FAVORITE

HERCULES POWDER CO.

Standard Oil Building

San Francisco

Douglas 2330

ings—labor, freight (principally railroad freight), materials and supplies, fuel, interest, taxes, depreciation and repairs, depletion and profit. Freight charges cover both the cost of delivering finished materials to the materials yard of the job and the cost, if any is involved, of accumulating the raw materials, fuel, etc., used in producing such manufactured materials as cement and steel. The details of these analyses are not repeated here but the results appear in Table 2.

The largest single item in Table 2 is "Freight—\$406.70," which is about 40 per cent of the cost of concrete pavement construction. Of this amount, \$313.70 is for transportation of aggregate, cement and steel. It covers the collection of the components of these materials prior to their manufacture and the shipments of the material to the construction jobs. The cost of assembling the materials out of which they are built is nearly a third of the total cost of concrete pavements. The remainder of the freight charge is for the equipment and the movement of the numerous materials that enter into the manufacturing processes and sub-processes other than those noted above.

If this item (freight) is distributed on the theory that the railroads handle this business, the distribution shown in Table 2 reduces to that shown in Table 3. While by

From the last of these tables it is clear that although job labor receives only a little more than 15 per cent of the sum expended on the construction of a concrete pavement (see Items a and f of Table 2), the labor involved in producing the materials of which such pavements are constructed, in transportation and in obtaining the necessary fuel, is so large that the distribution to salaries and wages on account of these phases of the construction of such pavements is well in excess of half of its total cost.

Of the other items that appear in Table 4, there are three, "Repairs and depreciation," "Materials and supplies" and "Taxes" which evidently involve a large expenditure for salaries and wages. The ramifications of the first two of these classifications involve so many manufacturing processes that a more generalized analysis was applied to their reduction. However, though more generalized, the line followed was the same as that used in examining the expenditures of which there is more exact knowledge. This analysis is not repeated here but when Table 4 is amended in the light of this analysis and in the light of the use made of taxes in paying employees and purchasing materials, it is found that as these payments filter through the various industries affected by them, something more than three-quarters of the money paid to contractors is converted into salaries and wages

Table 2

Summary of the various steps through which the contractor's payment of \$1000 are traced, and the amounts attributable to each:

| ITEM | Salaries and wages | Freight | Materials and supplies | Fuel | Interest | Taxes | Depreciation and repairs | Depletion | Profit |
|------------------------|--------------------|----------|------------------------|---------|----------|---------|--------------------------|-----------|---------|
| a. Salaries and wages | \$141.00 | | | | | | | | |
| b. Aggregate | 50.00 | \$194.00 | \$18.00 | \$11.00 | \$ 4.00 | \$ 6.00 | \$ 29.50 | \$ 7.50 | \$ 4.00 |
| c. Cement | 61.00 | 113.50 | 30.00 | 22.50 | +5.00 | 5.00 | 53.50 | 3.00 | 31.00 |
| d. Steel | 6.00 | 6.20 | 8.50 | 1.50 | .40 | .90 | 2.50 | | 1.00 |
| e. Equipment | 5.20 | 4.50 | 10.65 | .50 | .20 | 7.20 | 70.65 | | 1.10 |
| f. Getting onto job | 13.50 | 13.50 | | | | | | | |
| g. Bonds and insurance | 11.00 | | | | | | | | 1.00 |
| h. Job margin | 15.00 | | | | 5.00 | 5.00 | | | 10.00 |
| | \$302.70 | \$331.70 | \$67.15 | \$35.50 | \$14.10 | \$24.10 | \$156.15 | \$10.50 | \$48.10 |
| ±Adjustments | | +75.00 | -50.00 | | | | -25.00 | | |
| | \$302.70 | \$406.70 | \$17.15 | \$35.50 | \$14.10 | \$24.10 | \$131.15 | \$10.50 | \$48.10 |

*set aside for later redistribution.

±These adjustments are made here to avoid recasting the freight analysis on account of the freight charges which are a part of the cost of repairs, replacements, materials and supplies.

far the larger part of this freight is handled by the railroads, a little moves by water and a somewhat larger volume is moved in trucks. However, substantial accuracy is preserved if all of it is treated as railroad business.

Table 3

| | |
|-----------------------------|------------------|
| 1. Salaries and wages | \$477.70 |
| 2. Materials and supplies | 57.55 |
| 3. Fuel | 57.20 |
| 4. Interest | 61.70 |
| 5. Taxes | 49.70 |
| 6. Depreciation and repairs | 184.65 |
| 7. Profit | 91.00 |
| 8. Depletion | 10.50 |
| 9. Redistribution | 10.00 |
| | <u>\$1000.00</u> |

If the cost of fuel as shown in Table 3 is distributed between the remaining items, Table 4 results.

Table 4

| | |
|-----------------------------|------------------|
| 1. Salaries and wages | \$516.00 |
| 2. Materials and supplies | 64.20 |
| 3. Interest and rents | 63.75 |
| 4. Taxes | 51.40 |
| 5. Repairs and depreciation | 188.75 |
| 6. Profit | 91.00 |
| 7. Depletion | 14.90 |
| 8. Redistribution | 10.00 |
| | <u>\$1000.00</u> |

and less than one quarter becomes the property of owners, who receive it in the form of interest, rents, royalties and profits.

This is about as far as the quantitative analysis may be carried with approximate certainty. But, although the quantities become somewhat doubtful, there is still a further share for labor in the last quarter of the expenditure.

The preceding quantitative discussion is based on a period of unusual business activity. In times of depression such as the present, the residue composed of interest rents, royalties and profits shrinks both in absolute amount and in relation to the total. In view of this well known fact, it seems probable that, of the total expenditures for road construction at the present time, nearer 85 than 75 per cent may be thus directly traced into the hands of labor. Beyond this, there is still to be considered the fact that a part of the money paid to owners is immediately reinvested or expended, even in periods of depression, although a greater part is certainly so used in more prosperous times. And since, of the money so reinvested in productive industry, labor again receives the major part, it is not unreasonable to suggest that as much as 90 per cent and probably more of the original expenditure for a concrete pavement ultimately finds its way into wages and salaries and that this percentage is not greatly changed by the turn of the cycle from prosperity to depression and back again.

County Highway Bond Issues Desirable For Heavy Traveled Roads

THE saving in the cost of operating motor vehicles on heavy traffic roads is often great enough to pay the interest and retire bonds issued for highway purposes according to a committee report of the County Highway Officials' Division of the American Road Builders' Association, Otto S. Hess, engineer-manager, Kent County Road Commission, committee chairman.

The conclusions of the committee follow:

(1) Any county bond issue should be preceded by a thorough investigation of the ability of the county to pay for the roads, the needs of the county as to roads, and the location of the roads to render maximum highway service over a period of years.

(2) Full information should be given to the voters of a county about the cost of the roads, how the roads are to be paid for, and how the bond money is to be handled.

(3) All civic and official organizations should be made part of the investigative and promotional agency for the bond issue.

(4) Preliminary engineering advice as to the planning of the highway system to make it most effective should always be obtained. This survey of conditions should be made by the county engineer with such aid as he may find desirable from consulting highway engineers or, in states where available, from the state highway department.

(5) The essentials of a sound bond issue program are: (a) an economically sound plan; (b) a definite and well-considered construction program that can be carried to successful completion; and (c) a well-directed campaign to place the facts before the voters.

(6) Proper accounting for bond issue expenditure should be arranged at the time the plan is proposed.

(7) Popular subscriptions used for financing advance investigations should be sufficiently large so that adequate preliminary study of the bond issue program can be made.

While a full and clear exposition of costs must be made and every voter wants to know how the bond issue is going to affect his own taxes, it has been found that people are strongly moved by intangible benefits from good roads such as comfort, convenience, social intercourse, freedom from mud, and the desire to see the home county a leader.

Intangible benefits may be listed as follows:

(1) Improved social advantages permit better intercourse between city and country, and bring country people closer together.

(2) The growth and prosperity of a section is improved through better transportation.

(3) Mail deliveries are bettered, fire protection improved, recreation facilities provided, healthfulness of the people increased, police protection afforded, home building facilitated, schools are consolidated for better instruction, and medical attention becomes more prompt.

(4) Personal pride in the good roads of a home county leads to loyalty and satisfaction.

Tangible benefits may be summarized:

(1) Increase the value of land. Farm values on improved roads are much higher than on dirt roads because

of the better transportation facilities afforded. The highway is part of the farming plant.

(2) Lower motor vehicle costs. The maintenance costs of motor vehicles is much less than on improved roads and the depreciation is reduced. This may amount to several hundred dollars a year saving to each motor vehicle owner.

(3) Fuel costs are reduced. The consumption of gasoline on improved roads is much less than on dirt roads. The saving in fuel offsets the gasoline tax.

(4) Estimate of profit to the public. Estimating a saving of two cents a mile traveled, which is conservative for the saving on surfaced roads over dirt roads, each motor vehicle owner saves \$100 annually if he travels 5,000 miles a year. An improved road that has 1000 vehicles a day traffic is losing \$7,300 a year in the form of increased operating costs. This is several times the cost of a fine country road. This loss is the "mud tax" paid by all people that travel the road. Good roads pay for themselves in a few years in savings.

ENGINEERS HOLD S. F. BAY

BRIDGE BORINGS SATISFACTORY

Added impetus is given the \$75,000,000 San Francisco-Oakland bay bridge by positive statements from engineers that the bay bottom and approach foundations on both sides are more than adequate to sustain the structure.

Charles H. Purcell, chief engineer of the project, made known the findings in a report to Col. Walter E. Garrison, director of the Department of Public Works.

Purcell announced that only six drillings to bedrock for the central anchorage structure remain to complete all borings. Work accomplished to date includes borings on Yerba Buena Island and in the east and west bay channels.

A total of 129 holes was drilled in the bay bottom to test the strength of foundations, Purcell stated. Piles driven in the bay midway between Yerba Buena Island and the Key Route mole were subject to actual load tests of fifty-seven tons per pile. These tests showed a settlement of less than three-fourths inch per pile, Purcell reported. In the actual bridge construction, the piling requires only one-half the intensity under the tests, it was pointed out.

Similar successful loading tests were made off Pier 24, which rock was subjected to a load of 174 tons per square foot without any appreciable settlement.

The Purcell report indicated the approach piers on this side will be shifted from Spear street to Beale street because bedrock is closer the surface. But Purcell stated this would in no way increase the cost of construction.

A series of meetings in San Francisco, beginning April 18, will be held by the consulting Board of Engineers, headed by Ralph Modjeski, to consider results of the boring tests and tentative final designs recently completed by Purcell and his staff.

Phone TRinity 0241 for —

Rock-Sand-Gravel-Plaster

Cement-Mixed Mortar-Stucco

Lath-Lime Putty-Reinforcing Steel

**Consolidated Rock
Products Co.**

656 S. Los Angeles St.

Los Angeles, Calif.

A. G. C. Chapter Activities

SECRETARIES OF A.G.C. CHAPTERS THROUGHOUT THE PACIFIC COAST ARE REQUESTED TO SUBMIT ITEMS FOR PUBLICATION IN THIS DEPT.

By *W. M. E. Hague, Secretary-Manager,*
Alameda County Chapter

OAKLAND, CALIF.—Alameda County Chapter, at a special meeting, April 8, endorsed the action of the Board of Reviews effecting a 20 per cent wage reduction for carpenters in the San Francisco Bay district.



WM. E. HAGUE

The Chapter, in a resolution adopted, urged that other employing groups of the building industry give serious consideration to the question of similar revisions in wage scales.

A copy of the resolution is published here with:

RESOLUTION

WHEREAS, it is generally recognized that revision of the present wage scale for Building Trades workers is imperative at this time because of substantial

changes in economic conditions since the award rendered by the Employers' Wage Board in October, 1931, and

WHEREAS, a wage scale for carpenters 20% lower than the established scale in the East Bay District has been fixed in San Francisco as the result of conferences between employers and representatives of the Bay District Council of Carpenters, which organization embraces in its membership local Unions in Alameda County as well as in San Francisco.

IT IS RESOLVED, that Alameda County Chapter of Associated General Contractors of America will put into effect for the remainder of the year 1932 or until economic conditions justify a change.

The Chapter invites all general contractors and builders of the East Bay District to co-operate in making the new wage scale effective, and urges the East Bay Industrial Association, agencies financing building construction and all civic organizations to use their full influence to bring about universal observance of this scale.

S. G. Johnson, president of the Chapter, commends the action of the Board of Review in reducing the wages of carpenters.

"We are not wage cutters," says Mr. Johnson, "and we accept the reduction in carpenters' wages with great reluctance. We appreciate the fact that the Bay District Council of Carpenters themselves realized a revision of the findings of the Impartial Wage Board of October, 1931, was necessary. The fact that wages had to be cut does not mean that we are reducing wages, but seeking to stabilize the situation and bring about the necessary readjustment.

"The action now taken is in line with our recommen-

dation made to the Impartial Wage Board last October, when we foresaw the condition which has now arisen, and recommended a downward revision of the building wage scale in all crafts. We hope and expect to see the new scale enforced and to have the co-operation of the building public and all civic organizations."

By *Mark Tuttle, Manager*

SALT LAKE CITY, UTAH.—At the last meeting of Intermountain Branch, W. D. Rishel, President of the Utah State Automobile Association, addressed the members on the necessity for eternal vigilance in guarding the gasoline tax, to see that these funds, paid by the motorists, are used for the construction and maintenance of highways as provided by law. He further called attention to desirable legislation in the interests of good roads, which should be considered at our next session of the Legislature. At our next meeting, to be held April 14, the question of compensation insurance will be taken up and discussed. D. H. Christensen, member of our executive committee will represent the point of view of the contractors, and a representative from the Industrial Commission will be asked to be present.

Next January, the Legislature will convene, and there will be many bills of vital interest to the construction industry presented. It is very necessary that we have members in that body. For years, every other industry has regularly had their stalwarts there to see that the toes of their friends were not stepped on. Already there are rumors that an effort will be made to divert part of the gasoline tax to assist in paying the state deficit in the general fund. Other states have woken up to the fact too late, and a large part of the gasoline tax in those states is now going for purposes other than highway construction. We urge our members and others interested in the construction business to plan now to have the politicians working for them instead of against them. Bear in mind, if you show no interest in a member of the Legislature until after he is elected and holding down a comfortable seat, your influence is just about nil, and he will listen to everyone else before you. Remember, again, you are not asking for anything that is not right and proper. The construction industry is the second greatest in the nation, being exceeded only by that of agriculture, certainly we have a right to be heard. Let us be up and doing.

Marlow Pumps, Ridgewood, N. J., has added a new Triplex sludge pump to its existing line of Marlow Simplex and Duplex sludge pumps. The new size pump, of the plunger pattern, is equipped with Hyatt roller bearings, V-belt drive, and inlet and outlet 6-inch flanged connections.

NOrmandie 4303

NOrmandie 7715

LEO HONEK

EXCAVATING CONTRACTOR
CONCRETE PAVEMENT BREAKING
Compressed Air Equipment

2941 Denby Avenue

Los Angeles, Calif.

Around The Builders' Exchanges

SECRETARIES OF BUILDERS' EXCHANGES THROUGHOUT THE PACIFIC COAST ARE REQUESTED TO SUBMIT ITEMS FOR PUBLICATION IN THIS DEPARTMENT

SAN FRANCISCO—Wages of building trades mechanics in San Francisco were cut by the San Francisco Builders' Exchange at a special meeting of the membership April 15.

The revised scale is effective April 18 and will continue for the balance of the year.

The cut averages twenty per cent, affecting all trades working on the building, with the exception of truck drivers and teamsters who take a reduction of fifty cents a day. Common laborers are rated at \$4.00 a day. Building laborers, according to the Exchange revised wage scale, are rated for \$5.00 per day.

The five-day week, the membership decided, will continue in the building industry as heretofore.

Wm. H. George, president of the Builders' Exchange, in presiding the revised scale urged the membership to back the Exchange in its efforts to enforce the new wages for the balance of the year when further consideration will be given to a scale to warrant conditions.

"It is of the utmost importance that the revised wage scale be maintained in order to accomplish fair competition in the building business," said Mr. George. "Strict adherence to the scale will go a long way toward stabilization of business in the industry. It will restore public confidence and will do much to direct the attention of the prospective builder to go ahead with his building investment."

The new scale, Mr. George announced, does not affect mechanics working in the shops but those on the buildings only. Employers who are desirous of regulating wages in shops are requested to confer with the Industrial Relations Committee of the Builders' Exchange with a view to setting wages for their respective trades.

Mr. George stressed the importance to members of reporting wage violations. He assured the membership of unlimited cooperation in correcting reported violations.

FRESNO, CALIF.—A satisfactory wage agreement between the Fresno Building Trades Council and the Fresno Builders' Exchange is expected to be reached within the next ten days.

Members of the trades council have rejected the 20 per cent wage schedule as offered by the Builders' Exchange. However, union men have been working under the 20 per cent wage reduction with the hope that an agreement would be reached shortly which would assure closed shop conditions for their fellow craft members.

The Builders' Exchange will meet shortly to discuss further negotiations with the council. A letter requesting another wage parley has been received by the exchange from Joe Creem, business manager of the council.

Harry R. Cayford, secretary of the exchange, indicated that his directors may further consider the plan at their

meeting, which will be presided over by Art Goeddell, plumbing contractor. Goeddell was recently named president of the exchange.

SANTA ANA, CALIF.—April will be a busy month for the members of the Orange County Builders' Exchange, according to Frederic W. Sanford, secretary-manager.

On April 5, the general membership meeting will be held at Fullerton, and will be followed with the Builders' Exchange Golf Tournament at the Hacienda Country Club. In the evening a banquet and surprise entertainment will be features at McFarland's Cafe.

April 12 is the date set for the Builders' Exchange dance to be held at Santa Ana, and from April 18 to 23, inclusive, a Home Builders' Carnival will be staged at the exchange headquarters.

NAPA, CALIF.—John Arnitz was elected president of the Napa County Builders' Exchange at the semi-annual meeting of that body at Marino's Grill, in Napa. Albert Adamo was elected vice-president, and William Nohle, treasurer.

Directors are: Charles Hansen, M. L. Reidenback, Eric Liljevall, Thomas Lorenz, Henry Vienop, John Arnitz, William Nable, Harry Thorsen, Andrew McNair, Albert Adamo and Thomas Jessiman.

SANTA MARIA, CALIF.—Santa Maria Valley Builders' Exchange was launched at a meeting of about fifty representatives of the various branches of the construction industry in the valley.

The following directors were elected: Charles T. Bates, William W. Trumbull, Edward Anderson, R. L. Sandy, Oscar D. Reiner, O. C. Marriott and Dick Doane.

The directors will elect the executive officers of the exchange in the immediate future.

FRESNO, CALIF.—Fred W. High, plumbing contractor, was elected president of the Fresno Building Material Dealers' Association at the annual meeting of the board of directors. High succeeds E. L. Smith.

Wilbur M. Wilson was elected vice-president, succeeding Edwin M. Einstein; L. J. Allen was re-elected secretary-treasurer, and Frank I. Robinson, assistant secretary. The directors are Einstein, Wilson, High, E. E. Schlotthauer and Claude E. Nuss.

SUCONEM

Super Concrete Emulsions

Limited

—for Better Concrete

3710 S. ALAMEDA ST., Los Angeles

District Offices

308 Stock Ex. Bldg., Portland, Ore.

216 Walker Bldg., Seattle, Wash.

46th Ave. and Clement St. Oakland, Calif.

United Commercial Co., Inc.

*All Our Used Machinery, Second-hand
Shovels at Less Than Cost*

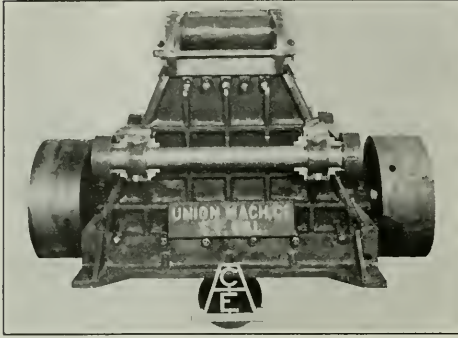
234 Steuart Street

San Francisco

Construction Materials and Equipment

TRADE NOTES - PERSONALS

ACE UNITARY TWO-STAGE DOUBLE REDUCTION JAW CRUSHER



The Ace crusher, manufactured by the Aggregates Crushing Equipment, 934 Brannan Street, San Francisco, aims to fill the increasing demand for a simple unitary machine that will receive average pit or quarry-run rock and reduce it to road-surface size, eliminating excess of dust and chips and producing a more uniform, cubiform product and at the same time be light enough to be readily portable.

The intake opening is adjustable so as to receive rock from 8"x20" when closed to 12½"x20" when opened. This is particularly advantageous when the crusher is used as a portable plant.

The Ace crusher is so graduated (20" wide at intake to 54" wide at the outlet) that the crushing surface area increases in proportion to the number of pieces of rock to be engaged.

The machine, weighing 14,000 pounds, will receive pit or quarry run rock up to 12½"x20" and reduce it to 1" minus at the rate of 25 or more tons per hour. Its all-steel construction and peculiar design gives it over double the capacity of any crusher of equal weight.

A NEW BRIDGE FLOOR



In the construction of the new Boston bridge near Pittsburgh, Pa., an improved flooring was used. It was made up of sections of T-Tri-Lok, a Carnegie Steel Company product, which makes possible a saving of half the

weight of the usual bridge floor. It was installed, fastened to the bridge girders by arc welding, using Westinghouse FlexArc welders and FlexArc electrodes.

Cleveland Tractor Co., Cleveland, Ohio, announces a new Cletrac 25, equipped with a Hercules six-cylinder motor and electric starting and battery ignition as standard equipment.

* * * *

Wellman Engineering Co., Cleveland, Ohio, now handling the Williams line of clamshell buckets, announces the new Williams type "MF" multiple rope clamshell bucket, available in sizes from ½ to 2 cubic yards. The multiple rope type is a departure from the Williams standard line of lever arm type of buckets. Low headroom, quick opening and high digging efficiency are claimed for the new bucket.

* * * *

P-O-L Primer, a device for facilitating the starting of gasoline engines, either automobile or stationary, has been introduced by the Linde Air Products Co., 30 E. Forty-second Street, New York. The primer is a simple and easily installed device for introducing acetylene, a highly combustible gas, into the cylinders of an internal combustion engine so that it will start easily and quickly. The assembly is used in conjunction with the ordinary Prest-O-Lite tanks.

* * * *

Reed-Prentice Corp., Worcester, Mass., has just completed arrangements for the sale of the Wolf portable timber sawing machine in Los Angeles territory by Harrison, Rickard & McCone Co., 2205 Santa Fe Avenue.

The Wolf saw has been on the market since 1927 and over 500 of the electric and air-driven machines are in use in the railroad, mining, marine, general construction and other fields for cutting heavy timber.

The Reed-Prentice Corp. also announces a gasoline engine driven machine designed especially for use in the woods and which will also permit service where power or air lines are not available.

* * * *

R. R. Hicks has been added to the sales staff of the Austin-Western Road Machinery Co. in the Pacific Northwest. Mr. Hicks worked for the Fairbanks-Morse Co. out of Portland for about seven years. For Austin-Western he will work in the Columbia River counties in Oregon and Washington, maintaining headquarters in Portland.

* * * *

Allis-Chalmers Manufacturing Co. announces that the litigation between it and the Dayton Rubber Manufacturing Co., Dayton, Ohio, in United States District Court at Cincinnati, Ohio, involving patent infringement of Allis-Chalmers Geist patent No. 1,662,511, pertaining to "Multiple V-Belt Drives," has been settled out of court. The Dayton Rubber Manufacturing Co. takes a license under the Geist patent and the Allis-Chalmers Manufacturing Co. has the right to operate under Short patent No. 1,538,303 if it so desires.

Contract Procedure Of The U. S. Bureau Of Public Roads

By AUGUSTUS T. PARSONS

THE United States Bureau of Public Roads is a bureau of the Department of Agriculture. The head offices of the Bureau are in Washington, in charge of Thomas H. McDonald, chief of bureau. There are twelve district offices. District No. 1 comprises Washington, Oregon and Montana, with headquarters at Portland. District No. 2 comprises California, Arizona, and Nevada, with headquarters at San Francisco. District No. 3 comprises Colorado, New Mexico and Wyoming, with offices at Denver. The other Western districts are No. 11, comprising all of Alaska, with headquarters at Juneau, and No. 12, comprising Utah and Idaho, with headquarters at Ogden. For convenience in certain features of administration, a Regional Office for the five Western districts and also for forest road matters in South Dakota under District No. 4, is located at San Francisco, in charge of Dr. I. I. Hewes. Dr. Hewes' office and that of C. H. Sweetser, district engineer for District No. 2 are both in the Sheldon Building. With the exception noted above regarding District No. 4 the seven Eastern districts all report directly to Washington in all matters.

The main activities of the bureau as far as they relate to highway and bridge construction may be divided in three principal classifications, as follows:

FEDERAL AID

1. Federal Aid in the construction of certain parts of the various State highway systems designated as Federal Aid highways. This was originally authorized by Act of Congress in 1916 and various other Acts have been passed since that time. Measured by volume alone, this is by far the most important activity of the bureau, as during the fiscal year ended June 30, 1931, the cost of completed construction fully paid for, involved an expenditure of \$106,000,000 of Federal funds on highways costing in all \$255,000,000. This work is, however, all done under the direction of the Highway Departments of the various States, and the contractor bidding on, or performing such work deals entirely with the particular State Highway Department, the contract procedure being identical with that on any other piece of State Highway construction. In California, the Federal-Aid highway system comprises 4889 miles, of which 1928 miles have already been improved under Federal Aid.

NATIONAL PARKS

2. Major road construction in the National Parks and Monuments is usually supervised by the Bureau of Public Roads, although the National Park Service also handles some minor road construction on its own account. The total mileage of major park roads thus far designated is 1510, of which 371 miles has already been constructed, including 69 miles in the fiscal year 1931. Nearly all of this mileage is in the Western States. For parks in California, 343 miles of major park roads have been desig-

nated, 112 miles having been completed, including 30 miles during the fiscal year 1931. A recent project calling for a great deal of heavy work was the improvement of part of the Wawona road into the Yosemite valley, including the tunnel near Turtleback Dome, now nearing completion. For each of the fiscal years 1932 and 1933, appropriations of \$7,500,000 have been authorized, of which \$1,500,000 each year may be used for the improvement of roads outside the parks but serving as approaches thereto. The general procedure of handling the construction of a major park road, in so far as it affects the contractor and his relations with the Bureau is identical with that for a forest road, as described in detail below.

FOREST HIGHWAYS

3. Construction of projects on the Forest Highway system is handled by the Bureau of Public Roads under cooperative agreements with the agencies interested. As approved to date, the Forest Highway system comprises 15,024 miles of which 12,538 miles is in the eleven Western States, South Dakota and Alaska. Of the mileage in the Western States and Alaska, 4282 miles has been completed, 225 miles during the fiscal year 1931. During the fiscal year 1931, the total Federal appropriation for the Forest Highway system was \$9,500,000 plus a \$3,000,000 special appropriation for relieving unemployment. It should be noted, however, that the Federal money available during any given year does not represent the total amount to be spent under the direction of the Bureau, since on most projects there is additional money available from state, county or other sources.

All road construction in the National Forest costing more than \$5000 per mile is supervised by the Bureau of Public Roads. Some of the work costing less than \$5000 per mile is handled by the Bureau and some by the Forest Service. Work in California handled by the Forest Service is supervised from the Regional offices in the Ferry Building, San Francisco. Such light construction as is supervised by the Forest Service is usually done by day-labor, but occasionally by contract. The general procedure is virtually parallel, as far as the contractor is concerned, to that for the projects supervised by the Bureau of Public Roads, as described below.

ANNUAL CONFERENCES

The regulations for administering forest roads require that annual conferences be held by the forest highway board to adopt a program for the survey construction and maintenance of a given project or projects. The parties concerned include local representatives of the Bureau, the Forest Service and the State. Representatives from counties and other bodies may appear at these conferences. When the program has been formulated as a result of these conferences, it goes to the Bureau office and the

Pacific Clay Products

General Offices: 650 Chamber of Commerce Bldg.,
1151 SOUTH BROADWAY
Los Angeles, Calif.

SMITH BROS. TRUCK CO.

"TRANSPORTATION SPECIALISTS"

Portable Crane Service—Rigging

1704 E. 16th St. Los Angeles WEstmore 3271

Forest Service office in Washington and finally to the Secretary of Agriculture for approval.

A cooperative agreement is executed for such construction project by the parties concerned. This agreement may or may not call for the use of other than Federal funds in the construction of the project, but it always includes a provision for the final maintenance of the road by some local agency, usually the state or the county. Some of these agreements are handled by the Bureau and some by the Forest Service. The Bureau or Forest Service have no direct power to ensure that this maintenance be kept up to standard, but indirectly they have such an effective weapon in the withholding of approval of further projects in the area in question that difficulties are seldom experienced on this score.

CONTRACT PROCEDURE

With the approval of the program by the secretary, the execution of the co-operative agreement and the approval of the plans, specifications and estimates, the project is then ready to advertise for bids. Bids are invited through various engineering and trade journals, and, in some cases, through newspapers in the locality of the project. The call for bids is usually issued three weeks in advance of the opening. A deposit, usually about \$10, is required for plans, but this is returnable to the successful bidder upon signing the contract, and to the others if the plans are returned within 15 days after the opening of bids.

The Bureau's engineers, particularly in the Western States, have pioneered in efforts toward satisfactory pre-qualification of bidders, the first attempts in that direction being made in 1923. Beginning in 1928, the bidders had to pre-qualify before they could receive bidding sheets, the A.G.C. form for pre-qualification being used.*

On account of technical objections raised by the Comptroller of the United States, this procedure has been modified so that anyone may bid, but must, at the same time or previously, submit a qualifying statement according to the A.G.C. form. In consequence, of this change in procedure, the Bureau's staff need only scrutinize the statements submitted by the low bidders. In other respects, the result is practically the same as before.

Together with his bid, the contractor submits a statement listing the equipment he proposes to use, and describing the general plan of operations he intends to follow. The A.G.C. form is used.

A guarantee of 5% of the amount of the bid is required. This may be either a certified check, a bid bond, or government bonds.

CONTRACT AWARDS

After the bids are opened and the qualifying statements, etc., studied, the recommendation of the District Engineer bearing the concurrence of the Regional Forester regarding the award of contract is forwarded to the Bureau office at Washington, and with the concurrence of the forester from there referred to the Secretary of Agriculture, who makes the award. The low bidder is permitted to sign the contract prior to acceptance of the bid so that no time will be lost in getting the contract fully executed after an award has been made. Under ordinary conditions, an award may be expected in about 14 days after the opening of bids.

The regulations require that all work having an estimated cost of more than \$5,000 per mile must be adver-

tised for bids, although if satisfactory bids on any project cannot be obtained, the Secretary of Agriculture may order the construction by day labor. In actual practice, however, little new construction of any kind under the Bureau's direction has been handled by day labor.

Guarantees of all bidders, except the three lowest, are usually returned to them immediately after the opening of bids. When the award is made, the guarantees of all bidders but the successful one are returned, his being retained until the contract is signed by the Secretary.

EXPEDITE CONTRACTS

To expedite the signing of the contract and the commencement of the work, all reasonable short cuts in procedure are followed. In particular, the low bidder is advised to execute the contract and performance bond immediately so that they may be placed before the Secretary of Agriculture at the same time as, or shortly after, the commendation for the award of contract. This performance bond must be 100% of the amount of the bid, and must be furnished by a surety company on the approved list of the Secretary of the Treasury, or by two responsible individual sureties. The local representative of the surety company signing the bond must furnish attestation of his power-of-attorney at the time of the submission of the bond.

The low bidder is warned not to move on the job immediately after the opening of bids, as the Government assumes no responsibility for work performed in advance of the award. When the contract is awarded, and a satisfactory performance bond has been furnished, the successful bidder is given ten days notice within which to proceed with the work. If the contractor has not furnished performance bond prior to the award, he is given ten days within which to furnish same; otherwise, his bid guarantee may be forfeited. If the performance bond has been executed, the successful bidder may go to work immediately upon receiving notice to proceed, in advance of the signing of the contract by the Secretary. The contract must, of course, have been signed by the Secretary before the first partial payment can be made under it.

PROGRESSIVE PAYMENTS

Estimates are made as of the 15th of each month, and checks for partial payments are issued by the fiscal agent upon the 1st of the month following. 10% of the amount due is withheld, provided, however, that after 50% of the work has been completed and satisfactory progress is being made, the remaining payments may be made in full.

The procedure governing alterations and changes is, in the main, governed by the contract for the particular project. Changes not involving a cost in excess of \$2,500 may be ordered by the District Engineer without previous approval from Washington. The District Engineer may authorize extensions of time for the completion of the project, on account of extra work and increased quantities. Adjustments of time due to extraordinary circumstances, etc., must be submitted to the Comptroller General.

PROCEDURE IN DISPUTES

In cases of dispute, the contractor may appeal within 30 days from the decision of the District Engineer to the head of the department. The decision of the head of the department is final regarding engineering questions. Legal and accounting questions must be referred to the Comptroller of the United States. In such cases, the decision of the head of the department is final regarding questions of fact, but the Comptroller can rule on questions of law. An appeal from the Comptroller's decision may be taken within one year.

Recourse to the courts may be had as follows: For claims under \$10,000, the contractor may bring suit in

*For a more complete discussion of pre-qualification and the Bureau's stand upon the question, see a paper presented by Dr. Hewes, Regional Director for the Bureau, at the April, 1930, meeting of the American Society of Civil Engineers, and published in the *Transactions* of the Society for that year.

the U. S. District Court. Claims in excess of \$10,000 go to the Supreme Court, sitting as a Court of Claims. If a judgment is obtained in favor of the contractor, it cannot be paid until Congress makes a special appropriation covering it.

When the work is completed and accepted, and the Chief Engineer of the Bureau approves the final estimate, the balance of the amount due under the contract becomes payable. The Bureau then takes charge, usually maintaining the project for two years before turning it over to the agency charged with maintenance by the co-operative agreement. This two-year plan is followed largely because, in most cases, the construction of the projects are in three parts. The first season, the grading is completed. Then follows the placing of a rock sub-base, and finally a surface course of smaller rock and bituminous materials. Roads forming part of the forest highway system seldom carry enough traffic to justify the construction of an asphaltic or a cement concrete surface.

MAINTENANCE WORK

Maintenance by the Bureau is usually handled by day labor forces, directed by the Bureau's engineers, although it occasionally happens that such jobs as the removal of large slides are done by contract.

The contractor bidding on work for the Bureau of Public Roads, and, in fact, on Federal work of any kind, should bear in mind that the engineers supervising the work are limited in their discretion quite strictly by definite Federal regulations. Probably the most important aspect of this part of the question lies in the matter of time limits. Ten days' notice to start work means that work must be started on or before ten calendar days from the receipt of notice. Completion within, say, 200 days means that the work, allowing for any extensions that may have been granted for cause, must be completed within 200 calendar days from the date of original receipt of notice. The contractor may be a good fellow, but the Comptroller of the United States will not, and the engineers on the job cannot, give any consideration to this fact.

THE SKYSCRAPER'S SPOKESMAN

Eloquent interpreter of the place of the skyscraper in the city life of today, William A. Starrett, taken away prematurely by the driving pressure of his manifold activities, leaves a gap in the world of building that is hard to fill. He lived his working life in the period during which most of the marvelous development of the tall building occurred, and throughout that period was active in great undertakings in this field. Participation in such lasting achievements as the erection of the Bank of Manhattan Building in less than a year, and the still greater Empire State Building, is fame enough for any one man; yet even beyond his work in these undertakings, Colonel Starrett won the greater distinction of making the skyscraper articulate in book and article that carried throughout the country his enthusiasm for the city's great structures and his faith in their meaning and their future.—
(*Editorial in Engineering News-Record.*)

WATER BONDS PROVIDE

EMPLOYMENT FOR 5,000

Representing 31 per cent of the amount spent for construction from funds available from the Los Angeles \$38,800,000 water bonds of 1930, \$1,660,000 has been spent by the department of water and power in the past eighteen months for labor, according to H. A. Van Norman, general manager of the department.

Total expenditures from the 1930 bond fund in the 18 months were \$11,400,000, of which \$5,350,000 represents investments in construction and labor, and \$6,050,000 was for purchase of privately owned water-bearing ranch and town property in the Owens Valley.

Work has been provided for 5,000 men on various projects of the water system since funds were made available from the water bonds. Construction work includes enlargement of the Chatsworth reservoir and lower San Fernando reservoir, enlargement of the capacity of the Owens Valley aqueduct and extensions and enlargements of street mains.

SAMPLING AND EXPLORATION BY MEANS OF HAMMER DRILLS

The use of hammer drills in underground sampling and exploration is discussed in Information Circular 6594, recently issued by the United States Bureau of Mines, Department of Commerce.

The wide use of hammer machines for drilling shallow test holes for face sampling and for exploring immediate vein walls is pointed out. A discussion of the applicability of this type of sampling as compared to other methods is followed by the presentation of typical examples of practice at North American mines.

The subject of deep drilling with jointed steel is taken up in detail. A condensed description of equipment and drilling methods in general use is followed by a discussion of the applicability and field of use of the method. It is stated that laxity in catching sludge is a frequent source of error and unsatisfactory results, and improved technique is described. The failure in many cases to obtain desired depths, due to loss of gage, may frequently be overcome by employing stelled bits.

Numerous examples of practice are included in the paper, also tabulations of operating conditions, results and costs at a large number of mines. A table comparing results at six mines, where diamond drills and deep hole drills were employed for similar purposes under nearly identical conditions shows that the latter type of equipment was not as satisfactory as diamond drills at one mine, but that at the other five properties it gave good results at a cost advantage over the diamond drill ranging from 2 to 1 up to as much as 9 to 1.

Deep drilling costs are shown to range from less than 50 cents to an extreme of \$2.82 per foot; the average cost is probably \$1 per foot or less.

Further details are given in Information Circular 6594, "Sampling and Exploration by Means of Hammer Drills," by John B. Knaebel, which may be obtained free of charge from the United States Bureau of Mines, Washington, D. C.

FRIANT DAM SUIT IS FILED

A suit expected to block construction of the proposed Friant dam, unit in the \$375,000,000 State water development program has been filed in the Superior Court at Merced on behalf of George J. Hatfield, a land company and an irrigation district.

Hatfield is United States attorney in San Francisco. His part in the legal action was based on his ownership of extensive landholdings in the Stevinson district.

The other complainants were the James J. Stevinson Corporation and the East Side Canal and Irrigation Company. They named the Fresno Irrigation District, the City of Fresno and the Consolidated Irrigation District as defendants.

The complaint lays claim to riparian rights of 500 second-feet of San Joaquin river water since 1887.

UNIT BID SUMMARY

Compiled from the Daily News Service of Pacific Constructor

SHOSHONE INDIAN RESERVATION HIGHWAY—WYOMING

WYOMING STATE.—Morrison-Knudsen Co., Boise, Idaho, submitted low bid to U. S. Bureau of Public Roads, Denver, Colorado, March 22 at \$191,242, for improving Section A of the Wind River or Shoshone Indian Reservation Highway, located within or partly within the Wind River or Shoshone Indian Reservation, County of Fremont, Wyo. The length of the project to be constructed or improved is approximately 27.358 miles and the principal items of work are approximately as follows:

- (1) 352,000 cu. yds., unclass. excav.;
- (2) 4200 cu. yds., unclass. excav. for Structure A;
- (3) 450 cu. yds. do. for Structure B;
- (4) 158,000 sta. yds. overhaul;
- (5) 45,500 cu. yds. crushed gravel or crushed rock (one course);
- (6) 2700 cu. yds. supplying crushed rock or crushed gravel;
- (7) 1000 cu. yds. mi. binder hauled over 500 ft.;

- (8) 11.5 M.F.B.M., untreated timber;
- (9) 227 M.F.B.M., treated timber;
- (10) 73 cu. yds. Class A concrete;
- (11) 56 cu. yds. Class B concrete;
- (12) 64 cu. yds. Class S concrete;
- (13) 2600 lbs. reinf. steel;
- (14) 5642 lin. ft. 18-in. C.G.M.P. culverts;
- (15) 3526 lin. ft. 24-in. do.;
- (16) 906 lin. ft. 30-in. do.;
- (17) 204 lin. ft. 36-in. do.;
- (18) 71,000 lbs. structural steel;
- (19) 3208 lin. ft. treated timber piling;
- (20) 150 cu. yds. hand-laid rock embankment;
- (21) 3600 lin. ft. wire cable guard rail;
- (22) maintenance of detours, extra work, lump sum;
- (23) removal of old structures, extra work, lump sum;
- (24) 1237 sq. yds. asph. wearing surf.;
- (25) 20,000 lin. ft. moving existing fences;
- (26) 100,000 lin. ft. barbed wire fence;
- (27) 20 each, fence gates;

- (28) 6 each, head gates.

A. E. Palen, Denver, is the acting district engineer. The total bids were

(A) Morrison-Knudsen Co., Boise, \$191,242,
 (B) Taggart Const. Co., Cody, Wyo., \$198,723,
 (C) Northwestern Eng. Co., \$199,101,
 (D) Chas. D. Owen, Denver, \$200,962,
 (E) Western Bridge & Const. Co., \$202,676,
 (F) Everly & Allison, Albuquerque, \$204,033,
 (G) Cook & Ransom, Ottawa, Kan., \$204,434,
 (H) Clyde & Whiting, Springfield, \$207,288,
 (I) S. J. Groves & Sons Co., \$218,359,
 (J) T. J. Tobin Const. Co., \$219,463,
 (K) Stevens Bros., St. Paul, Minn., \$225,155,
 (L) E. H. Honnen, Colorado Springs, \$238,076.

The unit prices follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) |
|-----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| (1)..... | \$.195 | \$.19 | \$.217 | \$.21 | \$.185 | \$.225 | \$.23 | \$.22 | \$.25 | \$.23 | \$.30 | \$.25 |
| (2)..... | .60 | .50 | .50 | .75 | .80 | .70 | .50 | .75 | .50 | .60 | .50 | .80 |
| (3)..... | 3.75 | 4.50 | 3.50 | 6.00 | 2.50 | 5.00 | 5.85 | 3.00 | 4.00 | 6.00 | 3.50 | 3.00 |
| (4)..... | .03 | .03 | .03 | .03 | .03 | .03 | .03 | .03 | .03 | .03 | .03 | .03 |
| (5)..... | .95 | 1.10 | 1.05 | 1.00 | 1.38 | 1.05 | 1.05 | 1.22 | 1.10 | 1.10 | 1.22 | 1.60 |
| (6)..... | .85 | 1.10 | 1.05 | 1.00 | 1.25 | 1.05 | 1.05 | 1.05 | 1.00 | 1.10 | 1.22 | 1.30 |
| (7)..... | .25 | .25 | .25 | .25 | .25 | .25 | .25 | .25 | .25 | .25 | .25 | .25 |
| (8)..... | 79.00 | 100.00 | 80.00 | 90.00 | 60.00 | 60.00 | 80.00 | 60.00 | 65.00 | 75.00 | 80.00 | 65.00 |
| (9)..... | 90.00 | 90.00 | 90.00 | 85.00 | 90.00 | 75.00 | 87.00 | 80.00 | 85.00 | 100.00 | 80.00 | 86.00 |
| (10)..... | 22.00 | 24.00 | 19.00 | 23.50 | 18.00 | 22.00 | 21.00 | 16.00 | 30.00 | 22.00 | 21.00 | 20.00 |
| (11)..... | 20.00 | 20.00 | 19.00 | 23.50 | 16.00 | 22.00 | 16.50 | 15.50 | 25.00 | 22.00 | 21.00 | 19.00 |
| (12)..... | 22.00 | 21.00 | 19.00 | 23.50 | 16.00 | 22.00 | 18.50 | 17.20 | 20.00 | 25.00 | 21.00 | 21.00 |
| (13)..... | .07 | .055 | .05 | .065 | .08 | .06 | .0575 | .07 | .06 | .06 | .08 | .05 |
| (14)..... | 1.50 | 1.80 | 1.55 | 1.65 | 1.25 | 1.60 | 1.50 | 1.62 | 1.70 | 1.90 | 1.50 | 1.50 |
| (15)..... | 2.40 | 2.75 | 2.36 | 2.50 | 2.00 | 2.50 | 2.00 | 2.50 | 2.50 | 3.00 | 2.00 | 2.30 |
| (16)..... | 3.20 | 3.40 | 3.12 | 3.00 | 2.70 | 3.15 | 2.75 | 3.20 | 3.25 | 4.00 | 3.00 | 2.85 |
| (17)..... | 4.90 | 5.00 | 4.68 | 4.50 | 4.00 | 4.75 | 4.00 | 5.08 | 5.00 | 6.00 | 5.00 | 4.50 |
| (18)..... | .065 | .0525 | .0423 | .0525 | .065 | .05 | .05 | .043 | .07 | .05 | .055 | .055 |
| (19)..... | 1.10 | 1.10 | 1.10 | 1.30 | .95 | 1.10 | 1.60 | 1.10 | 1.25 | 1.40 | .90 | 1.00 |
| (20)..... | 3.00 | 3.00 | 1.50 | 2.00 | 3.00 | 3.00 | 3.00 | 1.50 | 1.50 | 3.00 | 1.50 | 3.00 |
| (21)..... | .70 | .85 | .50 | .75 | .70 | .70 | .60 | .75 | .65 | .80 | .55 | .80 |
| (22)..... | 1000.00 | 1000.00 | 1000.00 | 1000.00 | 1000.00 | 1000.00 | 1000.00 | 1000.00 | 1000.00 | 1000.00 | 1000.00 | 1000.00 |
| (23)..... | 500.00 | 500.00 | 500.00 | 501.00 | 500.00 | 500.00 | 500.00 | 500.00 | 500.00 | 500.00 | 500.00 | 500.00 |
| (24)..... | 1.50 | 1.60 | 1.50 | .15 | 1.50 | 1.70 | 1.60 | 1.44 | 1.50 | .80 | 1.50 | 1.50 |
| (25)..... | .03 | .02 | .035 | .025 | .02 | .03 | .02 | .04 | .03 | .02 | .04 | .03 |
| (26)..... | .06 | .047 | .045 | .07 | .05 | .055 | .0425 | .04 | .05 | .06 | .055 | .05 |
| (27)..... | 14.00 | 16.00 | 10.95 | 18.00 | 20.00 | 15.00 | 13.00 | 15.00 | 30.00 | 25.00 | 35.00 | 10.00 |
| (28)..... | 15.00 | 16.00 | 11.00 | 21.00 | 20.00 | 25.00 | 20.00 | 16.00 | 20.00 | 25.00 | 10.00 | 13.00 |

REINFORCED CONCRETE UNDERPASS—ALAMEDA COUNTY

OAKLAND, Cal.—C. A. Bruce and Sons, Pleasanton, at 19,689.25 awarded contract by county supervisors to construct reinforced concrete underpass in Niles Canyon. Project involves:

- (1) 19,500 yds. grading;
- (2) 500 ft. free haul, 65,000 sta. yds. overhaul;
- (3) 110 lin. ft. 10-in. pipe culvert;
- (4) 125 lin. ft. 12-in. do.;
- (5) 110 lin. ft. 18-in. do.;
- (6) 1 automatic drainage gate;
- (7) 3 catchbasins;

- (8) 850 yds. excavation for struc.;
- (9) 460 yds. Portland cem. for struc. above toe walls;
- (10) 220 yds. concrete slope wall;
- (11) 24,000 lbs. reinforcing steel;
- (12) 1,000 lin. ft. guard rail.

Complete bids follow:

(A) C. A. Bruce & Sons, Pleasanton.....\$19,689.25
 (B) Lee J. Immel, Berkeley.....21,046.00
 (C) Ariss-Knapp, Oakland.....22,400.00
 (D) Rocca & Caletti, San Ra-

fael.....24,797.00
 (E) Chittenden & Howe Napa 25,210.00
 (F) L. C. Seidel, Oakland 25,910.00
 (G) Willard, Bissotti & Lovotte, Stockton 26,586.00
 (H) Mission Conc. Co., S. F. 26,677.00
 (I) Schuler & McDonald, Oakland 27,467.00
 (J) Robt. Heaney, Hayward 27,807.00
 (K) Thermitite Const. Co., San Jose 27,960.00
 (L) A. H. Vogt Co., S. F. 29,996.00

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) |
|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| (1)..... | \$.30 | \$.40 | \$.40 | \$.50 | \$.55 | \$.60 | \$.47 | \$.65 | \$.39 | \$.50 | \$.60 | \$.66 |
| (2)..... | .001 | .02 | .01 | .01 | .01 | .01 | .01 | .03 | .03 | .01 | .01 | .01 |
| (3)..... | 1.70 | 1.00 | 1.75 | 1.30 | 1.70 | 1.60 | 1.62 | 2.00 | 1.80 | 1.70 | 2.00 | 1.50 |
| (4)..... | 1.95 | 2.00 | 2.00 | 1.50 | 1.95 | 2.20 | 1.67 | 2.50 | 2.00 | 1.90 | 2.50 | 1.75 |
| (5)..... | 3.40 | 2.50 | 2.25 | 2.20 | 2.60 | 2.90 | 2.54 | 5.00 | 3.50 | 3.50 | 4.00 | 2.30 |
| (6)..... | 9.00 | 12.00 | 9.00 | 15.00 | 10.00 | 10.00 | 10.00 | 25.00 | 9.00 | 7.50 | 15.00 | 10.00 |
| (7)..... | 10.00 | 13.00 | 10.00 | 25.00 | 10.00 | 15.00 | 15.00 | 30.00 | 10.00 | 20.00 | 20.00 | 20.00 |
| (8)..... | 1.40 | 1.00 | 1.00 | 1.00 | 1.80 | 1.00 | 1.90 | 1.00 | 1.50 | 2.50 | 1.15 | 2.00 |
| (9)..... | 17.00 | 14.00 | 18.70 | 17.00 | 15.80 | 17.00 | 22.00 | 15.00 | 22.50 | 20.00 | 19.00 | 17.00 |
| (10)..... | 8.00 | 10.00 | 7.75 | 13.00 | 10.00 | 10.00 | 11.50 | 10.00 | 15.00 | 13.00 | 12.00 | 16.00 |
| (11)..... | .0525 | .04 | .056 | .05 | .04 | .04 | .0425 | .05 | .05 | .06 | .05 | .055 |
| (12)..... | .90 | .80 | .70 | 1.00 | 1.00 | .90 | .65 | 1.00 | .90 | .90 | 1.00 | .75 |

GRADE—CEMENT CONCRETE PAVE.—SAN DIEGO COUNTY

SAN DIEGO COUNTY, Cal.—Bodenhamer Const. Co., 354 Hobart Street, Oakland, at \$219,535.25 submitted low bid to the State Highway Commission to grade and pave with Portland cement concrete 7.5 miles between Bostonia and Chocolate Creek, involving:

- (1) 397 sta. clear and grub right-of-way;
- (2) 150,000 cu. yds. rdwy. excav. without class;
- (3) 1,000,000 st. yds. overhaul;
- (4) 4090 cu. yds. struc. excav.;
- (5) 70,000 sq. yds. subgrade for pave.;
- (6) 16,275 cu. yds. Class "A" Port. cem. conc. (pave.);
- (7) 680 cu. yds. Class "A" Port. cem. conc. (struc.);
- (8) 459,000 lbs. bar reinf. steel (pave struc.);
- (9) 200 lin. ft. 18" corr. metal pipe;
- (10) 1650 lin. ft. 24" do;

- (11) 240 lin. ft. 30" do;
- (12) 100 lin. ft. 42" do;
- (13) 20 lin. ft. 18" reinf. conc. pipe;
- (14) 40 lin. ft. 36" do;
- (15) 2040 cu. yds. Port. cem. conc. remove from exist. pave.;
- (16) 4000 M. gall. water (embankment)
- (17) 900 cu. yds. cushion course;
- (18) 750 bbls. fuel oil (shoulders and gutters);
- (19) 3.5 mi. move and reset property fences;
- (20) 10.6 mi. new property fences;
- (21) 40 gates complete in place;
- (22) 82 lin. ft. solid timber guard rail;
- (23) 84 culvert markers;
- (24) 397 sta. finish rdwy.;
- (25) 100 monuments complete in place.

State will furnish corrugated metal pipe.

Complete bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) |
|-----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| (1)..... | \$ 4.25 | \$ 8.00 | \$ 7.00 | \$ 5.00 | \$ 4.00 | \$ 2.00 | \$ 5.00 | \$ 5.00 | \$ 5.00 | \$ 8.50 | \$ 4.30 | \$ 5.00 |
| (2)..... | .30 | .30 | .35 | .34 | .40 | .37 | .44 | .40 | .36 | .45 | .425 | .40 |
| (3)..... | .005 | .007 | .006 | .0075 | .005 | .005 | .005 | .005 | .006 | .004 | .006 | .005 |
| (4)..... | .75 | 1.00 | .75 | 1.00 | .75 | 1.00 | .60 | 1.00 | 1.25 | .80 | 1.10 | .70 |
| (5)..... | .07 | .07 | .10 | .08 | .07 | .07 | .07 | .08 | .08 | .80 | .075 | .14 |
| (6)..... | 7.00 | 7.35 | 7.30 | 7.70 | 7.60 | 7.50 | 7.10 | 7.50 | 8.10 | 11.20 | 7.50 | 9.16 |
| (7)..... | 14.25 | 18.00 | 16.00 | 17.00 | 17.00 | 15.00 | 18.00 | 20.00 | 17.50 | 14.80 | 16.50 | 14.00 |
| (8)..... | .036 | .035 | .035 | .03 | .034 | .036 | .04 | .03 | .03 | .036 | .03 | .0265 |
| (9)..... | .35 | 1.00 | .50 | .40 | .30 | .50 | .50 | .50 | .40 | .30 | .55 | .50 |
| (10)..... | .35 | 1.25 | .49 | .50 | .40 | .50 | .55 | 1.00 | .50 | .45 | .80 | .70 |
| (11)..... | .40 | 1.50 | .75 | .60 | .50 | .50 | .65 | 1.00 | .60 | .80 | .80 | 1.00 |
| (12)..... | .50 | 2.00 | 1.00 | .80 | .65 | .60 | .75 | 2.00 | .90 | .80 | .80 | 1.00 |
| (13)..... | 2.50 | 3.50 | 2.00 | 1.65 | 2.25 | 2.50 | 2.00 | 3.50 | 1.80 | 2.00 | 2.75 | 2.50 |
| (14)..... | 3.50 | 6.00 | 4.00 | 3.75 | 3.50 | 5.00 | 4.50 | 6.00 | 4.00 | 5.00 | 5.50 | 4.50 |
| (15)..... | 2.25 | 2.00 | 1.50 | 1.10 | 1.50 | 1.20 | 1.10 | 1.50 | 1.25 | 1.30 | 1.85 | 1.50 |
| (16)..... | .80 | .40 | 1.50 | 1.00 | .35 | 1.50 | .60 | 1.00 | .60 | .50 | .80 | .40 |
| (17)..... | 1.00 | .60 | .50 | .88 | .70 | 1.00 | 1.00 | .60 | .90 | 1.00 | .65 | 1.50 |
| (18)..... | 2.00 | 2.00 | 2.00 | 2.50 | 1.10 | 2.50 | 2.30 | 1.75 | 240 | 2.50 | 2.25 | 2.00 |
| (19)..... | 100.00 | 200.00 | 100.00 | 180.00 | 200.00 | 200.00 | 300.00 | 125.00 | 160.00 | 260.00 | 160.00 | 300.00 |
| (20)..... | 500.00 | 400.00 | 400.00 | 500.00 | 580.00 | 650.00 | 550.00 | 525.00 | 500.00 | 840.00 | 590.00 | 450.00 |
| (21)..... | 11.00 | 30.00 | 20.00 | 11.00 | 15.00 | 10.00 | 15.00 | 35.00 | 12.00 | 18.00 | 25.00 | 12.50 |
| (22)..... | 11.00 | 2.00 | .75 | 1.00 | 1.00 | 1.00 | 1.00 | 1.50 | 1.00 | 1.50 | 1.10 | 3.00 |
| (23)..... | 1.50 | 2.00 | 2.00 | 2.00 | 1.00 | 2.50 | 2.00 | 1.50 | 2.00 | 3.00 | 1.10 | 3.00 |
| (24)..... | 5.00 | 5.00 | 3.00 | 4.00 | 5.00 | 6.00 | 6.00 | 3.00 | 5.00 | 6.00 | 5.35 | 5.00 |
| (25)..... | 2.25 | 4.00 | 3.00 | 2.50 | 1.50 | 2.50 | 2.00 | 2.00 | 3.00 | 3.00 | 2.15 | 3.00 |

ROAD WORK—TURLOCK IRRIGATION DISTRICT

TURLOCK, Stanislaus Co., Calif.—D. H. Messamer, Modesto, at \$1174.29 under Schedule No. 1, Nell & Wirtner, Turlock, at \$490 under Schedule No. 2, W. C. Colley, Susanville, at \$1787 under Schedule No. 3, and W. C. Colley, at \$9900 under Schedule No. 4, awarded contracts by Turlock Irrigation District to construct new road to Don Pedro Dam, involving:

- (A) 106 miles hog wire fence.
- (b) 3.4 miles barb wire fence.
- Schedule No. 2**
- (a) Cattle crossings.
- Schedule No. 3**
- (a) 748 ft. 12-in. conc. culverts.
- (b) 251 ft. 24-in. do;
- (c) 100 ft. 36-in. do;
- (d) 748 ft. 12-in. corr. iron culverts;

- (e) 251 ft. 24-in. do;
- (f) 100 ft. 36-in. do;
- Schedule No. 4**
- (a) excavation and finishing road.
- Bidders follow:
- (A) Niel & Wirtner, Turlock.
- (B) B. C. Burnett, Turlock.
- (C) D. R. Hanify, Sonora.
- (D) D. H. Messamer, Modesto.
- (E) W. C. Colley, Susanville.
- (F) John Jurkovich, Fresno.
- (G) Rampoldt & Garber, Modesto.
- (H) United Conc. Pipe Co., Modesto.
- (I) Robt. Farish, San Francisco.
- (J) Clyde W. Wood, Stockton.
- (K) Tompson Const. Co., Fresno.
- (L) A. Teichert & Son, Sacramento.
- (M) Owl Truck Co., Los Angeles.
- (N) Esly Ingalls, La Grange.
- (O) Pacific Const. Co., San Francisco.

Unit bids follow:

| | (1a) | (1b) | (2a) | (3a) | (3b) | (3c) | (3d) | (3e) | (3f) | (4) |
|----------|----------|----------|----------|---------|---------|---------|---------|---------|-------------|---------|
| (A)..... | \$470.00 | \$325.50 | \$245.00 | \$..... | \$..... | \$..... | \$..... | \$..... | \$..... | \$..... |
| (B)..... | 577.06 | 387.00 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| (C)..... | 370.00 | 193.00 | 482.00 | ..... | ..... | 1.35 | 2.52 | 3.60 | 15,100.00* | ..... |
| (D)..... | 342.50 | 238.60 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| (E)..... | 375.00 | 350.00 | 250.00 | ..... | ..... | 1.25 | 2.00 | 3.50 | 9,900.00** | ..... |
| (F)..... | 200.00 | 200.00 | 215.00 | ..... | ..... | 1.00 | 2.00 | 3.00 | 12,925.00 | ..... |
| (G)..... | ..... | ..... | ..... | 1.00 | 3.00 | 5.00 | ..... | ..... | 21,749.00 | ..... |
| (H)..... | ..... | ..... | ..... | .95 | 2.60 | 4.60 | ..... | ..... | ..... | ..... |
| (I)..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 18,975.00 | ..... |
| (J)..... | 350.00 | 500.00 | 250.00 | ..... | ..... | 2.00 | 3.00 | 4.50 | 17,500.00 | ..... |
| (K)..... | ..... | ..... | ..... | ..... | ..... | 1.19 | 1.91 | 3.36 | 12,490.00 | ..... |
| (L)..... | ..... | ..... | ..... | ..... | ..... | 1.37 | 2.39 | 4.00 | 17,950.00 | ..... |
| (M)..... | 378.00 | 298.00 | 85.00 | ..... | ..... | .72 | 1.29 | 2.04 | 11,880.00 | ..... |
| (N)..... | 555.20 | 401.06 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| (O)..... | ..... | 555.00 | ..... | ..... | ..... | 1.65 | 2.50 | 3.75 | 9,987.50*** | ..... |

*Enclosed personal check instead of certified check, therefore his bid was not considered. **All or none. ***If awarded No. 4, deduct \$50 each from No. 2; deduct \$15 per ft. from No. 3

AWARD

HAYWARD, Alameda Co., Calif.—John Pestana, 1061 71st Ave., Oakland at \$899.60 awarded contract by city council to construct storm drain along Seventh St. and Sayre St. into San Lorenzo Creek, involving:

- (1) 520 lin. ft. 18-in. vit. clay pipe;
 - (2) 62 lin. ft. 18-in. 12-gauge corr. iron pipe;
 - (3) 3 catchbasins, 24x16;
 - (4) 2 vit. clay 18-in. 45-deg. bends.
- Complete bids follow:
- (A) John Pestana.
 - (B) Oakland Sewer Const. Co.
 - (C) W. J. Tobin.
 - (D) Rufus Gonsalves.
 - (E) Martin Murphy.
 - (F) John K. Canahan.
 - (G) Costa & Nunes.
 - (H) City Construction Co.
 - (I) A. Soda & Sons.
 - (J) Lee J. Inmel.
 - (K) G. Serrabee.
 - (L) W. H. Larson.
 - (M) Kulich & Capatanich.

| | (1) | (2) | (3) | Total |
|----------|-------|-------|---------|-----------|
| (A)..... | \$134 | \$240 | \$18.00 | \$ 899.60 |
| (B)..... | 1.26 | 4.15 | 28.00 | 996.50 |
| (C)..... | 1.60 | 1.60 | 30.00 | 1021.20 |
| (D)..... | 1.40 | 3.42 | 28.00 | 1024.04 |
| (E)..... | 1.40 | 3.40 | 30.00 | 1023.80 |
| (F)..... | 1.43 | 3.72 | 25.00 | 1049.24 |
| (G)..... | 1.75 | 1.75 | 20.00 | 1078.50 |
| (H)..... | 1.40 | 4.00 | 40.00 | 1096.00 |
| (I)..... | 1.45 | 4.22 | 44.00 | 1147.64 |
| (J)..... | 1.70 | 4.00 | 22.00 | 1198.00 |
| (K)..... | 2.05 | 4.40 | 50.00 | 1488.80 |
| (L)..... | 2.30 | 6.50 | 50.00 | 1749.00 |
| (M)..... | 3.50 | 3.50 | 33.00 | 2136.00 |

GRADE—SURFACE—HAT CREEK SUMMIT—SHASTA COUNTY

SHASTA COUNTY, Calif.—E. C. Coats, 6th and Y Sts., Sacramento, at \$331,947 submitted low bid to State Highway Commission, Sacramento, to grade and surface with crusher run base and bituminous treated crushed gravel or stone (plant mix) about 8.7 miles between Hat Creek Summit and Fall River Mills, involving:

- (1) 65 acres clear and grub right of way;
- (2) 442,800 cu. yds. rdwy. excavation without class;
- (3) 1,167,700 sta. yds. overhaul;
- (4) 4,200 mi. yds. haul;
- (5) 17,600 cu. yds. imp. rock fill;
- (6) 2,700 cu. yds. struc. excav.;
- (7) 32,500 tons crusher run base;
- (8) 17,550 tons crushed gravel or stone (bit. treated surf.);
- (9) 675 bbls. fuel oil;
- (10) 845 tons cut back asphalt;
- (11) 110 cu. yds. Class A Port. cem. conc. (struc.);

- (12) 7,200 lbs. bar reinf. steel (struc.);
 - (13) 110 lin. ft. 12-in. corr. metal pipe
 - (14) 2,400 lin. ft. 18-in. do;
 - (15) 1,000 lin. ft. 24-in. do;
 - (16) 150 lin. ft. 30-in. do;
 - (17) 300 lin. ft. 36-in. do;
 - (18) 160 lin. ft. 42-in. do;
 - (19) 200 lin. ft. 48-in. do;
 - (20) 500 M. gals. water applied to crusher run base;
 - (21) 494 cu. yds. rubble masonry (retaining walls);
 - (22) 850 sq. yds. hand placed rock slopes;
 - (23) 3.85 mi. new property fence;
 - (24) 460 sta. finish rdwy.;
 - (25) 240 monuments complete in place.
- State will furnish corr. metal pipe.
Complete bids follow:
(A) E. C. Coats, Sacramento, \$231,947.
(B) Kern & Kibbe, Portland, \$333,438.
(C) Hemstreet & Bell, Maysville, \$349,670.
(D) A. Guthrie & Co., Portland, \$365,280.

- (E) A. Teichert & Sons, Sacramento, \$373,543.50.
 - (F) Nevada Const. Co., Fallon, Nev., \$394,988.
 - (G) Dunn & Baker, Klamath Falls, Ore., \$406,983.
 - (H) Clark & Henery, San Francisco, \$412,982.50.
 - (I) Van der Hellen and Pierson, Castaic, \$417,124.50.
 - (J) S. H. Palmer and J. P. Holland, San Francisco, \$445,401.15.
 - (K) Hartman Const. Co., Bakersfield, \$449,317.50.
 - (L) Morrison & Knudsen, Boise, Id., \$451,350.20.
 - (M) Clarence Young and C. T. Malcolm, Walnut Creek, \$469,507.75.
 - (N) Isbell Const. Co., Carson City, Nevada, \$479,585.25.
 - (O) P. E. Connolly, San Francisco, \$479,881.50.
- Unit bids follow:

| (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) |
|-------------|---------|---------|---------|---------|----------|---------|----------|---------|---------|---------|---------|----------|----------|---------|
| (1) \$75.00 | \$50.00 | \$50.00 | \$75.00 | \$70.00 | \$100.00 | \$60.00 | \$150.00 | \$50.00 | \$50.00 | \$50.00 | \$75.00 | \$125.00 | \$150.00 | \$85.00 |
| (2) .40 | .43 | .45 | .50 | .48 | .48 | .55 | .59 | .57 | .68 | .62 | .67 | .63 | .65 | .67 |
| (3) .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .07 | .005 | .006 | .0075 | .01 | .01 |
| (4) .12 | .20 | .15 | .20 | .15 | .20 | .15 | .19 | .15 | .10 | .20 | .20 | .15 | .10 | .12 |
| (5) .70 | 1.10 | .75 | .90 | 1.00 | .80 | 1.00 | .80 | .80 | .75 | .92 | .90 | .90 | .75 | 1.20 |
| (6) 1.20 | 1.00 | 1.25 | 1.25 | 1.25 | 1.00 | 1.00 | 1.25 | 1.00 | 1.00 | 2.00 | 1.60 | 1.75 | 1.50 | 1.50 |
| (7) 1.60 | 1.30 | 1.60 | 1.35 | 1.62 | 2.20 | 1.70 | 1.49 | 1.50 | 1.60 | 2.00 | 1.65 | 2.12 | 2.00 | 1.80 |
| (8) 1.80 | 1.70 | 1.85 | 1.55 | 2.04 | 2.35 | 2.00 | 1.56 | 2.00 | 1.70 | 2.40 | 1.80 | 2.50 | 2.60 | 2.35 |
| (9) 3.00 | 2.20 | 2.20 | 2.70 | 2.50 | 3.20 | 3.00 | 2.00 | 2.00 | 2.85 | 2.50 | 2.00 | 3.00 | 3.50 | 2.50 |
| (10) 20.00 | 16.50 | 18.50 | 19.50 | 15.50 | 18.00 | 20.00 | 16.00 | 25.00 | 18.00 | 17.50 | 20.00 | 20.00 | 21.00 | 22.00 |
| (11) 30.00 | 23.00 | 25.00 | 23.00 | 22.50 | 25.00 | 18.00 | 30.00 | 22.00 | 25.00 | 26.00 | 25.00 | 25.00 | 33.00 | 30.00 |
| (12) .06 | .06 | .05 | .06 | .06 | .06 | .06 | .06 | .05 | .05 | .05 | .06 | .06 | .06 | .07 |
| (13) .40 | .30 | .30 | .40 | .30 | .40 | .35 | .50 | .26 | .25 | .50 | .30 | .50 | .50 | .50 |
| (14) .50 | .40 | .40 | .60 | .50 | .50 | .45 | .50 | .40 | .40 | .60 | .35 | .50 | .75 | .50 |
| (15) .60 | .50 | .50 | .70 | .70 | .60 | .55 | .60 | .70 | .50 | .70 | .40 | .70 | .75 | 1.00 |
| (16) .80 | .65 | .60 | .90 | .90 | .80 | .65 | .70 | 1.00 | .60 | .90 | .50 | .80 | .90 | 1.00 |
| (17) 1.00 | .80 | .75 | 1.10 | 1.10 | 1.00 | .70 | 1.00 | 1.50 | .75 | 1.10 | .65 | 1.00 | 1.00 | 2.00 |
| (18) 1.10 | 1.00 | 1.00 | 1.30 | 1.30 | 1.50 | 1.25 | 2.00 | .85 | 1.30 | .80 | 1.10 | 1.25 | 2.00 | 2.00 |
| (19) 1.20 | 1.50 | 1.50 | 1.50 | 2.00 | 2.00 | 1.50 | 2.00 | 1.00 | 1.50 | 1.00 | 1.50 | 1.50 | 3.00 | 3.00 |
| (20) 2.00 | 3.00 | 2.00 | 2.50 | 2.00 | 1.50 | 2.00 | 3.00 | 2.00 | 1.50 | 2.50 | 2.00 | 2.00 | 2.00 | 1.00 |
| (21) 12.00 | 9.00 | 10.00 | 11.50 | 15.00 | 9.00 | 10.00 | 12.00 | 11.00 | 10.00 | 12.00 | 10.50 | 12.00 | 12.00 | 12.00 |
| (22) 2.00 | 2.00 | 2.00 | 1.00 | 1.25 | .80 | 1.00 | 3.00 | 2.00 | 1.00 | 1.80 | 1.50 | 2.00 | .50 | 2.00 |
| (23) 400.00 | 445.00 | 500.00 | 350.00 | 500.00 | 500.00 | 200.00 | 550.00 | 500.00 | 560.00 | 600.00 | 800.00 | 600.00 | 735.00 | 450.00 |
| (24) 5.00 | 5.00 | 3.00 | 5.00 | 5.00 | 5.00 | 10.00 | 5.00 | 5.00 | 7.00 | 4.00 | 5.00 | 6.00 | 8.00 | 5.00 |
| (25) 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 2.00 | 3.00 | 3.50 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 |

VIT. AND CENT. CONC. PIPE SEWERS—LOS ANGELES

LOS ANGELES, Cal.—M. Miller, 308 W. 2nd St., submitted low bid to board of public works at \$37,496.27 (based on Type No. I, for vitrified pipe), for constructing Section No. 34-E of the north outfall sewer, from Vanowen St. and White Oak Ave. to Vanowen St. and Corbin Ave.

- Bids were taken on types as follows:
- (1) Type No. 1—13,225.03 lin. ft. vit. clay pipe sewer, includ. conc. reinforcement, if required, etc.;
 - (2) Type No. 2—13,225.03 lin. ft. centrifugal conc. pipe sewer, includ. structures, etc.;
 - (3) Type No. 3—13,225.03 lin. ft. of san. sewer, includ. 7975.30 lin. ft. cem. pipe sewer and 5249.73 lin. ft. of either vit. clay sewer or centrifugal conc. pipe sewer, includ.

conc. reinforcement, if required, structures, etc.
Construction of this section will involve pipe as follows:
5249.73 ft. 18-in. pipe, 2000-D load pipe;
660.12 ft. 15-in. pipe, 2100-D load pipe;
3000.62 ft. 15-in. pipe, 2000-D load pipe;
4314.56 ft. 15-in. pipe, 1900-D load pipe.
A total of 13,225.03 lin. ft. of sewer, 9 manholes B;
1 junction chamber F;
27 junction chambers G;
1 trap manhole.
M. Miller also submitted the low bid on Type No. II, for concrete pipe, at \$36,000, and on Type No. III at \$37,000.

The bids follow:

| | I | II | III |
|-----------------------------|--------------|--------------|--------------|
| M. Miller | \$ 37,496.27 | \$ 36,000.00 | \$ 37,000.00 |
| Gogo & Rados | 45,500.00 | 44,790.00 | 45,400.00 |
| Chutuk, Kordich, Vukojevich | 48,435.92 | 48,835.92 | 48,835.92 |
| Artukovich Bros. | 49,700.00 | 48,580.00 | 51,000.00 |
| Kemper Constr. Co. | 50,443.27 | 49,949.20 | 47,871.95 |
| Debek & Erlich | 55,890.00 | 54,500.00 | 55,125.00 |
| Mike Radich | 55,400.00 | 57,700.00 | 57,000.00 |
| P. S. Tomich | 56,500.00 | 58,500.00 | 59,850.00 |
| Grancich & Grancich | 62,900.00 | 56,000.00 | 59,900.00 |
| Leo Miletich | 63,000.00 | 63,000.00 | 63,000.00 |
| Mlagenovich & Gillespie | 66,200.00 | 65,500.00 | |
| Culjak & Zelko | 70,000.00 | 70,000.00 | 69,000.00 |
| R. A. Wattson | 78,190.00 | 78,190.00 | 77,500.00 |
| Lindgren & Swinerton, Inc. | 113,113.00 | 113,632.00 | 112,840.00 |
| Engineer's estimate | 48,132.00 | 49,642.00 | 47,879.00 |

BIDS OPENED

SAN FRANCISCO.—A. G. Raisch, 46 Kearny St., at 1080 for item 1, and H. E. Casey, San Mateo, at 1980 for item 2, submitted low bids to Public Utilities Commission for paving at the Millbrae Pumping Station, involving:

- (1) emulsified asphalt pavement;
 - (a) 18,000 sq. ft. with crushed rock
 - (b) 18,000 sq. ft. without crushed rk.
 - (2) natural rock asphalt.
 - (a) 18,000 sq. ft. with crushed rock
 - (b) 18,000 sq. ft. without crushed rk.
- Complete bids follow:
A. J. Raisch, San Francisco (a) \$.04 (b) \$.02 (1) 1080.
W. O. Tyson, Redwood City (a) \$.04 (b) \$.0305 (1) \$1263.
H. E. Casey, San Mateo (a) \$.04 (b) \$.02½ (1) \$1102.50; (a) \$.065 (b) \$.045 (2) 1980.
J. F. Lawlor, San Francisco (a) \$.05 (b) \$.03 (1) \$1440; (a) \$.07 (b) \$.05 (2) \$2160.
Theo. Cohn, San Francisco (a) \$.052 (b) \$.03 (1) \$1530; (a) \$.073 (b) \$.053 (2) \$2355.
B. F. Cain, Palo Alto (a) \$.06 (b) \$.025 (1) \$1530; (b) \$.085 (b) \$.05 (2) \$2430.
Fay Imp. Co., San Francisco, (a) \$.099 (b) \$.03 (2) \$3222.
- Washington reports that 3,000,000 ft. of Russian spruce and pine offered at record low prices has been landed at Buenos Aires, Argentina.

REIN. CONC. GIRDER BRIDGE—SANTA CLARA CO.

BIDS OPENED

SANTA CLARA COUNTY, Calif.—Neves & Harp, 891 Harrison Street, Santa Clara, at \$18,461.37 submitted low bid to State Highway Commission, Sacramento, to construct reinforced concrete girder bridge across Stevens Creek about 2 miles north of Mountain View, consisting of one 30-ft. 1-in. span and one 20-ft. 10-in. span on concrete bents and a concrete abutment with wing walls, involving:

- (1) 1,100 cu. yds. rdwy. excav. without class;
- (2) 2,460 cu. yds. struc. excav.;
- (3) 290 cu. yds. Class A Port. cem. conc. (placed by tremie);
- (4) 700 cu. yds. Class A Port. cem. conc. (struc.);
- (5) 5 cu. yds. Class E. Port. cement concrete;
- (6) 130,000 lbs. bar reinf. steel;
- (7) 770 lbs. bronze expansion plates;
- (8) 425 lin. ft. 4-in. drain tile;
- (9) 125 tons untreated crushed stone or gravel surf.;
- (10) 280 lin. ft. solid timber railing;
- (11) 1 lot, misc. items of work.

Complete bids follow:
(A) Neves & Harp, Santa Clara, \$18,461.37.

- (B) Whited & Whited, Santa Rosa, \$19,082.70.
- (C) L. C. Stedel, Oakland, \$20,418.
- (D) M. B. McGowan, San Francisco, \$20,678.
- (E) Thermotite Const. Co., San Jose, \$20,777.
- (F) Fredrickson & Watson and Fredrickson Bros., Oakland, \$21,240.
- (G) Utah Const. Co., San Francisco, \$21,767.
- (H) J. W. Terrell, Sacramento, \$21,791.25.
- (I) Lord & Bishop, Sacramento, \$21,890.25.
- (J) Force Const. Co., Piedmont, \$22,147.75.
- (K) J. P. Lawlor, San Francisco, \$22,461.
- (L) W. E. Lyons, Oakland, \$22,910.
- (M) A. J. Raiesch, San Jose, \$23,194.
- (N) Geo. J. Ulrich Const. Co., Modesto, \$23,786.75.
- (O) Nelson Bros., Escalon, \$24,059.
- (P) John Branagh, Oakland, \$24,102.40.
- (Q) John Doyle, San Jose, \$24,646.
- (R) Siemer & Kendall, San Rafael, \$25,917.50.
- (S) R. L. Oakley, Palo Alto, \$28,357.50.

Unit bids follow:

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) |
|-----|-------|-------|--------|---------|---------|---------|-------|--------|--------|-------|----------|
| (A) | \$.30 | \$.60 | \$3.95 | \$13.80 | \$45.00 | \$.0346 | \$.30 | \$.375 | \$2.30 | \$.55 | \$295.00 |
| (B) | .50 | .52 | 3.23 | 13.91 | 60.00 | .04 | .22 | .20 | 2.00 | .60 | 390.00 |
| (C) | .50 | .70 | 8.00 | 14.20 | 60.00 | .035 | .30 | .30 | 1.90 | .50 | 300.00 |
| (D) | .36 | .65 | 7.00 | 15.50 | 70.00 | .036 | .21 | .20 | 1.60 | .50 | 536.30 |
| (E) | .40 | .55 | 7.00 | 14.00 | 75.00 | .04 | .30 | .30 | 2.00 | .60 | 452.50 |
| (F) | .40 | .40 | 6.00 | 16.25 | 40.00 | .04 | .40 | .30 | 2.50 | 1.00 | 285.00 |
| (G) | .30 | .50 | 8.00 | 16.00 | 60.00 | .04 | .30 | .20 | 2.20 | .70 | 400.00 |
| (H) | .60 | 1.00 | 2.00 | 16.00 | 50.00 | .04 | .25 | .60 | 1.85 | 1.00 | 500.00 |
| (I) | .40 | .60 | 8.00 | 17.00 | 60.00 | .035 | .40 | .25 | 2.00 | .50 | 100.00 |
| (J) | .50 | .75 | 9.00 | 15.00 | 60.00 | .04 | .30 | .50 | 2.25 | .60 | 250.00 |
| (K) | .40 | .80 | 12.20 | 14.75 | 45.00 | .038 | .25 | .30 | 2.00 | 1.00 | 175.00 |
| (L) | .70 | 1.00 | 11.00 | 14.00 | 56.20 | .04 | .25 | .30 | 3.00 | .55 | 360.00 |
| (M) | .50 | .80 | 14.20 | 14.20 | 60.00 | .038 | .30 | .40 | 1.00 | .90 | 600.00 |
| (N) | .73 | .75 | 9.50 | 17.25 | 60.00 | .036 | .25 | .20 | 2.55 | .55 | 400.00 |
| (O) | .50 | 1.20 | 11.00 | 16.00 | 60.00 | .037 | .35 | .45 | 1.25 | .50 | 300.00 |
| (P) | .70 | .92 | 9.25 | 15.00 | 115.00 | .04 | .20 | .80 | 3.50 | .58 | 1000.00 |
| (Q) | .50 | .80 | 14.00 | 17.00 | 70.00 | .037 | .30 | .40 | 1.00 | 1.00 | 250.00 |
| (R) | .35 | 1.00 | 18.00 | 16.00 | 50.00 | .04 | .50 | .25 | 2.25 | 1.00 | 150.00 |
| (S) | .50 | 2.00 | 10.00 | 18.00 | 60.00 | .042 | .30 | .40 | 2.50 | .80 | 700.00 |

SURFACING—PLACER COUNTY

BIDS OPENED

PLACER COUNTY, Cal.—Hemstreet & Bell, 11th and E Sts., Marysville, at \$39,172 submitted low bid to the State Highway Commission, Sacramento, to surface with bituminous treated crushed gravel or stone (plant mix) about 6.7 miles between Lincoln and Sheridan, involving:

- (1) 1,000 cu. yds. rdwy. excav. without class;
- (2) 3,600 sta. yds. overhaul;
- (3) 6,750 cu. yds. gravel (shoulders and base);
- (4) 12,950 tons crushed gravel or stone (bit. treated surf.);
- (5) 650 tons cutback asphalt;
- (6) 218 M. gals. water applied to embankment, shoulders and base;
- (7) 80 cu. yds. exist Port. cem. conc. remove and dispose of;
- (8) 8 sta. finish rdwy.

Complete bids follow:

- (A) Hemstreet & Bell, Marysville, \$39,172.00
- (B) J. D. Johnston, Stockton \$43,743.00
- (C) A. Telchert, Sacto., 45,855.00
- (D) McGilver Const. Co., Sacramento 45,862.90
- (E) Pacific States Const. Co., San Francisco 46,548.50
- (F) Clark & Henery, S. F., 46,918.50
- (G) Lord & Bishop, Sacto., 47,126.51
- (H) F. W. Nighbert, Bakersfield 47,863.00
- (I) Southwest Pav. Co., L. A. 48,377.00
- (J) A. Mitchell, Sacto., 48,838.50
- (K) Larsen Bros., Galt, 49,828.00
- (L) L. G. Kipp, Sacto., 53,548.00
- (M) C. W. Wood, Stockton, 58,140.50
- (N) United Const. Co., Oakland 58,920.00

Unit prices follow:

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|-----|-------|-------|-------|--------|---------|--------|--------|--------|
| (A) | \$.30 | \$.01 | \$.75 | \$1.95 | \$14.00 | \$1.50 | \$3.00 | \$3.00 |
| (B) | .60 | .02 | .90 | 2.00 | 18.00 | 2.00 | 1.50 | 5.00 |
| (C) | .50 | .015 | .65 | 2.72 | 10.40 | 1.75 | 1.50 | 7.50 |
| (D) | .39 | .02 | 1.03 | 2.50 | 10.20 | 3.70 | 1.20 | 4.85 |
| (E) | .40 | .02 | 1.20 | 2.35 | 12.40 | 3.00 | 2.50 | 5.00 |
| (F) | .40 | .01 | 1.00 | 2.51 | 12.00 | 3.00 | 3.00 | 5.00 |
| (G) | .50 | .015 | 1.15 | 2.50 | 11.00 | 2.50 | 2.00 | 5.00 |
| (H) | .50 | .03 | 1.05 | 2.65 | 10.46 | 1.50 | 3.00 | 10.00 |
| (I) | .60 | .01 | 1.65 | 2.35 | 10.50 | 2.00 | 3.50 | 5.00 |
| (J) | .50 | .03 | 1.00 | 2.67 | 12.00 | 2.00 | 3.00 | 10.00 |
| (K) | .50 | .02 | .65 | 2.95 | 12.00 | 2.00 | 2.00 | 5.00 |
| (L) | .35 | .01 | 1.25 | 2.81 | 14.50 | 2.00 | 1.50 | 5.00 |
| (M) | .30 | .02 | 1.00 | 3.40 | 12.85 | 2.00 | 2.00 | 5.00 |
| (N) | .50 | .015 | 1.35 | 3.32 | 11.45 | 2.50 | 2.50 | 8.00 |

LONG BEACH, Cal.—As previously reported, John Strona, Philadelphia Ave. and East End Ave. (Pomona, submitted low bid to city manager, C. C. Lewis, March 26, at \$44,149 to construct west approaches to Ocean Ave. bridge at Alamitos Bay, involving:

- (1) 261 piles (12,000 lin. ft.);
- (2) Wakefield sheet piling and wal-ling, 12x16-in. caps (868 lin. ft.)
- (3) stringers, raising pcs., blocks 4x 12-in. flooring and 3x6-in. road strip (4x12-in., 9600 lin. ft.) 3x6-in. 1344 lin. ft.);
- (4) 4x12-in. bracing (1904 lin. ft.);
- (5) R. R. ties, 300 pcs, 8-in. by 9 1/2-in. by 9-ft. 1 1/2-in. (3000 lin. ft.);
- (6) track floor, 400 pcs. 4-in. by 6-in. by 16-ft. (6400 lin. ft.);
- (7) asph. conc. paving, 21,300 sq. ft. at 3-in. thick (21,300 sq. ft.); 3400 sq. ft. at 2-in. thick sheet asphalt (3400 sq. ft.) 3400 sq. ft. at 5 1/2-in. thick (3400 sq. ft.);
- (8) clay: 33-ft. by 12-in. by 375 ft. (12,375 cu. ft.);
- (9) disintegrated granite: 12,000 sq. ft. 4-in. thick (12,000 sq. ft.);
- (10) concrete: walkway (3700 sq. ft.); curb (600 lin. ft.); railing (600 lin. ft.);
- (11) rock ballast, wood walkway and railing; walkway (4500 sq. ft.; railing (750 lin. ft.);
- (11) rock ballast, wood walkway and railing; walkway (4500 sq. ft.) railing (750 lin. ft.);
- (12) steel: girders, angles and plates, 52 tons;
- (13) hardware: bolts, rods, drifts, nuts washers, 5 tons.

Plans were prepared by the office of the director of Public Service, 5th floor, City Hall.

- Bids were taken on items as follows:
- (1) work complete;
 - (2) additional Douglas fir, creosoted, structural grade, per M;
 - (3) additional piling, per ft.;
 - (4) additional deadman rods;
 - (5) time for completion, in days.

The bids, which were taken under advisement, were:

- (A) John Strona,
 - (B) Chas. W. Pettifer Company,
 - (C) Merritt-Chapman & Scott Corp.
 - (D) R. R. Bishop,
 - (E) Pan. Pac. Piling & Const. Co.
- | | (1) | (2) | (3) | (4) | (5) |
|-----|----------|---------|--------|--------|--------|
| (A) | \$44,149 | \$65.00 | \$1.00 | \$0.07 | \$9.00 |
| (B) | 47,990 | 74.00 | 1.04 | .17 | 15.00 |
| (C) | 53,174 | 75.00 | .95 | .10 | 12.5 |
| (D) | 53,400 | 85.00 | 1.25 | .10 | 12.00 |
| (E) | 56,515 | 99.50 | 1.53 | .20 | 9.00 |

LYNWOOD, Los Angeles Co., Calif.—Utilities Engineering Corp. submitted low bid to city council March 29 at \$3025.51 to furnish Class 150 cast iron water pipe in 16-ft. or 18-ft. lengths, as follows:

- (1) 4000 lin. ft. 8-inch;
- (2) 700 lin. ft. 8-inch;
- (3) 900 lin. ft. 12-inch.

The bids, which were taken under advisement until April 5, were:

- (A) Utilities Equip. Corp., \$3025.51
- (B) American C. I. Pipe Co., 3332.50
- (C) Grinnel Company, 3380.30
- (D) National C. I. Pipe Co., 3380.30
- (E) U. S. Pipe & Foundry Co. 3427.90
- (F) U. S. C. I. Pipe Co., 3841.00

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) |
|-----|---------|---------|----------|-----|-----|-----|
| (A) | \$.4125 | \$.6028 | \$1.0595 | | | |
| (B) | .454 | .679 | 1.158 | | | |
| (C) | .459 | .689 | 1.18 | | | |
| (D) | .459 | .689 | 1.18 | | | |
| (E) | .465 | .697 | 1.20 | | | |
| (F) | .52 | .78 | 1.35 | | | |

IMPROVE TURK STREET—SAN FRANCISCO

AWARD

SAN FRANCISCO.—Theo. Cohn, 1 De Haro St., at \$5,059.45 submitted low bid to Dept. of Public Works to improve Turk Street between Baker and Broderick Sts., involving:

- (1) 900 cu. yds. excav.
- (2) 536 lin. ft. (reset) granite curb;
- (3) 990 sq. ft. 1-course conc. sidewalk;
- (4) 11,212 sq. ft. 6-in. Class E conc. pavement;
- (5) 7,936 sq. ft. asph. conc. pave.;
- (6) 1,000 sq. ft. waterbound macadam pavement;
- (7) 204 ft. redwood headers;
- (8) 2 brick catchbasin (reset);

(9) 10 ft. 10-in. V.C.P. culvert;
 (10) 2,000 sq. ft. asph. conc.;

(11) 55 cu. yds. Class F concrete (rail stringers)

Following are the totals:

(A) Theo. Cohn\$5,059.45
 (B) E. J. Treacy5,320.04
 (C) Eaton & Smith5,450.35
 (D) C. L. Harney5,760.72
 (E) Manrahan Co.5,989.35
 (F) Meyer Rosenberg6,066.86
 (G) Pay Imp. Co.6,154.18
 (H) M. J. Lynch6,175.89
 (I) Sibley Grading & Teaming6,193.96
 (J) A. G. Reisch6,257.28

Unit prices follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) |
|-----------|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| (1)..... | \$.555 | .55 | .70 | .60 | .150 | 1.00 | .01 | .45 | 1.00 | 1.00 |
| (2)..... | .33 | .50 | .10 | .50 | .60 | .35 | .16 | .70 | .60 | .40 |
| (3)..... | .132 | .11 | .12 | .12 | .11 | .12 | .137 | .12 | .13 | .14 |
| (4)..... | .176 | .19 | .20 | .20 | .168 | .22 | .25 | .23 | .19 | .22 |
| (5)..... | .191 | .203 | .20 | .22 | .19 | .22 | .23 | .23 | .23 | .22 |
| (6)..... | .077 | .07 | .08 | .10 | .08 | .10 | .09 | .08 | .10 | .08 |
| (7)..... | .14 | .15 | .15 | .15 | .10 | .10 | .17 | .40 | .15 | .18 |
| (8)..... | 40.50 | 20.00 | 75.00 | 40.00 | 75.00 | 25.00 | 40.00 | 50.00 | 75.00 | 50.00 |
| (9)..... | 1.10 | 1.00 | 2.00 | 1.00 | 1.20 | 1.00 | 1.00 | 1.00 | 2.50 | 1.00 |
| (10)..... | .044 | .08 | .10 | .08 | .07 | .06 | .09 | .07 | .07 | .08 |
| (11)..... | 6.75 | 6.75 | 6.05 | 8.00 | 7.00 | 6.00 | 9.00 | 7.75 | 7.50 | 7.00 |

OAKLAND, Alameda Co., Cal.—Lee J. Immel, 1031 Evelyn Ave., Berkeley, at \$7,236.25 awarded contract by City Port Commission, Grove Street Pier, for oil macadam surfacing for five-acre tract in rear of Ninth Ave. Pier, involving:

- (1) 2,500 tons cru. rock and screenings for wearing surface;
- (2) 850 barrels asphalt binder;
- (3) 165 tons asphalt concrete wearing surface.

Complete bids follow:

(A) Lee J. Immel, Berkeley...\$ 7,236.25
 (B) Healey-Moore, Oakland...7,362.50
 (C) W. H. Larson, Berkeley...8,117.50
 (D) J. Catucci, Oakland.....13,963.00

Unit bids follow:

| | (1) | (2) | (3) |
|----------|--------|--------|--------|
| (A)..... | \$1.90 | \$2.10 | \$4.25 |
| (B)..... | 1.75 | 2.35 | 6.00 |
| (C)..... | 1.85 | 2.75 | 7.00 |
| (D)..... | 3.75 | 4.00 | 7.20 |

BIDS OPENED

NORTH OUTFALL SEWER—LOS ANGELES

LOS ANGELES, Cal.—Granchic & Granchic, 3356 Ramona Blvd., submitted low bid to Board of Public Works, April 6, at \$38,871.08, on each of three types, viz., I, vitrified pipe; II, centrifugal concrete pipe, and III, cement concrete pipe, for constructing Section No. 34-P of the North Outfall Sewer, extending from Vanowen St. to Corbin Ave. to Topanga Canyon Blvd. and Vanowen St.:

5601.81 ft. 15-in. pipe, 2000-D loading pipe;
 3466.56 ft. 15-in. pipe, 2100-D loading pipe;
 A total of 13,196.99 lin. ft. sewer pipe. 34 junction chambers G;
 10 manholes B;
 1 junction chamber H;
 1 junction chamber F;
 100 lin. ft. concrete reinforcement type X for 15-in. pipe.
 Bids taken on vitrified, centrifugal concrete and cement concrete pipe, follow:

5128.62 ft. 15-in. pipe, 1900-D loading pipe;

| | Type I | Type II | Type III |
|-----------------------------------|-------------|-------------|-------------|
| Granchic & Granchic..... | \$38,871.08 | \$38,871.08 | \$38,871.08 |
| Simunovich & Pritch..... | 41,800.00 | 42,800.00 | 41,000.00 |
| M. Miller..... | 42,000.00 | 43,000.00 | 43,000.00 |
| R. A. Wattson..... | 42,016.00 | 42,500.00 | 41,500.00 |
| M. N. Guho..... | 44,100.00 | 45,600.00 | 41,600.00 |
| Gogo & Rados..... | 44,209.41 | 44,209.00 | 42,734.50 |
| Gogo & Rados..... | 44,209.44 | 44,209.44 | 42,734.50 |
| Chutuk, Kordich & Vukojevich..... | 44,756.00 | 47,703.75 | 43,500.00 |
| P. S. Tomich..... | 45,000.00 | 46,000.00 | 46,500.00 |
| Artukovich Bros..... | 47,886.31 | 49,101.00 | 45,341.00 |
| Bebek & Brlich..... | 54,000.00 | 56,000.00 | 55,000.00 |
| Culjak & Zelko..... | 60,000.00 | 60,000.00 | 58,000.00 |
| Engineer's estimate..... | 47,450.00 | 50,650.00 | 46,100.00 |

MONO COUNTY, Cal.—Geo. Herz & Co., 311 Platt Bldg., San Bernardino, at \$85,854.50 submitted low bid to State Highway Commission to surface with crusher run base and bituminous treated crushed gravel or stone about 14.2 miles between 2 junction west of Bridgeport and Sonora Junction, involving:

- (1) 35,750 tons cru. run base;
- (2) 25,770 tons cru. gravel or stone surf.;
- (3) 1220 tons cut-back asph.;
- (4) 3050 M. gals. water applied to sub-grade;
- (5) 751 sta. constr. shoulders.

Complete bids follow:

(A) Geo. Herz & Con, San Bernardino, \$85,854.50.
 (B) Southwest Paving Co., Los Angeles, \$103,762.90.
 (C) A. Teichert & Sons, Sacramento, \$104,129.20.
 (D) Tieslak Eros. and A. Mitchell, Sacramento, \$108,106.60.
 (E) Hemstreet & Bell, Marysville, \$111,550.00.
 (F) Grant Constr. Co., Watsonville, \$111,960.00.
 (G) Southern Calif. Roads, Los Angeles, \$114,846.50.
 (H) F. W. Nighbert, Bakersfield, \$125,570.50.
 (I) Clark & Henery Co., San Francisco, \$128,349.00.
 (J) Isbell Constr. Co., Carson City, Nevada, \$129,913.20.

ASPHALT CONCRETE PAVE.—GLENDALE

GLENDALE, Cal.—Southwest Paving Co., 711 Lankershim Bldg., Los Angeles, was awarded the contract by the Glendale city council March 23, at \$17,404.14 for the improvement of Verdugo Road, between Canada Blvd. and La Crescenta Ave. The items are:

(6) 1240 sq. ft. 6-in. concrete pave.;

- (1) Grading;
- (2) 3628 lin. ft. class B curb;
- (3) 12,618 sq. ft. cem. conc. gutter;
- (4) 124,286 sq. ft. 6-in. asphaltic cement; 4-in. base with 2-in. wearing surface;
- (5) 1225 sq. ft. 3-in. asph. concrete pavement (one course);

(7) 190 lin. ft. 30-in. corr. iron pipe storm drain.

J. C. Albers is the City Engineer. The work is to be paid for in cash.

The low bidder was permitted to withdraw his bid on the grounds of error.

(A) P. J. Akmadzich.
 (B) Southwest Paving Co.
 (C) Heuser & Garnett.
 (D) Geo. R. Curtise Paving Co.
 (E) Gibbons & Reed Co.
 (F) Henredson & Zaich.
 (G) Griffith Co.

Unit bids follow:

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | Totals |
|----------|-----------|------|------|------|-------|------|----------|-------------|
| (A)..... | \$1200.00 | \$30 | \$18 | \$10 | \$0.6 | \$16 | \$150.00 | \$17,410.14 |
| (B)..... | 2302.00 | .33 | .195 | .098 | .07 | .18 | 550.00 | 18,998.73 |
| (C)..... | 2700.00 | .30 | .22 | .10 | .05 | .18 | 450.00 | 19,727.41 |
| (D)..... | 4000.00 | .36 | .20 | .104 | .06 | .125 | 600.00 | 21,583.92 |
| (E)..... | 3100.00 | .34 | .25 | .11 | .055 | .20 | 425.00 | 21,899.86 |
| (F)..... | 3000.00 | .38 | .20 | .115 | .06 | .15 | 450.00 | 21,904.63 |
| (G)..... | 1451.20 | .40 | .25 | .145 | .10 | .18 | 400.00 | 24,824.07 |

BIDS OPENED

RIVERSIDE COUNTY, Cal.—United Concrete Pipe Corp., Box 1, Station H. Los Angeles, at \$286,806.35 submitted low bid to State Highway Commission, Sacramento, to grade and pave with Portland cement concrete about 6.0 miles between Avenue 74 and the southerly boundary, involving:

- (1) 173,000 cu. yds. rdwy. excav. without class;
- (2) 401,000 sta. yds. overhaul;
- (3) 49,200 cu. yds. seal material;
- (4) 17,330 cu. yds. struc. excav.;

- (5) 60,200 sq. yds. subgr. for pave;
- (6) 800 cu. yds. cushion course;
- (7) 14,700 cu. yds. Class A Portland cem. conc. (pave.);
- (8) 431,000 lbs. bar reinf. steel (pave)
- (9) 3600 bbls. fuel oil (detour);
- (10) 36 lin. ft. 18" corr. metal pipe;
- (11) 996 lin. ft. 24" do;
- (12) 580 lin. ft. 36" do;
- (13) 296 lin. ft. 48" do;
- (14) 42,521 lin. ft. furnish treated piles;
- (15) 1441 drive piles;
- (16) 272 M. ft. b. m. redwood timber, dense sel. all-heart struc. grade;
- (17) 657 M. ft. b. m. redwood timber, sel. all-heart struc. grade;
- (18) 460 cu. yds. conc. remove from exist. pave. and struc. and dispose of;
- (19) 1.4 mi. telephone system move and reset;
- (20) 0.1 mi. move and reset property fence;
- (21) 620 lin. ft. solid timber guard rail
- (22) 301 sta. finish rdwy.;
- (23) 78 monuments complete in place. State will furnish corr. metal pipe. Complete bids follow:
- (A) United Concrete Pipe Co., Los Angeles, \$286,806.35.
- (B) Griffith Co., Los Angeles, \$302,233.63.
- (C) R. E. Hazzard Co., San Diego, \$206,916.20.
- (D) Lee Moor Co., El Paso, Texas, \$307,889.25.

Unit bids follow:

| | (A) | (B) | (C) | (D) |
|------|--------|--------|--------|--------|
| (1) | .19 | .17 | .20 | .18 |
| (2) | .005 | .005 | .005 | .005 |
| (3) | .315 | .45 | .50 | .50 |
| (4) | .30 | .40 | .50 | .35 |
| (5) | .04 | .06 | .06 | .07 |
| (6) | .25 | .70 | .50 | 1.00 |
| (7) | 6.32 | 6.70 | 6.20 | 6.44 |
| (8) | .03 | .035 | .035 | .04 |
| (9) | 2.80 | 1.70 | 2.00 | 2.15 |
| (10) | .25 | .40 | .25 | .40 |
| (11) | .30 | .40 | .55 | .50 |
| (12) | .40 | .50 | .70 | .50 |
| (13) | .50 | .80 | .80 | .60 |
| (14) | .55 | .53 | .60 | .55 |
| (15) | 9.00 | 9.90 | 6.00 | 9.00 |
| (16) | 70.00 | 80.00 | 80.00 | 85.75 |
| (17) | 70.00 | 70.00 | 77.00 | 70.65 |
| (18) | 1.00 | 1.50 | 1.00 | 1.25 |
| (19) | 200.00 | 200.00 | 50.00 | 150.00 |
| (20) | 150.00 | 400.00 | 100.00 | 500.00 |
| (21) | 1.00 | .90 | 1.00 | 1.00 |
| (22) | 3.00 | 5.00 | 3.00 | 3.50 |
| (23) | 2.00 | 2.50 | 3.00 | 1.50 |

DAILY NEWS SERVICE

If you are interested in a daily construction news service featuring all types of building and engineering construction, send for free sample copies of Daily Pacific Builder. Subscription price, \$1.50 per month or \$15.00 per year when paid in advance.

Daily Pacific Builder features in each issue, timely reports on work contemplated, bids wanted, bids opened and contracts awarded for all types of building and engineering construction, machinery and equipment, Government work, supplies and equipment, business opportunities, etc.

Daily Pacific Builder is the only publication publishing listings of building permits, building contracts, mechanics liens, etc., in Northern and Central California.

Send for sample copies today or phone GARfield 8744.

Daily Pacific Builder

545 Mission St.

San Francisco, Calif.

GRADE—GRAVEL SURFACE—RIVERSIDE COUNTY

- (1) 4,500 cu. yds. rdwy. excav., with out class;
- (2) 198,000 cu. yds. imp. borrow;
- (3) 4,000 cu. yds. struc. excav.;
- (4) 10,050 tons crushed gravel or stone surfacing;
- (5) 280 tons screenings (seal coat);
- (6) 3,150 bbls. fuel oil;
- (7) 60 cu. yds. Class A Port. cement concrete (struc.);
- (8) 2,000 lbs. bar reinf. steel (struc.);
- (9) 170 lin. ft. 22-in. corr. metal pipe
- (10) 136 lin. ft. 18-in. do;
- (11) 170 lin. ft. 30-in. do;
- (12) 414 lin. ft. 36-in. do;
- (13) 210 lin. ft. 4-in. tile underdrains;
- (14) 25 tons gravel blanket for siphons;
- (15) 11,800 lin. ft. furnish treated piles

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) |
|------|--------|--------|--------|--------|--------|--------|--------|--------|
| (1) | \$.18 | \$.35 | \$.20 | \$.20 | \$.29 | \$.41 | \$.24 | \$.76 |
| (2) | .34 | .34 | .37 | .39 | .36 | .43 | .46 | .53 |
| (3) | .50 | .50 | .60 | .50 | .80 | 1.00 | .75 | .70 |
| (4) | 1.10 | 1.60 | 1.30 | 1.25 | 1.35 | 1.20 | 1.35 | 1.40 |
| (5) | 2.25 | 2.00 | 2.00 | 2.50 | 2.65 | 1.00 | 2.25 | 1.50 |
| (6) | 1.50 | 1.40 | 1.60 | 1.45 | 1.55 | 1.74 | 1.60 | 1.50 |
| (7) | 20.00 | 20.00 | 20.00 | 20.00 | 28.00 | 24.00 | 25.00 | 20.00 |
| (8) | .02 | 5.00 | .05 | .10 | .05 | .04 | .01 | .05 |
| (9) | .40 | .30 | .40 | .50 | .30 | .29 | .50 | .25 |
| (10) | .50 | .30 | .50 | .50 | .35 | .35 | .50 | .40 |
| (11) | .50 | .50 | .75 | 1.00 | .45 | .90 | .50 | .60 |
| (12) | .60 | .50 | 1.00 | 1.60 | .50 | 1.00 | .75 | .70 |
| (13) | .25 | .30 | .20 | .25 | .20 | .24 | .15 | .25 |
| (14) | 1.25 | 1.00 | 2.00 | 2.50 | 2.00 | 1.90 | 2.00 | 1.50 |
| (15) | .60 | .60 | .58 | .60 | .80 | .54 | .65 | .60 |
| (16) | 10.00 | 9.00 | 10.00 | 18.00 | 18.00 | 10.00 | 10.00 | 10.00 |
| (17) | 86.00 | 80.00 | 80.00 | 84.00 | 92.00 | 78.00 | 81.50 | 90.00 |
| (18) | 80.00 | 80.00 | 80.00 | 94.00 | 94.00 | 94.00 | 80.00 | 86.00 |
| (19) | 300.00 | 350.00 | 350.00 | 325.00 | 410.00 | 340.00 | 200.00 | 350.00 |
| (20) | 3.50 | 5.00 | 3.00 | 3.00 | 3.00 | 5.00 | 5.00 | 5.00 |
| (21) | 2.50 | 2.00 | 3.00 | 3.00 | 2.75 | 2.50 | 3.00 | 3.00 |

VITRIFIED SEWERS—LOS ANGELES

- LOS ANGELES, Cal.—M. Miller, 308 W 2nd St., submitted low bid to the board of public works March 30, at \$108,268.30 for constructing sewer in Venice Blvd. bet. Sawtelle Blvd. and Centinela Ave., and other streets, in Venice Blvd. and Lincoln Blvd. Sewer District, a total of 26,306.77 lin. ft. of sewer, under the 1911 Act, involving: 1621.55 ft. 27-in. vit. main line sewer, includ. 91 27x6-in. wyes;

- 1978.99 ft. 24-in. do;
- includ. 114 24x6-in. wyes;
- 178.79 ft. 21-in. do;
- includ. 31 21x6-in. wyes;
- \$95.31 ft. 18-in. do;
- includ. 67 18x6-in. wyes;
- 4591.13 ft. 15-in. do;
- includ. 220 15x6-in. wyes;
- 7452.54 ft. 12-in. do;
- includ. 298 12x6-in. wyes;
- 2300.54 ft. 8-in. cem. main line sewer, includ. 85 12x6-in. wyes;
- 5734 ft. 6-in. house connections (cem. pipe) includ. 226 6x1/2-in. bends 39 standard manhole "E";
- 22 stand. junction chamber "F";
- 8 stand. junction chamber "G";
- 3 stand. junction chamber "H";
- 3 stand. drop manholes "S";
- 2 stand. trap manholes;
- 6 stand. flushing structures No. 0, special shallow;

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
|-----|-----------|--------|--------|--------|--------|--------|--------|--------|--------|------|
| (A) | \$ 90,000 | \$1.50 | \$2.00 | \$4.03 | \$1.15 | \$3.40 | \$5.50 | \$2.25 | \$5.05 | |
| (B) | 94,000 | 1.50 | 2.00 | .02 | 1.10 | .23 | .23 | .23 | .25 | .06 |
| (C) | 118,000 | 1.25 | 2.00 | .03 | 1.15 | .25 | .30 | .35 | .35 | .04 |
| (D) | 135,000 | 1.25 | 2.00 | .05 | .12 | .20 | .25 | .30 | .30 | .05 |
| (E) | 147,000 | 1.00 | 2.00 | .01 | 1.15 | .20 | .25 | .30 | .25 | .05 |
| (F) | 145,000 | 1.79 | 3.95 | .03 | .18 | .50 | .60 | .72 | .72 | .09 |
| (G) | 160,000 | 1.35 | 2.50 | .03 | .18 | .22 | .37 | .37 | .35 | .05 |
| (H) | 84,000 | 1.50 | 2.00 | .02 | 1.10 | .23 | .29 | .25 | .06 | |
| (I) | 88,740 | 1.20 | 2.25 | .02 | .15 | .16 | .25 | .30 | .25 | .08 |

- (16) 312 drive piles;
- (17) 253 M. ft. b.m. redwood timber, dense sel. all-heart structural grade;
- (18) 108 M. ft. b.m. redwood timber, sel. all-heart struc. grade;
- (19) 7 mi. new property fence;
- (20) 190 sta. finish rdwy.;
- (21) 60 monuments complete in place. State will furnish corrugated metal pipe. Complete bids follow:
- (A) Lee Moor Contracting Co., El Paso Texas, \$131,876.15.
- (B) Basich Bros., Torrance, \$136,004.80
- (C) Gist & Bell, Arcadia, \$139,338.50.
- (D) V. R. Dennis Const. Co., San Diego, \$147,534.00.
- (E) Geo. Herz & Co., San Bernardino, \$148,573.10.
- (F) Southern California Roads Co., L. A., \$153,945.80.
- (G) H. W. Rohl Co., Los Angeles, \$159,187.00.
- (H) S. H. Palmer and J. P. Holland, San Francisco, \$178,091.70.

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) |
|------|--------|--------|--------|--------|--------|--------|--------|--------|
| (1) | \$.18 | \$.35 | \$.20 | \$.20 | \$.29 | \$.41 | \$.24 | \$.76 |
| (2) | .34 | .34 | .37 | .39 | .36 | .43 | .46 | .53 |
| (3) | .50 | .50 | .60 | .50 | .80 | 1.00 | .75 | .70 |
| (4) | 1.10 | 1.60 | 1.30 | 1.25 | 1.35 | 1.20 | 1.35 | 1.40 |
| (5) | 2.25 | 2.00 | 2.00 | 2.50 | 2.65 | 1.00 | 2.25 | 1.50 |
| (6) | 1.50 | 1.40 | 1.60 | 1.45 | 1.55 | 1.74 | 1.60 | 1.50 |
| (7) | 20.00 | 20.00 | 20.00 | 20.00 | 28.00 | 24.00 | 25.00 | 20.00 |
| (8) | .02 | 5.00 | .05 | .10 | .05 | .04 | .01 | .05 |
| (9) | .40 | .30 | .40 | .50 | .30 | .29 | .50 | .25 |
| (10) | .50 | .30 | .50 | .50 | .35 | .35 | .50 | .40 |
| (11) | .50 | .50 | .75 | 1.00 | .45 | .90 | .50 | .60 |
| (12) | .60 | .50 | 1.00 | 1.60 | .50 | 1.00 | .75 | .70 |
| (13) | .25 | .30 | .20 | .25 | .20 | .24 | .15 | .25 |
| (14) | 1.25 | 1.00 | 2.00 | 2.50 | 2.00 | 1.90 | 2.00 | 1.50 |
| (15) | .60 | .60 | .58 | .60 | .80 | .54 | .65 | .60 |
| (16) | 10.00 | 9.00 | 10.00 | 18.00 | 18.00 | 10.00 | 10.00 | 10.00 |
| (17) | 86.00 | 80.00 | 80.00 | 84.00 | 92.00 | 78.00 | 81.50 | 90.00 |
| (18) | 80.00 | 80.00 | 80.00 | 94.00 | 94.00 | 94.00 | 80.00 | 86.00 |
| (19) | 300.00 | 350.00 | 350.00 | 325.00 | 410.00 | 340.00 | 200.00 | 350.00 |
| (20) | 3.50 | 5.00 | 3.00 | 3.00 | 3.00 | 5.00 | 5.00 | 5.00 |
| (21) | 2.50 | 2.00 | 3.00 | 3.00 | 2.75 | 2.50 | 3.00 | 3.00 |

- 1 stand. flushing structure No. 1, shallow;
- 1 standard flushing struc. No. 2 standard;
- 95 stand. manhole frame and cover sets;
- 4 existing struc. to be remodeled;
- 12 10x6-in. saddles;
- 186 vert. ft. of 6-in. chimney pipe, includ. 26 6-in. 1/4 bends, 36 6-in. 1/2 bends, 26 6x6-in. wyes.

- Bids were taken on items as follows:
- (1) sanitary sewer;
- (2) 5732 ft. house sewers;
- (3) 186 ft. chimney pipe;
- (4) 26,420 sq. ft. Class AA resurf;
- (5) 649 sq. ft. Class A resurf;
- (6) 171 sq. ft. Class C resurf. (4-in.);
- (7) 20,025 sq. ft. Class C resurf. (8-in.);
- (8) 211 sq. ft. Class C resurf. (10-in.);
- (9) 638 sq. ft. Class D resurf.;
- (10) 1641 sq. ft. D. G. resurf. (4-in.).

- Complete bids follow:
- (A) M. Miller.....\$108,268.30
- (B) Granchic & Granchic..... 108,514.87
- (C) Simonovich & Prlich..... 132,839.99
- (D) P. S. Tomlich..... 149,313.08
- (E) Leo Miletich..... 158,942.85
- (F) R. A. Watson..... 169,763.87
- (G) Artukovich Bros..... 176,949.24
- (H) Culjak & Zelko.....
- (I) Engineer's estimate..... 102,050.34

Unit bids follow:

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
|-----|-----------|--------|--------|--------|--------|--------|--------|--------|--------|------|
| (A) | \$ 90,000 | \$1.50 | \$2.00 | \$4.03 | \$1.15 | \$3.40 | \$5.50 | \$2.25 | \$5.05 | |
| (B) | 94,000 | 1.50 | 2.00 | .02 | 1.10 | .23 | .23 | .23 | .25 | .06 |
| (C) | 118,000 | 1.25 | 2.00 | .03 | 1.15 | .25 | .30 | .35 | .35 | .04 |
| (D) | 135,000 | 1.25 | 2.00 | .05 | .12 | .20 | .25 | .30 | .30 | .05 |
| (E) | 147,000 | 1.00 | 2.00 | .01 | 1.15 | .20 | .25 | .30 | .25 | .05 |
| (F) | 145,000 | 1.79 | 3.95 | .03 | .18 | .50 | .60 | .72 | .72 | .09 |
| (G) | 160,000 | 1.35 | 2.50 | .03 | .18 | .22 | .37 | .37 | .35 | .05 |
| (H) | 84,000 | 1.50 | 2.00 | .02 | 1.10 | .23 | .29 | .25 | .06 | |
| (I) | 88,740 | 1.20 | 2.25 | .02 | .15 | .16 | .25 | .30 | .25 | .08 |

ENGINEERING NEWS

BRIDGES

SALINAS, Monterey Co., Cal.—Until April 21, 10 A. M., bids will be received by C. F. Joy, county clerk, to construct five bridges over the Cholame Creek near Parkfield in Supervisor District No. 4, involving:

- (1) 360 lin. ft. steel H section piling in place;
- (2) 161,500 lbs. struc. steel in place;
- (3) 32,922 lbs. I beams haul & erect;
- (4) 165,600 ft. b. M. lumber in place;
- (5) 47 cu. yds. class B concrete;
- (6) 2,425 lbs. square deformed reinf. bars;
- (7) haul from Bradley and erect two steel spans;
- (8) 49 cu. yds. struc. excav.;
- (9) 15,289 sq. ft. asph. covers on floors

Specifications obtainable from above on deposit of \$10, returnable. Howard Cozzens, county surveyor.

LOS ANGELES, Cal.—W. D. Armstrong, County Bridge Engineer, preparing plans for two bridges to be built on Firestone Blvd., one over the Rio Hondo and the other over the Los Angeles river, near South Gate, under cash contracts. Bridges will be built on concrete pile foundations with steel girders and reinforced concrete deck and railing. Each bridge will consist of twelve 40-ft. spans with 54-ft. roadway and pedestrian walks.

SAN JOSE, Santa Clara Co., Cal.—Tentative plans for the proposed San Carlos street viaduct, the third grade separation structure to be constructed by the Southern Pacific R. R. in its \$4,500,000 main line relocation, have been submitted by the railroad engineering department to City Manager C. B. Goodwin. The structure will be of steel and concrete construction over both Gualalupe Creek and the double track lines of the railroad. Four tracks will be carried under the structure, including spurs to serve the California Packing Corp. and other nearby industries.

YREKA, Siskiyou Co., Cal.—Until May 3, 10 A. M., bids will be received by W. J. Nelson, county clerk, to construct two four-panel wooden pile bridges across the East and West channels of Lost River on the East and West Tule Lake Road, in Klamath Road District, Siskiyou County. Specifications obtainable from above office. Certified check 10% required with bid. Albert F. Parrott, County Surveyor.

WASHINGTON STATE—Clackamas Construction Co., Tillamook, Ore., at \$29,517 submitted low bid to State Highway Commissioner to construct \$30 ft. bridge over the Chehalis river at Adna on the Ocean Beach Highway in Lewis County. Taken under advisement.

SANTA CLARA COUNTY, Calif.—Neves & Harp, 891 Harrison Street, Santa Clara, at \$18,461.37 awarded contract by State Highway Commissioner, Sacramento, to construct reinforced concrete girder bridge across Stevens Creek about 2 miles north of Mountain View, consisting of one 30-ft. 1-in. span and one 20-ft. 10-in. span on concrete bents and a concrete abutment with wing walls.

MONTEREY COUNTY, Calif.—As previously reported, until April 20, 2 P. M., bids will be received by State Highway Commission, Sacramento, to construct a reinforced concrete bridge across Rocky Creek about 17 miles south of Carmel, consisting of one 239-ft. open spandrel arch span and six girder approach spans, having a total length of 258-ft., involving:

- (1) 750 cu. yds. stripping;
- (2) 1,330 cu. yds. struc. excav.;
- (3) 1,190 cu. yds. Class A Port. cem. concrete;
- (4) 425 cu. yds. Class B do;
- (5) 46 cu. yds. Class E do;
- (6) 395 cu. yds. Class A do;
- (7) 275,000 lbs. reinf. steel;
- (8) 2,350 lbs. cast steel rockers and bearings;
- (9) 300 lbs. bronze expansion plates;
- (10) 60 lin. ft. 18-in. corr. metal pipe;
- (11) 1 lot misc. items of work.

State will furnish corrugated metal pipe.

STANISLAUS COUNTY, Cal.—State Highway Commission, C. H. Purcell, chief engineer, is completing plans for a bridge over the Tuolumne river at the south limits of Modesto. Will be reinforced concrete construction. Estimated cost, \$165,300.

SPARKS, Nevada—City council will call an election to vote bonds of \$30,000 to finance sewer improvements; five concrete bridges and the purchase of a gasoline shovel and a concrete mixer, the bridges to cost \$4,500, the shovel \$5,000, and the mixer, \$400.

LOS ANGELES, Cal.—Plans for a bridge on Firestone Blvd. over the Rio Hondo filed with county supervisors by Geo. W. Jones, County Road Commissioner, April 9. Bridge will be a steel girder and reinforced concrete structure on concrete pile foundations with concrete deck and railing. It will have twelve 40-ft. spans with a 54-ft. roadway and pedestrian walks, involving:

- (1) using pre-cast piles;
- (2) using cast in place piles.

W. D. Armstrong, 12th floor Hall of Records, bridge engineer.

LOS ANGELES, Cal.—Until 2 p. m., May 2, bids will be received by county supervisors to construct bridge in Firestone Blvd. over the Rio Hondo;

SKILSAW Portable Electric Hand Saws (four models).

SKILSAW Portable Electric Sander.

SKILSAW Radial Arm Attachments.

SYNTRON Portable Electric Hammer (four models, motorless).

MALL Flexible Shaft Machines (50 models).

Electric Drills, Grinders, Buffers, Routers, Lock Mortisers.

Peter H. Nelson

Labor Saving Portable Electric Tools

1246 Mission St., San Francisco

Underhill 7662

SALES : SERVICE : RENTALS

will be a steel girder and reinforced concrete structure on concrete pile foundations, with concrete deck and railing; twelve 40-ft. spans with a 54-ft. roadway and pedestrian walks. Bids are to be taken as follows:

- (1) Using pre-cast piles;
- (2) Using cast in place piles.

W. D. Armstrong, 12th floor, Hall of Records, bridge engineer.

Mame B. Beatty, 303 Hall of Records, clerk of the board.

KELSO, Wash.—Until May 3, 10 A. M., bids will be received jointly by the County Commissioners of Clark and Cowlitz counties at Kelso, for clearing, grubbing, grading and draining the revision of the Yale-Yacolt Road and the construction of the Yale Suspension Bridge over the North Fork of the Lewis River between Clark and Cowlitz counties. Certified check 5% required with bid. Plans obtainable from the county engineers at Kelso and Kalama on deposit of \$5, returnable.

DREDGING, HARBOR WORKS & EXCAVATIONS

SACRAMENTO, CAL.—Until May 4, 3 P. M., under Circular Proposal No. 32-322, Specification No. 3706, bids will be received by U. S. Engineer Office, California Fruit Bldg., Sacramento, for dredging approximately 1,496,500 cu. yds. of material in the Stockton 26-ft. Channel prism (San Joaquin River) from a point near the El Dorado pump Robert's Island, to a point approximately 0.6 mi. downstream from Black Slough, a distance of approximately 2.4 miles.

BENICIA, Solano Co., Cal.—Solano Canal Association was organized at a recent meeting. The appointees are: Jeremiah Ahern, civil engineer; Ray Nutting of Vallejo; Frank Clark of Elmira; Paul Wetmore of Benicia, and Sheriff Jack Thomson. The purpose of the association is to definitely organize a plan for a proposed fresh water canal which will cross the entire county, providing a source of irrigation to that part of the county which lacks the water. Jeremiah Ahern is chief engineer for the association.

STREET LIGHTING SYSTEMS

SAN FRANCISCO—H. C. Ried, 389 Clementina St., at \$18,167 awarded contract by Dept. of Public Works to install lighting system in Sloat Blvd. between 19th Avenue and the Great Highway.

MACHINERY AND EQUIPMENT

SPARKS, Nevada—City council will call an election to vote bonds of \$30,000 to finance sewer improvements; five concrete bridges and the purchase of a gasoline shovel and a concrete mixer, the bridges to cost \$4,500, the shovel \$5,000, and the mixer, \$400.

RESERVOIRS AND DAMS

LOS ANGELES, Calif.—Contract for construction of San Gabriel Dam No. 2, signed April 7 by Chairman of Board of Supervisors, and by contractors, Macco Construction Co. of Clearwater, and Lewis Constr. Co. of Los Angeles, bidding jointly at \$2,936,950. A labor and material bond in the sum of \$1,043,475, and a faithful performance bond in a like sum, with the Columbia Casualty Co., as surety, was attached to the contract. A letter accompanying the bond stated that the obligation will be reinsured by the following companies and in the proportions following the name, to-wit: Glens Falls Indemnity Co., one-tenth; Great American Indemnity Co., one-fifth; Aetna Casualty & Surety Co., one-tenth; Fidelity and Casualty Co., one-fifth; Massachusetts Bonding & Insurance Co., one-tenth; and the Fidelity & Deposit Co. of Maryland, one-fifth.

MEXICO CITY, Mexico.—President Pascual Ortiz Rubio has under consideration proposal to construct a dam in the Canyon de Corintio in the Rio Grande de Morelia, between the towns of Morelia and Indaparapeo. Morelia is the capital of Michoacan state. The dam would make available for agriculture a region of 10,000 hectares (about 25,000 acres) and would represent an investment of some 1,000,000 pesos (approximately \$330,000). The dam would be of reinforced concrete and the length of the curtain would be 290 meters with a maximum height of 36 meters. Capacity would be 80,000,000 cubic meters of water.

MARTINEZ, Contra Costa Co., Cal. —City Engineer Ben Green instructed by city council to prepare estimates of cost for double-tennis court on city property near Pacheco Blvd. Estimates will be submitted for various types of pavement in addition to fencing, etc.

LOS ANGELES, Calif.—H. A. Van Norman, general manager of the Los Angeles Water and Power Bureau, 207 S Broadway, announced that construction of the Bouquet Canyon dam and reservoir will start within the next 30 days. Excavation for the dam will be done by the department using its own forces supplemented by labor from unemployed lists.

The dam will be built in Bouquet Canyon at the junction of Spunky Canyon Road, about ten miles north of Saugus. It will be a combination rolled earth and rock fill dam, 210 ft. in height, 50 ft. wide at the crest, 1150 ft. in length at the crest, with 3 to 1 slopes, making the base approximately 1200 ft. in thickness. The reservoir will impound 32,000 acre feet. Construction will involve approximately 3,500,000 cu. yds. of material.

Plans prepared by H. A. Van Norman, general manager and chief engineer. H. L. Jacques, construction engineer.

PASADENA, Calif.—S. B. Morris, chief engineer of the water department and Cecil E. Pearce, chief designing engineer, preparing specifications for gates, valves, metres and other equipment for the Pine Canyon Dam. As soon as the contract for the dam proper is awarded (now awaiting a Supreme Court decision on the prevailing wage scale), bids will be called for this equipment. The proposed gates will include two gates 8 feet in diameter, three outlets each 48-in. in diameter and one 54-in. in diameter. Needle valves will be installed on the outlets to regulate the downstream flow. Cast iron bellmouth intakes will be installed on the upstream face. The pipe lines will have emergency valves installed. Construction of the conduit from the San Gabriel Canyon to Pasadena will not be started probably until a year after construction of the dam has started.

WHATCOM COUNTY, Wash.—Until April 21, bids will be received by

county commissioners to replace a wing dam in the Nooksack river at Pioneer Park, Ferndale, and also replace a road which was washed out at that point. Estimated cost, \$20,000. Plans call for a 1200-ft. wing dam.

PIPE LINES, WELLS, ETC.

LYNWOOD, L. A. Co., Cal.—V. E. Proctor, 535 Grand Ave., Long Beach, was awarded contract by city council April 5, at \$1.50 ft. for drilling a 16-in. water well to a depth of 350 ft., the city to furnish the casing.

LOS ANGELES, Cal.—Construction of 31 miles of 30-in. steel pipe line and construction of four pumping plants, estimated to cost \$1,136,410, outlined in a report on the feasibility of pumping reclaimed sewage effluent from City of Los Angeles to various citrus districts in the eastern portion of the San Gabriel Valley, prepared by J. E. Rockhold, County Surveyor, and filed with the board of supervisors April 5.

The project may be handled under the County Water Works District Act, but some question as to the financing of the work is raised due to the fact that it may be difficult to sell 25-year bonds as the land may lose its value as citrus land before the expiration of 25 years.

The engineers propose to install two 4500 G. P. M. centrifugal pumps placed in series and two 2500 G. P. M. centrifugal pumps placed in series in each plant. In addition each plant has a stand-by unit, of 2500 G. P. M. capacity, placed in series.

Power for pumping is available from the Southern California Edison Co. at the approximate rate of 74.1c per K. W. hour. The engineers recommend motor driven pumping units.

To supply the required 10,000,000 gallons per day, a 30-in. diameter pipe line will be required. The engineers recommend welded steel pipe with double dipped asphalt coating with additional felt wrapping to protect the coating. A portion of the line along Rush Ave., where water is encountered, will be given an additional coating with Gunite.

PIPE LINE

153,800 ft. 30-in. pipe, 3/4-in. shell thickness, at \$5.50 ft., \$845,900.
10,000 ft. 36-in. pipe, 1/2-in. shell thickness, at \$6.50 per ft., \$64,000.
Total cost of contractor, \$909,900.
Engineering, etc., 10%, \$90,990.
Total cost of pipe line, \$1,000,890.

PUMPING PLANT

Plant No. 1—total head 255 ft., two 4500-GPM. centrif. pumps, placed in series, each with one 200 H. P. motor, two 2500 GPM. pump, each with 100 H. P. motor, and two 2500 GPM. pumps each with 100 HP. motor (stand-by unit), complete, \$29,300.
Plant No. 2—total head 352 ft., two 4500 GPM. pumps, each with one 250 HP. motor, 529 2500 GPM. pumps each with 150 HP. motors, and two 2500 GPM. pumps, each with one 150 HP. (stand-by unit), complete, \$30,300.
Plans No. 3—341 ft. head, same as No. 2, complete, \$31,800.
Plant No. 4—351-ft. head, same as No. 2, complete, \$31,800.
Total cost of pumping plants to contractor, \$123,200.
Engineer, 10%, \$12,320.
Total cost of pumping plants, \$135,520
Grand total of pipe-line and pumping plants, \$1,136,410.



WHISTLING MEN!

You'll whistle in delightful surprise to know that you can enjoy a glorious week-end in San Francisco at a cost of only \$11.30 for two. Includes guest room, all meals, theatre or night club. Make reservations in advance.

—
Rates \$2.00 to \$4.50
Ray Maxwell, Manager
—

HOTEL
POST STREET AT STOCKTON
SAN FRANCISCO

Men whistle in their rooms at the Plaza, and they burst into song in the bathrooms. For guest comfort is taken seriously at this modern downtown hotel. Beautiful rooms overlooking Union Square. A location among theatres and smart shops. Garage service . . . just leave your car at the door.

SEWERS AND SEWAGE DISPOSAL PLANTS

LOS ANGELES, Cal.—Gogo & Rados, 10,024 S Figueroa St., awarded contract by board of public works April 1 at \$43,960 (based on Type No. 1) for the construction of Section No. 3 of the San Pedro intercepting sewer in Harbor Blvd. and Wilmington and San Pedro Road between Pacific Ave. and Sixth St., cash contract. Work involves 6792.60 ft. vitrified sewer, Type No. 1. The bids were opened March 30.

LOS ANGELES, Cal.—Culjak & Zelko, 1358 S. Bonnie Beach Place, awarded contract by Board of Public Works, April 6, at \$97,698.66 for constructing sewers in Venice Blvd., bet. Sawtelle Blvd. and Centinela Ave., and other streets, in Venice Blvd. and Lincoln Blvd. Sewer District, a total of 26,306.77 lin. ft. of sewer, under the 1911 Act.

ALBANY, Alameda Co., Cal.—Until April 25, 8 P. M., bids will be received by city council to construct sanitary sewer connection between the Albany North Outfall Sewer and the Stage Sanitary Outfall Sewer, involving:
 (1) 2948 lin. ft. 18-in. sewer;
 (2) 75 cu. yds. foundation rock;
 (3) 800 lin. ft. redwood sleepers;
 (4) 2000 lin. ft. timber piles;
 (5) 500 lin. ft. timber foundation;
 (6) 30 lin. ft. concrete reinforcing;
 (7) 4 manholes.

H. W. Brewer, city clerk. H. L. Dygert, city engineer.

SPARKS, Nevada—City council will call an election to vote bonds of \$30,000 to finance sewer improvements; five concrete bridges and the purchase of a gasoline shovel and a concrete mixer, the bridges to cost \$4,500, the shovel \$5,000, and the mixer, \$400.

WATERWORKS

COLUSA, Cal.—Until April 25, 8 P. M., bids will be received by B. L. McCue, city clerk, to furnish one 6x17-in. 2-stage Byron Jackson Multiplex pump bronze fitted and equipped with cast iron base plate and flexible couplings for direct connection to 75-hp. motor owned by city, f.o.b. Colusa, price to include mounting of motor. Specifications obtainable from above.

ELLENSBURG, Wash.—Beall Tank & Pipe Corporation, Portland, Ore., at \$16,600 submitted low bid to U. S. Bureau of Reclamation, Denver, Colo., to furnish and erect two 45-in. diameter steel penstocks, each 461 ft. in length, 3/16-in. plates; and one 42-in. dia. plate steel discharge pipe with manifold connections, 2100 ft. in length, of 3/16-in. and 1/4-in. plates, for Wippel Pumping Plant, Kittitas Division, Yakima Project, Washington. The other bids were:

| | |
|----------------------------------|----------|
| Steel Tank & Pipe Co. of Oregon | \$17,080 |
| Puget Sound Mch. Depot | 17,654 |
| Birchfield Boiler Co. | 18,240 |
| Curtis-Gardner, Portland | 18,300 |
| Western Pipe & Steel Co., S. F. | 18,829 |
| Commercial Welding Co., Seattle | 19,345 |
| Hardesty Mfg. Co., Denver | 20,620 |
| Pittsburgh-Des Moines Steel Co. | 20,756 |
| Western Engineering Corp. | 23,344 |
| Commercial Boiler Wks., Seattle | 24,875 |
| Montagne Pipe & Steel Co., S. F. | 29,800 |

The estimated weight of the penstocks and discharge pipe is 265,000 lbs.

Wippel Pumping Plant is located about 5 1/2 miles south of Ellensburg, Washington.

OAKLAND, Cal.—As previously reported, until April 18, 5:30 P. M., bids will be received by John H. Kimball, secretary, East Bay Municipal Utility District, 512 Sixteenth Street, Oakland, for furnishing and erecting on foundations, two 250,000 gallon steel tanks and one 80,000 gallon steel tank. Specifications obtainable at Room 33, 512 Sixteenth Street.

SAN MATEO, San Mateo Co., Cal.—Until April 18, 8 P. M., bids will be received by E. W. Foster, city clerk, to install one 50-gal. per minute deep well turbine pump with press tank in pumping plant at East Park, San Mateo. Specifications obtainable from the above office. Certified check 10% required with bid.

SEATTLE, Wash.—City Engineer D. W. McMorris, City-County Bldg., preparing plans for replacement of Cedar River Pipe Lines No. 1 and No. 2, from Lake Youngs to the water tunnel below Landsburg. Estimated cost \$600,000. Present plans contemplate alternative proposals on creosoted wood pipe, steel pipe, and on concrete pipe. A. F. Marion, Water Superintendent.

SAN FRANCISCO—Mayor Rossi has approved a budget fund of \$91,303 for purchases in the fire department of which includes 200 fire hydrants to cost \$15,900 and \$12,000 for improvements on the high pressure water system.

FRESNO, Cal.—A. Segel, Cory Bldg. Fresno, consulting engineer, preparing plans to construct distributing system and other improvements for the Ballard District of Fresno County, involving:

- (1) 18,000 lin. ft. water mains;
- (2) Drilling of a water well;
- (3) Installation of pump.

An election will be held in about 30 days to vote on the formation of a water district and to vote a \$30,000 bond issue to finance the construction.

NEWARK, Alameda Co., Cal.—Cyril Williams, Jr., General Manager, Alameda County Water District, announces bids will be asked shortly to construct a steel pressure tank of approximately 10,000 gallons capacity, laid horizontally on concrete piers, install a turbine pump on water well, also pipe and fittings to connect with present distributing system from the Town of Newark. Well is located at the junction of the main road between Centerville and Newark and the Jarvis Landing Road.

OAKLAND, Calif.—U. S. Pine and Foundry Co., Monadnock Bldg., San Francisco, at \$19,551 awarded contract by East Bay Municipal Utility District, 512 16th St., Oakland, to furnish cast iron pipe. Complete bids published in issue of March 28.

DENVER, Colo.—Until April 28, 2 P. M., under Specifications No. 508-D, bids will be received by Chief Engineer, U. S. Bureau of Reclamation, Denver, to erect two 78-in. dia. plate-steel penstocks, each approximately 230 ft. in length, made of 1/2-in and 5/8-in. plates, for the Grand Valley Power Plant, Grand Valley Project, Colo., located about 1/2 mile south-east of Paisdale, Colo. Certified check 10% required with bid.

STREETS AND HIGHWAYS

COWLITZ COUNTY, Wash.—Until April 26, 10:30 A. M., bids will be received by J. G. Graver, county clerk, Kelso, to clear, grub, grade, drain and surface with crushed rock, and construct bridges on Permanent Highway No. 18, in Commissioner District No. 1, 2.75 miles. Certified check 5% required with tid. Specifications obtainable from County Engineer on deposit of \$5.

SANTA CRUZ COUNTY, Cal.—Fred W. Nighbert, Bakersfield, has been permitted by the State Highway Commission to withdraw his bid of \$15,980 to clear and grub about 5.1 miles of highway right of way between Inspiration Point and Vine Hill Road. The next lowest bid, that of J. E. Ely, Oroville, was \$25,075. It is probable that new bids will be asked.

SAN JOSE, Santa Clara Co., Cal.—Until April 25, 11 A. M., bids will be received by Henry A. Pfister, county clerk, to improve Gilman Road from Sixth Street to Holsclaw Road, involving 134,800 sq. ft. oil macadam surface. Specifications obtainable from above. Robert Chandler, county surveyor.

PLACER COUNTY, Cal.—Hemstreet & Bell, 11th and E Sts., Marysville, at \$39,172 awarded contract by State Highway Commission, Sacramento, to surface with bituminous treated crushed gravel or stone (plant mix) about 6.7 miles between Lincoln and Sheridan.

SAN RAFAEL, Marin Co., Cal.—Geo. Peres, 475 10th St., Richmond, at \$14,495 (claiming error in bid, wishes to be allowed to withdraw same), awarded contract by county supervisors for surfacing and treating with emulsified asphalt and screenings portions of the county highway from Marshall to the Sonoma county line on the Marshall-Valley Ford Road, excepting 1/2-mile in the town of Tomales, 11.7 miles, involving 1,115,000 sq. ft. emulsified asphalt and screenings in place. Complete bids follow:

| | |
|---------------------------------------|-------------|
| Geo. Peres, Richmond | \$14,495.00 |
| Jack Casson, Hayward | 19,958.50 |
| Heafey-Moore, Oakland | 20,058.85 |
| U. E. Lee, San Leandro | 20,727.85 |
| Highway Builders, San Anselmo | 21,085.00 |
| P. S. Harless, San Rafael | 21,519.50 |
| Granite Construction Co., Watsonville | 21,854.00 |
| Lee J. Immel, Berkeley | 23,805.00 |
| J. V. Galbraith, Petaluma | 23,415.00 |
| L. C. Seidel, Oakland | 24,195.00 |
| Main & Hoskinson, Fairfax | 25,199.00 |

**CAPITAL CITY
TITLE COMPANY**

▼

J. C. PALEN,
Manager

▼

914 Seventh Street
Sacramento :: California

LOS ANGELES, Cal.—Until 2 p. m., May 2, bids will be received by county supervisors to improve Mission Road, from west city limits of Alhambra to Hidalgo St., in the City of Alhambra, 14,640 lin. ft. or 2.77 miles. The items are:

- (1) 291,150 sq. ft. 4-in. asph. concr. base, including shaping;
- (2) 100 tons asph. concr. base, variable thickness, to be constructed bet. curtain walls;
- (3) 296,300 sq. ft. 2-in. asph. concr. surface.

Cash Contract No. 429.
Geo. W. Jones, county road commissioner. Mame B. Deatty, 303 Hall of Records, clerk of the board.

RIVERSIDE COUNTY, Calif.—Lee Moor Co., El Paso, Texas, at \$26,901.30 awarded contract by State Highway Commission, Sacramento, to grade and pave with Portland cement concrete about 8.3 miles between Ave. 62 and Ave. 74.

OREGON STATE—All bids rejected by State Highway Commission to construct 16.2 miles of crushed rock surfacing, 8.2 miles bituminous macadam wearing surface and 8.0 miles of oil surface treatment, also furnishing 12,400 cu. yds. crushed rock in stock piles, in Boyer Valley Junction Section of Salmon River Highway and Doffh-Sheridan Section of McMinnville-Tillamook Highway in Polk and Yamhill Counties, involving 43,000 cu. yds. crushed rock and gravel and 1100 tons asphalt and road oil. New bids will be called at once.

SHASTA COUNTY, Calif.—E. C. Coats, 6th and Y Sts., Sacramento, at \$331,947 awarded contract by State Highway Commission, Sacramento, to grade and surface with crusher run base and bituminous treated crushed gravel or stone (plant mix) about 8.7 miles between Hat Creek Summit and Fall River Mills.

SAN JOSE, Santa Clara Co., Calif.—Following is a complete list of bids received by the county supervisors to improve Rincon Ave., McCoy Ave. and part of the San Tomas Aquito Road, Supervisor District No. 5, involving 222,990 sq. ft. oil macadam:
A. J. Raich, San Jose.....\$12,987
Perela & Reed, Tracy..... 15,631
Granite Const. Co., Watsonville 16,260
Union Paving Co., S. F..... 16,888
W. A. Dontanville, S. F..... 22,450

OREGON STATE.—The following awards made by State Highway Commission on bids opened April 7 for highway construction as follows:

Carl Nyberg, Realty Bldg., Spokane, at \$95,527 for Alternate No. 1, for construction of 6.3 miles of highway roadbed on the Durkee-Gales Section of Old Oregon Trail, Baker County. Johnson Bros. Co., Klamath Falls, second low at \$107,230 and James Crick, Spokane, third low at \$107,805.

Dunn & Baker, Klamath Falls, at \$65,980 for construction of ten miles of bituminous macadam wearing surface and furnishing of 9,300 cu. yds. of crushed rock in stock piles on the Huntington-Slides Section of the Old Oregon Trail in Baker and Malheur counties. J. C. Compton, McMinnville second low at \$68,786 and J. F. Forbes, Olympia, Wash., third low at \$74,948.-80.

Roy L. Houck, Independence, at \$48,650 for 19.43 miles of screened gravel surfacing and furnishing of 13,000 cu. yds. of crushed gravel in stock piles

on the Port Oxford-Euchre Creek Section of Oregon Coast Highway in Curry County. A. S. Wallace, Roseburg, at \$27,380 submitted low bid but would accept one project only, therefore bid was disregarded. Saxton & Lonney, Corvallis, at \$57,520 was second low.

Knute Lien, 659 Andover Pl., Portland, at \$19,400 for 12,000 cu. yds. of crushed rock in stock piles on the Endicott Creek-Mystic Creek Section of Coos Bay-Roseburg Highway in Douglas and Coos Counties. Liech & Toffe, Marshfield, at \$19,880 second low.
A. S. Wallace, Roseburg, at \$102,297.50 for 10 miles grade widening and resurfacing in Merrill-Malin Section of The Dalles-California Highway in Klamath County. Kern & Kibbe, Portland, second low at \$107,719.50, and Saxton & Lonney, Corvallis, third low at \$110,157.25.

ARIZONA STATE—Until 2 P. M., April 21, bids will be received by State Highway Commission of Phoenix for the construction of highway on the Holbrook-Winslow Highway, P. A. E. 40—5th reopening. The work, which begins at a point approximately eleven (11) miles east of Winslow and extends easterly toward Holbrook, approx. nineteen and one-quarter (19 1/4) miles, consists of the grading, draining and placing of subgrade stabilizer, and is to be completed on or before December 31, 1932. The approximate quantities are:

ROADWAY

- (1) 25,500 cu. yds. rdwy. excav.;
- (2) 16,300 cu. yds. drainage excav.;
- (3) 1700 cu. yds. structural excav.;
- (4) \$1,700 cu. yds. borrow excav.;
- (5) 447,500 sta. yds. earthwork over-haul;
- (6) 56,700 cu. yds. subgrade stabilizer
- (7) 133,800 cu. yd. mi. subgrade stabilizer, haul;
- (8) 750 cu. yds. concrete;
- (9) 142,600 lbs. reinf. steel;
- (10) 676 lin. ft. 24-in. bitum. coated C.M.P.;
- (11) 376 lin. ft. 30-in. bitum. coated C.M.P.;
- (12) 438 lin. ft. 36-in. bitum. coated C.M.P.;
- (13) 69,500 linu. ft. line fence;
- (14) 70,000 lin. ft. reconstructing fence
- (15) 350 lin. ft. rail bank protection;
- (16) 2500 cu. yds. excav. old rdwy. fill;
- (17) 2000 M. gay. water applied to roadway;
- (18) 1000 hours rolling fills and sub-grade stabilizer;

BRIDGES

- (19) 2100 cu. yds. drainage excav.;
- (20) 950 cu. yds. structural excav.;
- (21) 12 cu. yds. subgrade stabilizer;
- (22) 18 cu. yds. mi. subgrade stabilizer haul;
- (23) 850 cu. yds. class A concrete;
- (24) 84,600 lbs. reinf. steel.

Plans obtainable from State Engineer, T. S. O'Connell, upon deposit of \$10. Certified check, 5%.

SAN MATEO COUNTY, Calif.—As previously reported, until April 27, 2 P. M., bids will be received by State

Highway Commission, Sacramento, to surface with bituminous treated crushed gravel or stone 7.3-miles between San Mateo and Redwood City, involving:

- (1) 9,350 cu. yds. imp. burrow;
- (2) 53,690 tons crushed gravel or stone (bit. treated surf.);
- (3) 17,140 tons crushed surf base;
- (4) 110 tons screenings (surf. treatment);
- (5) 2,685 tons cut back asphalt (bit. treated surf.);
- (6) 940 bbls. light fuel oil (surf. treatment);
- (7) 387 sta. finish roadway.

RENO, Nevada—City engineer has completed plans for the 1932 street improvement program, involving an expenditure of \$145,000. Project involves:

- (1) 353,874 sq. ft. asphaltic pavement, est. cost \$88,448;
- (2) 63,773 sq. ft. sidewalks, est cost \$12,754;
- (3) 9,416 lin. ft. 2-ft. 6-in. curb and gutters, est. cost \$9,416;
- (4) 4,551 lin. ft. 8-ft. 6-in. curb and gutters, est. cost \$9,103;
- (5) 2,375 lin. ft. gutter, est. cost \$3,562
- (6) 44,600 sq. ft. conc. alley paving, est. cost \$11,147;
- (7) 425 lin. ft. concrete header, est. cost \$319;
- (8) 31,994 sq. ft. conc. pavement, est. cost \$8,464;
- (9) 51 catchbasins, est. cost \$5,100.

City's portion of the total cost is estimated at \$26,000 which includes work at street intersections and the catchbasins.

SALINAS, Monterey Co., Cal.—Until April 21, 10 A. M., bids will be received by C. F. Joy, county clerk, to pave portions of the Salinas-Monterey Road in Supervisor Districts No. 2 and No. 5, involving:

- (1) 7021 sq. yds. subgrade for hydraulic pavement;
 - (2) 1316 cu. yds. Class A Port. cem. conc. pave.;
 - (3) 1053 lbs. reinf. steel.
- Specifications obtainable from above on deposit of \$10, returnable. Howard Cozzens, county surveyor.

ELKO CO., Nevada—Until May 25 bids will be received by S. C. Durkee, State Highway Engineer, Heroes Memorial Bldg., Carson City, Nev., for the oiling of portions of the State Highway System as follows:

- (1) between East Foot of Pequops & 4-miles east of Silver Zone, 18.76 miles;
- (2) between Deeth and Wells, 18.53 miles.

Specifications will be obtainable on or about May 9 at the above office; County Clerk's Office at Elko; Highway Department Division Offices at Reno and Elko and at District office of Bureau of Public Roads, 461 Market St., San Francisco. Certified check 5% required with bid.

Member Insurance Brokers' Exchange

FRED H. BOGGS
INSURANCE
490 GEARY STREET

Phone FRanklin 9400

San Francisco

ORANGE COUNTY, Cal.—As previously reported, until April 27, 2 P. M., bids will be received by State Highway Commission, Sacramento, to grade and pave with Portland cement concrete 4.9 miles between Laguna Beach and Dana Point, involving:

- (1) 258 sta. clear and grub right-of-way;
 - (2) 277,000 cu. yds. rdwy. excav. without class;
 - (3) 2,760,000 sta. yds. overhaul;
 - (4) 6700 M. gals. water (embank);
 - (5) 9600 cu. yds. struc. excav.;
 - (6) 17,910 cu. yds. Class "A" Port. cem. conc. (pave.);
 - (7) 1705 cu. yds. Class "A" Port. cem. conc. (struc.);
 - (8) 575 cu. yds. Class "A" Port. cem. conc. (curbs);
 - (9) 1400 cu. yds. Class "A" Port. cem. conc. (bridge);
 - (10) 70 cu. yds. Class "A" Port. cem. conc. (tremie);
 - (11) 1100 cu. yds. Class "B" Port. cem. conc.;
 - (12) 10 cu. yds. Class "E" Port. cem. conc.;
 - (13) 654,000 lbs. bar reinf. steel;
 - (14) 1800 cu. yds. salv. surf. (shoulders and gutters);
 - (15) 86,000 sq. yds. subgrade for pave;
 - (16) 10,500 lbs. misc. iron and steel (struc.);
 - (17) 570 lin. ft. lam. timber guard rail
 - (18) 220 lin. ft. temporary timber guard rail and wheel guards;
 - (19) 854 lin. ft. 18-in. stand. reinf. conc. pipe;
 - (20) 555 lin. ft. 24-in. do;
 - (21) 105 lin. ft. 30-in. do;
 - (22) 160 lin. ft. 18-in. corr. metal pipe;
 - (23) 260 lin. ft. 24-in. do;
 - (24) 57 culvert markers complete in place;
 - (25) 18 M. ft. b. m. crosstod Douglas fir timber, struc. grade;
 - (26) 1080 lin. ft. steel piles;
 - (27) 1850 lin. ft. furnish Douglas fir piles, incl. test piles;
 - (28) 59 drive Douglas fir piles, incl. test piles;
 - (29) 75 cu. yds. conc. remove from exist. bridge;
 - (30) 15 cu. yds. dry rubble wall;
 - (31) 1260 bbis. fuel oil (shoulders);
 - (32) 1230 tons broken stone (bit. mac. surf.);
 - (33) 110 tons Grade "E" asphalt;
 - (34) 258 sta. finish rdwy.
 - (35) 54 move and reset monuments.
- State will furnish corrugated metal pipe.

SONOMA COUNTY Cal.—Until Apr. 22, 2 P. M., bids will be received by John H. Skeggs, District Engineer, Division of Highways, Room 211, State Bldg., San Francisco, to surface with bituminous treated crushed gravel or stone about 1-mile between Fairville and Vineburg Junction. Specifications obtainable from above. Certified check payable to Director of Public Works, 10% required with bid.

WASHINGTON STATE—Following contracts awarded by State Highway Commission:

- Pierce and Kitsap Counties—(Navy Yard and Olympic highways), 43 miles of bituminous macadam surfacing at junction of state road No. 9 to Gig Harbor, Harper and Manchester, and 4.8 miles from Bremerton to the junction of Seabeck road to Northwest Roads Co., Hughes Bldg., Portland, schedule "A" bid \$167,696.
- Jefferson County—(Olympic highway): Paving 6.3 miles from Discovery Bay to Ludlow road, to Puget Sound Bridge & Dredging Co., 2929 16th SW, Seattle, \$127,004.
- Grays Harbor County—(Cosmopolis

to Arctic): Grubbing, draining and grading about 6.2 miles of state road No. 12, to General Constr. Co., Colman Bldg., Seattle, on low bid of \$123,286, specifying copper steel pipe.

PASADENA, Los Angeles Co., Cal.—City directors authorize city engineer, Harvey W. Hincks, to use cement concrete pavement in proposed paving of Colorado St. between 200 ft. east of Mentor Ave. and the east city limits, 12,551 lin. ft. A county appropriation of \$85,000 has been made to cover the cost. Improvement involves:

- (1) 376,530 sq. ft. 9-7-7-9-in. cement concrete pavement;
 - (2) reinforced concrete culverts;
 - (3) 100 ft. 30-in. corr. iron culvert.
- City engineer has estimated pavement to cost \$75,396 and culverts \$10,000. Pavement will consist of two 15-ft. strips. Bids will be called within the next 30 days.
- LOS ANGELES, Cal.—Martin Simunovich, 3305 W. 66th St., awarded contract by Board of Public Works April 6, at \$84,934.27 for improving San Fernando Road, between Weldon Canyon Road and north city boundary of San Fernando, cash contract.

YAKIMA, Wash.—Barnard Curtis Co., Ellensburg, Wash., submitted low bid to U. S. Bureau of Reclamation, Lake Cle Elum Dam Site, Ronald, Wash., April 7, at \$19,988 for furnishing all labor and material for the construction of the Flow Line Road, Cle Elum Reservoir, Yakima Project, Wash. The work is located about 11 miles northwest of Cle Elum, Wash. The road is about 5.5 miles in length and the principal items are:

- (1) 26 acres of clearing and grubbing;
- (2) 32,000 cu. yds. of all classes of excavation;
- (3) 20,000 sta. cu. yds. of overhaul;
- (4) 200 cu. yds. of surfacing;
- (5) 1000 cu. yds. of backfill;
- (6) 70 cu. yds. of concrete;
- (7) erecting 60 M.B.M. of timber in bridges;
- (8) installing 790 lin. ft. of corr. metal pipe culverts.

SAN JOSE, Santa Clara Co., Calif.—Valley Paving & Construction Co., P. O. Box 1349, Fresno, at \$17,490 awarded contract by county supervisors to improve San Jose and Alviso Road, in Supervisor District No. 3, involving 116,600 sq. ft. asphalt concrete, 5-in.; 6-in. waste rock base. Complete bids follow:

| | |
|--|----------|
| Valley Paving & Const. Co., Fresno | \$17,490 |
| Union Paving Co., S. F. | 19,859 |
| A. J. Raisch, San Jose | 19,949 |

SAN JOSE, Santa Clara Co., Calif.—Valley Paving & Construction Co., P. O. Box 1349, Fresno, at \$16,280 awarded contract by county supervisors to improve part of Saratoga Avenue in Supervisor District No. 4, involving 134,200 sq. ft. asphalt concrete, 5-in. Complete bids follow:

| | |
|--|----------|
| Valley Paving and Const. Co., Fresno | \$16,280 |
| A. J. Raisch, San Jose | 16,430 |
| Union Paving Co., S. F. | 16,487 |
| Surveyor's estimate | 16,594 |

PEARL HARBOR, T. H.—Until May 18, bids will be received by the Bureau of Yards and Docks, Navy Department, Washington, D. C., for paving and constructing seaplane runway at Pearl Harbor. Estimated cost \$150,000. Plans obtainable from the Bureau at Washington.

SAN JOSE, Santa Clara Co., Calif.—W. A. Dontanville, Box 544, Salinas, at \$12,290 awarded contract by county supervisors to improve Foothill Blvd. in Supervisor District No. 1, involving 141,724 sq. ft. oil macadam, 3-inch. Complete bids follow:

| | |
|---------------------------------------|----------|
| W. A. Dontanville, Salinas | \$12,290 |
| Granite Const. Co., Watsonville | 12,443 |
| Pereira & Reed, Tracy | 13,333 |
| A. J. Raisch, San Jose | 13,950 |
| Surveyor's estimate | 13,328 |

OREGON STATE.—Following bids opened by State Highway Commission April 7, and held under advisement:

J. C. Compton, McMinnville, low bidder at \$21,615 for 4.92 miles of bituminous macadam in Hot Lake-Union Section of the Old Oregon Trail, Union County, Dunn & Baker, Klamath Falls, at \$22,581.50 second low.

Dunn & Baker, Klamath Falls, at \$44,765.50 low bidders for 11.1 miles of bituminous macadam in Dillon-Biggs Section of the Columbia River Highway, Wasco and Sherman Counties, J. C. Compton, McMinnville, second low at \$49,772.

IDAHO STATE.—J. H. Stemmer, Director of Highways, has announced that state roads to be oiled during the summer are:

- 64 miles from Idaho Falls-Spencer on Idaho-Montana Highway.
- 14 miles from St. Anthony-Ashton.
- 44 miles across Bear Lake County to Wyoming line.
- 50 miles from American Falls to Rupert.

Sawtooth Park Highway from Nevada line to Halley, includes 45 miles from near Shoshone to Halley and 11 miles from Gooding county line to Shoshone.

On North and South Highway—11 miles from Mesa to Fruitvale, 21 miles from ft. of Whitebird hill into Grangeville, 31 miles from Cottonwood to Winchester, 9 miles from top of Cuddeas hill to foot; 13 mile stretch from Genesee to Thorn creek, 31 mi. north from Moscow; 16 miles south of Bonners Ferry and 18 miles from Sandpoint to Priest River.

PLUMAS COUNTY, Cal.—Until Apr. 21, 2 P. M., bids will be received by F. W. Haselwood, District Engineer, Division of Highways, Redding, to treat with asphaltic road oil as a dust palliative about 18.2 miles between Buck's Ranch and Quincy. Specifications obtainable from above. Certified check 10% required with bid.

PLUMAS & LASSEN COUNTIES, Cal.—Until April 21, 2 P. M., bids will be received by F. W. Haselwood, District Engineer, Division of Highways, Redding, to treat with fuel oil as a dust palliative about 30.6 miles between Delleker and a junction with State Highway Route 29, near Chat. Specifications obtainable from above. Certified check 10% required with bid.

VENTURA, Ventura Co., Cal.—City votes bonds of \$100,000 to finance Meta Street cut-off. The issue is to provide funds to pay for the city's share of the Meta Street project, including street improvement, straightening of the highway, construction of a new bridge, the total cost of which is about \$620,000. The county will contribute \$30,000 and the state the balance. The state highway engineer's office expects to have the work out for bids within 60 days.

HILLSBOROUGH, San Mateo Co., Cal.—City council will ask bids May 3, 5 P. M., to improve portions of Jackling Drive, Baileysana Road, Oakdale Road, Glen Way and Eden Way, involving:

- (1) 500 cu. yds. grading, backfill;
- (2) 54,000 sq. ft. 3-inch asph. concrete wearing surface;
- (3) 15,000 sq. ft. oil and screenings surface;
- (4) 3,600 lin. ft. gutter;
- (5) 5,200 lin. ft. concrete shoulders;
- (6) 1,000 ft. 12-in. concrete pipe;
- (7) 60 ft. 8-in. concrete pipe;
- (8) 7 storm water catchbasins;
- (9) 300 ft. headerboard.

John A. Hoey, town clerk. 1911 Act.

MADERA COUNTY, Calif.—Until April 15th, 2:00 P. M., bids will be received by E. E. Wallace, District Engineer, State Highway Building, Fresno, for treating with heavy fuel oil, about 15.5 miles of earth shoulders on each side of the existing pavement. Specifications obtainable from above office. 10% of amount bid required.

AMADOR, El Dorado and Alpine Counties, Cal.—As previously reported until April 20, 2 P. M., bids will be received by State Highway Commission, Sacramento, to treat with fuel oil and asphaltic road oil about 80 miles between Chapmans and Picketts Junction and between Picketts Junction and Alpine Junction and between Picketts Junction and Hangman's Bridge near Markleville, involving:

- (1) 1,270 bbls. asph. road oil, Loc. A;
- (2) 350 bbls. heavy fuel oil, Loc. A;
- (3) 2,450 bbls. heavy fuel oil, Loc. B;
- (4) 700 bbls. light fuel oil, Loc. C;
- (5) 350 bbls. heavy fuel oil, Loc. C;
- (6) 975 bbls. light fuel oil, Loc. D;
- (7) 900 bbls. heavy fuel oil, Loc. D;
- (8) 300 bbls. light fuel oil, Loc. E;
- (9) 350 bbls. heavy fuel oil, Loc. E;
- (10) 850 bbls. asph. road oil, Loc. E.

PACIFIC, Grant and King Counties, Wash.—Until April 26, 10 A. M., bids will be received by Samuel J. Humes, Director of Highways, Olympia, Wash., for highway construction as follows:

- (1) Paving with Portland cement concrete one-half strip on about 0.8 mile of State Road No. 12, Raymond east to connection in Raymond in Pacific County.
- (2) Grading about 6.1 miles of Grand Coulee Highway, Soap Lake north in Grant County, involving about:
 - 124,190 cu. yds. excavation;
 - 225 lin. ft. pipe culverts and other items.
- (3) Grading and surfacing about 3.6 miles of Vashon Island Highway, Center to Tahlequah in King County, involving about:
 - 3.4 acres clearing;
 - 129,320 cu. yds. excavation;
 - 7,660 cu. yds. crushed stone;
 - 4,748 lin. ft. pipe culverts; and other items.

Certified check 5% required with bid. Specifications obtainable from county engineer of counties in which work is situated or from office of Director of Highways upon deposit of \$2, returnable.

TUOLUMNE COUNTY, Cal.—Until April 21, 2 P. M., bids will be received by R. E. Pierce, District Engineer, Division of Highways, Room 502 State Office Bldg., Sacramento, for treating with fuel oil as a dust palliative about 36.3 miles between Stoddard Springs and Que de Porka. Specifications obtainable from above.

SOLANO COUNTY, Calif.—As previously reported, bids will be received by State Highway Commission, Sacramento, to grade and pave with Portland cement concrete about 6.4 miles between one-half mile west of Cordelia and one-third mile east of Fairfield, involving:

- (1) 92,500 cu. yds. rdwy. excavation without class;
- (2) 2,400,000 sta. yds. overhaul;
- (3) 16,000 cu. yds. imp. borrow;
- (4) 4,950 cu. yds. struc. excav;
- (5) 52,350 cu. yds. subgrade for pave;
- (6) 1,850 cu. yds. cushion course;
- (7) 1,200 cu. yds. salvaged base;
- (8) 4,500 tons untreated cru. stone or gravel surf;
- (9) 485 tons crushed gravel or stone (bit. treated surf);
- (10) 25 tons cut back asphalt;
- (11) 163 bbls. light fuel oil;
- (12) 13,900 cu. yds. Class A Portland cem. conc. (pave);
- (13) 725 cu. yds. do; (struc.);
- (14) 40 cu. yds. do; (tremie);
- (15) 104 cu. yds. Class B Port. cem. conc. (struc.);
- (16) 410,500 lbs. bar reinf. steel (pave. and struc.);
- (17) 1,932 lin. ft. 18-in. corr. metal pipe;
- (18) 238 lin. ft. 24-in. do;
- (19) 665 lin. ft. corrugated metal pipe (clean and relay);
- (20) 236 lin. ft. salvage exist culverts;
- (21) 9 move and reset headwalls;
- (22) 500 cu. yds. Port. cer. concrete remove from exist pave. and struc.;
- (23) 0.6 mile new property fence;
- (24) 6.6 miles new hog tight property fence;
- (25) 40 tubular gates;
- (26) 3.2 miles move and reset fences;
- (27) 310 M. gal. water applied to base and surf;
- (28) 360 lin. ft. solid timber guard rail;
- (29) 32 M. ft. b.m. redwood timber, dense sel. all-heart structural grade;
- (30) 34 M. ft. b.m. redwood timber select all-heart struc. grade;
- (31) 235 lbs. bronze expansion plates;
- (32) 338 sta. finish rdwy.;
- (33) 77 monuments complete in place.

State will furnish corrugated metal pipe, and cast steel frames and covers for drop inlets.

MENLO PARK, San Mateo Co., Cal.—City council declares intention to improve Fremont Street, involving:

- (1) 1,000 cu. yds. grading;
- (2) 40,000 sq. ft. 1½-in. emulsified asphalt wearing surface 5-in. macadam base;
- (3) 4,000 lin. ft. curb;
- (4) 20,000 sq. ft. concrete gutter;
- (5) 33 sewer services;
- (6) 3 storm water drain sumps;
- (7) 2 part circle culverts.

Hearing will be May 3. Estimated cost, \$12,250. Bert J. Mehl, city engineer.

TIJUANA, Mexico.—Gov. Augustin Alacaha announces construction of a concrete pavement from Tijuana to Ensenada, 70 miles, will be started within 30 days. Plans and specifications and an estimate have been forwarded to the City of Mexico for approval. Est. cost, \$380,000.

LOS ANGELES, Cal.—J. L. McClain 3452 W Slauson Ave., awarded contract by county supervisors March 30 at \$104,769.16 for improvement of the Anaheim-Telegraph Road from Bandini Crossing of the A. T. & S. F. railway at Garfield Ave. to San Gabriel river, 18,347 lin. ft. or 2.47 miles in length. Complete bids published in issue of March 30.

SAN JOSE, Santa Clara Co., Cal.—A. J. Raisch, 305 Burrell Bldg., San Jose, at \$12,989 awarded contract by county supervisors to improve Rincon Ave., McCoy Ave. and part of the San Tomas Aquino Road, Supervisor District No. 5, involving 322,990 sq. ft. oil macadam. Complete bids follow:

| | |
|--------------------------------------|----------|
| A. J. Raisch, San Jose..... | \$12,989 |
| Pereira & Reed, Tracy..... | 15,631 |
| Granite Const. Co., Watsonville..... | 16,240 |
| Union Paving Co., S. F..... | 16,858 |
| W. A. Dontanville, Salinas..... | 22,450 |

GLENN COUNTY, Cal.—Clark & Henry Constr. Co., 564 Market St., San Francisco, at \$21,843 awarded contract by State Highway Commission to grade and surface with asphalt concrete 0.4 miles in Willows. Complete bids published in issue of March 24.

ORANGE COUNTY, Cal.—Jahn and Bressi, Los Angeles at \$41,291 awarded contract by State Highway Commission to grade and pave with Portland cement concrete about 4.8 miles between Newport Beach and Corona Del Mar. Complete bids published in issue of March 31.

SAN DIEGO COUNTY, Cal.—Bodenhamer Const. Co., 354 Hobart Street, Oakland, at \$219,535.25 awarded contract by State Highway Commission to grade and pave with Portland cement concrete 7.5 miles between Bostonia and Chocolate Creek. Complete bids published in issue of March 31.

RIVERSIDE COUNTY, Calif.—Lee Moor Contracting Co., El Paso, Texas, at \$121,866.15 awarded contract by the State Highway Commission to grade and surface with oil treated crushed gravel or stone 3.7 miles between Blythe and Ehrenberg Bridge. Complete bids published in issue of Apr. 1.

SAN JOSE, Santa Clara Co., Calif.—L. C. Smith, 620 High St., Palo Alto, at \$19,278 awarded contract by county supervisors to improve Calaveras Rd., Supervisor District No. 3, from Evan Road to the Airport, involving:

- (1) 20,000 sq. yds. grading;
- (2) 119,200 sq. ft. oil macadam paving.

Complete bids follow:

| | |
|---------------------------------|----------|
| L. C. Smith, Palo Alto..... | \$19,278 |
| A. J. Raisch, San Jose..... | 19,947 |
| W. A. Dontanville, Salinas..... | 25,507 |

SEATTLE, Wash.—Northwest Construction Co. 2350 Sixth Ave., N. E., at \$382,812 submitted low bid to the board of public works to improve Aurora Ave. Puget Sound Bridge and Dredging Co. at \$395,647 second low.

SAN JOSE, Santa Clara Co., Calif.—Pereira & Reed, 545 Roosevelt Ave., Tracy, at \$3980 awarded contract by county supervisors to improve Piercy Road, Supervisor District No. 2, involving 41,291 sq. ft. oil macadam.

Complete bids follow:

| | |
|---------------------------------|--------|
| Pereira & Reed, Tracy..... | \$3980 |
| A. J. Raisch, San Jose..... | 3995 |
| W. A. Dontanville, Salinas..... | 5300 |
| Union Paving Co., S. F..... | 6500 |

FRESNO & KINGS COUNTY, Calif.—Until April 15th, 2 P. M., bids will be received by E. E. Wallace, District Engineer, State Highway Building, Fresno, for treating about fifty miles of earth shoulders with fuel oil as a dust palliative. Specifications obtainable from above office. 10% of the amount bid required.

BUILDING NEWS

APARTMENTS

Preparing Sketches.
APARTMENTS Cost, \$40,000
SAN FRANCISCO. W Pierce Street
 90 S Hayes St.
 Three-story and basement frame and
 stucco apartments (six 2-room and
 six 3-room apts.) tile and com-
 position roof, steam heat, hardwood
 floors, colored tile baths and
 kitchens, canvas walls and ceil-
 ings, etc.
 Owner and Builder—T. I. Strand, 471
 Colton Street.
 Plans by Irvine & Ebbets, Call Bldg.

BONDS

LOS ANGELES, Cal.—Los Angeles
 Board of Education authorized the
 sale of \$1,600,000 worth of school bonds
 and instructed the county supervisors
 to advertise for bids for the bonds.
 Proceeds will be used to finance the
 construction of additional schools. To
 date, \$3,500,000 in school bonds have
 been sold, leaving \$8,920,000 of the
 issue voted on March 27, 1931, un-
 sold.

CHURCHES

RIVERSIDE, Cal.—Calvary Pres-
 byterian Church, Riverside, has
 launched a campaign to raise \$100,000
 for building a new edifice on Mag-
 nolia ave. near the Community Hos-
 pital, Riverside. Construction will not
 be started until \$65,000 has been con-
 tributed and the remainder pledged.

FACTORIES AND WARE- HOUSES

Plans Being Completed.
DISTRIBUTING PLANT \$300,000
SAN FRANCISCO. Potrero Ave., bet.
 25th and Army Sts.
 Three-story Class A steel frame and
 concrete distributing plant and
 offices; three-story Class A steel
 frame and concrete pasteurizing
 building; one-story Class A steel
 and concrete boiler and compres-
 sor building with steel trusses,
 steel frame loading shed, gal-
 vanized roof; Class B steel frame
 and galvanized iron garage and
 repair shop, composition roof; one-
 story Class A steel and concrete
 butter and by-products building;
 brick exterior walls and concrete
 and tile floors.
 Owner—Dairy Delivery Co., 2550 19th
 St., San Francisco.
 Architect—William Toepke, Call Bldg.,
 San Francisco.
 Associate Architect—Otto G. Hinter-
 mann, Call Bldg., San Francisco.
 Bids will be asked in about three
 weeks.

FRESNO, Fresno Co., Cal.—A Sig-
 nal Hill refining company has sub-
 mitted an offer to the directors of the
 Whepley Oil Co. of Fresno, to con-
 struct a \$100,000 gasoline refinery in
 Fresno to handle royalty oil of in-
 dependent Kettleman Hills producers.
 The proposed refinery would incorpo-
 rate the most modern gasoline crack-
 ing process and would have a daily
 capacity of at least 75,000 gals.

GARAGES AND SERVICE STATIONS

Plans Being Figured
SERVICE STATION Cost, \$12,000
SAN FRANCISCO. Van Ness Ave. &
 Howard Street.
 Reinforced concrete service station
 (tile & composition roof; concrete
 floors, etc.)
 Owner—Gilmore Oil Company, Third
 and Eighteenth Streets.
 Engineer—W. H. Carr.
 Architect—Dodge Riedy, Pacific Bldg.
 Bids are being taken for a general
 contract.

GOVERNMENT WORK AND SUPPLIES

ALAMEDA, Alameda Co., Cal.—J.
 P. Slater, 447 34th St., Oakland, at
 \$2,761.25 submitted low bid to U. S.
 Bureau of Public Roads to construct
 Unit No. 4, Government Island Proj-
 ect, involving installation of materials
 and equipment for transformer station
 and Coast Guard distributor house.

YOSEMITE, Cal.—Mine Safety Ap-
 plication Co., Pittsburgh, at \$9,409.45
 submitted only bid to District Engi-
 neer, U. S. Bureau of Public Roads,
 San Francisco, for furnishing and in-
 stallng carbon monoxide analyzers
 and recorders with calibrator and ap-
 purtances in a tunnel on the Turtle-
 back Dome-Valley Floor Section of
 the Wawona Road, Yosemite National
 Park.

MONTEREY, Monterey Co., Calif.—
 Elston & Rogers, Pacific Grove, at \$1-
 978 awarded contract by John T. Sal-
 lee, Captain, Q. M. Corps, Presidio of
 Monterey, for the construction of a
 90-foot extension on the southeast end
 of the storage warehouse at the Pre-
 sidio of Monterey.

Plans Being Figured—Bids Close May
 9, 2 P. M.
POST OFFICE Appropriated \$165,000
PETALUMA, Sonoma Co., Cal.
 Class A Post Office.
 Owner—United States Government.
 Plans by Supervising Architect, Wash-
 ington, D. C.
 Deposit of \$25 required for plans.

WASHINGTON, D. C.—Bids are be-
 ing received by the Bureau of Sup-
 plies and Accounts, Navy Department,
 Washington, D. C., to furnish ma-
 terials and equipment to Pacific Coast

navy yards and stations, further in-
 formation on the schedules listed be-
 ing obtainable from the Navy Pur-
 chasing Officer, 100 Harrison Street,
 San Francisco.

Bids Close April 19
SAN DIEGO 2000 gals. thinner for
 nitrocellulose dopes and lacquers;
 sch. 7501
 West yards, malleable iron pipe fit-
 tings; sch. 7778
 West yards, boiler plate steel; sch.
 7831.
 West yards, composition pipe fit-
 tings; sch. 7777.

Bids Open April 26
 West yards, boiler compound; sch.
 7806.
 San Diego, corrugated rubber mat-
 ting; sch. 7807.
 Puget Sound, squirt cans and oil
 feeders; sch. 7810.

San Francisco, motor driven milling
 machine and attachments; sch. 7813.
 Mare Island, 40,000 lbs. dry Indian
 red; sch. 7826.
 Mare Island and Puget Sound,
 quantity of corrosion resisting steel
 valves; sch. 7816.

Bids Close May 10
 San Francisco, or Pearl Harbor, 1
 road building and earth moving at-
 tachment for tractor; sch. 7815.

ROSEBURG, Oregon.—Murch Bros.
 Const. Co., Railway Exchange Bldg.,
 St. Louis, at \$663,000 awarded contract
 by Veterans Administration, Wash-
 ington, for the construction of an ad-
 ministration building and utilities at
 the Veterans' Administration Home,
 Roseburg, Oregon. Complete list of
 bids published April 7.

Plans Being Completed.
POST OFFICE Cost, \$150,000
VALLEJO, Solano Co., Cal. Main and
 Carolina Streets.
 One-story and basement Class A re-
 inforced concrete and granite post
 office building.
 Owner—United States Government.
 Architect—Charles Dean, California
 State Life Bldg., Sacramento.
 Plans will be completed in about
 thirty days.

SAN RAFAEL, Marin Co., Cal.—It
 will be several months before con-
 struction begins on the \$6,000,000
 Bombing Base at Marin Meadows.
 Secretary of War Hurley has notified
 Mayor W. S. Noek of San Rafael that
 because of the delay in completing
 purchase of the site and transferring
 the deeds to the federal government,
 it will be impossible to commence the
 work before June 30. On June 30,
 Secretary Hurley pointed out the ap-
 propriations lapse. The appropriation
 bills, he explained, carried a provision
 that work must begin before June 30,
 1932. It will be necessary that the
 time limit for the expenditure of ap-
 propriations be extended by congress
 before contracts for the construction
 can be entered into.

Congressman Clarence F. Lea, of
 Santa Rosa, already has introduced a
 bill providing for an extension, ac-
 cording to Captain H. B. Nurse, quar-
 termaster in charge of construction
 for the army. Captain Nurse, at his
 offices in San Rafael, said he believed
 the extension would be granted in a
 week or two, which means that the
 work of approving plans, advertising
 for bids, and letting contracts, could
 proceed almost without interruption.

**SUB-CONTRACTORS
MATERIALMEN**

Stop Your Losses

Credit information on general
contractors, owners, builders and
individuals.

**MATERIALMEN'S
CREDIT BUREAU**

J. E. Higgins, General Manager

564 Market St.—KEarny 6245-46
Night Phone DOuglas 5304
San Francisco

Plans Being Figured—Bids Close May 8.

POST OFFICE Cost, \$—
ELKO, Nevada.
Fireproof Post Office.
Owner—United States Government.
Plans by Supervising Architect, Treasury Dept., Washington, D. C.

Plans obtainable from the Supervising Architect's Office, Washington, D. C.

Plans Being Figured — Bids Close April 29.

STATION BLDG. Cost, \$105,000
SAN YSIDRO, San Diego Co., Cal.
Inspection Station.
Owner—United States Government.
Plans by Supervising Architect, Treasury Dept., Washington, D. C.

Plans obtainable from Supervising Architect, Treasury Dept., Washington, D. C.

AMERICAN LAKE, Wash.—Until May 10, 2:30 P. M., bids will be received by Veterans' Administration, Room 764, Arlington Building, Washington, D. C., for furnishing and installing stoker equipment for three existing boilers, 250-hp. On previous bid opening only one bid was submitted, by Combustion Engineering Co., 324 Monadnock Bldg., San Francisco, at \$17,884.

Preparing Plans.
OFFICERS' QUARTERS \$110,000
SAN FRANCISCO. Fort Mason.
Eight sets officers' quarters, 2 double sets of non-commissioned officers' quarters (concrete or hollow tile construction).

Owner—United States Government.
Plans by Constructing Quartermaster, Fort Mason.
Appropriation in congressional bill now before the House.

Preparing Plans.
OFFICERS' QUARTERS \$140,000
SAN FRANCISCO. Fort Scott.
Twenty-four sets of non-commissioned officers' quarters, two stories each. Type of construction not determined.

Owner—United States Government.
Plans by Constructing Quartermaster, Fort Mason.
Appropriation in congressional bill now before the House.

Preparing Plans.
ADDITION Cost, \$50,000
SAN FRANCISCO. Presidio.
Reinforced concrete fireproof addition to headquarters building (Commandant General) (80 ft. addition)

Owner—United States Government.
Plans by Constructing Quartermaster, Fort Mason.
Appropriation in congressional bill now before the House. Funds will be available about July 1.

PEARL HARBOR, T. H.—Until May 18, bids will be received by the Bureau of Yards and Docks, Navy Department, Washington, D. C., for paving and constructing seaplane runway at Pearl Harbor. Estimated cost \$150,000. Plans obtainable from the Bureau at Washington.

Contract Awarded.
FOOTINGS, ETC. Cont. price, \$26,197
PHOENIX, Arizona.
Construct footings and sub-basement walls of U. S. post office.
Owner—United States Government.
Plans by Supervising Architect, Treasury Dept., Washington, D. C.
Contractor—Robert E. McKee, 1960 El Paso, Texas.

ROSEBURG, Ore.—Murch Brothers Const. Co., Railway Exchange Bldg., St. Louis, submitted the low general contract bid of \$549,000 to the Veterans' Administration in Washington on April 1 for the construction of administration building and utilities at the Veterans' Administration Home, Roseburg, Ore. Other low bids were: Redmon Heating Co., Louisville, Ky., on the plumbing, heating and electrical work at \$213,223; Kimball Bros. Co., Council Bluffs, Iowa, on the electric elevators at \$21,589; Redmon Heating Co., on sewage treatment works at \$18,993; York Ice Machinery Corp., Philadelphia, on refrigerating and ice-making plant at \$15,804. The bids follow:

| | |
|--|-------------|
| General Work | |
| Murch Bros. Const. Co. | \$549,000 |
| K. E. Parker Co. | 555,700 |
| A. W. Kutsche Co. | 557,900 |
| Mads Madsen Co. | 563,855 |
| MacDonald Const. Co. | 563,900 |
| McDonald & Kahn. | 566,000 |
| F. H. Hoffman. | 566,200 |
| Orndorf Const. Co. | 567,000 |
| Western Const. Co. | 581,987 |
| MacDonald Bldg. Co. | 596,720 |
| Pehrson Bros. Const. Co. | 597,800 |
| Schuler & McDonald. | 603,750 |
| Gjarde & Gills. | 617,740 |
| Henry B. Ryan. | 619,600 |
| W. E. Kier Const. Co. | 627,000 |
| R. E. Campbell | \$1,200,000 |
| Ward Hatfield. | |
| (no guarantee). | |
| Plumbing, Heating and Electric Work | |
| Redmon Heating Co. | \$213,223 |
| Farwell Company | 222,900 |
| C. A. Hooper Co. | 228,150 |
| Connor & Ripstra | 233,883 |
| Lohman Bros. | 236,748 |
| F. W. Snook Co. | 237,000 |
| T. L. Dawson Co. | 240,000 |
| Johnson & Davis. | 244,222 |
| Mechanical Const. Co. | 249,000 |
| Plb. & Heating Sales Corp. | 251,526 |
| A. G. Rushlight Co. | 252,000 |
| Industrial Htg. & Plbg. Co. | 253,116 |
| Herman Lawson Co. | 254,000 |
| Brown & Lessinger | 259,089 |
| A. H. Walsh Plbg. Co. | 261,000 |
| Thomas Heating Co. | 264,999 |
| University Plbg. & Heatg. Co. | 274,400 |
| Jas. A. Nelson. | 280,440 |
| Shea-Adamson Co. | 289,729 |
| Hateley & Hateley | 303,880 |
| Electric Elevators | |
| Kimball Bros. Co. | \$21,589 |
| A. Kiechhefer Elevator Co. | 22,623 |
| Otis Elevator Co. | 22,847 |
| Houghton Elevator Co. | 24,478 |
| Westinghouse Elec. Elev. Co. | 26,257 |
| Montgomery Elevator Co. | 30,000 |
| Sewage Treatment | |
| Redmon Heating Co. | \$18,993 |
| University Plbd. & Htg. Co. | 22,977 |
| C. Dudley DeVelbiss. | 24,325 |
| S. P. Dillard. | 24,800 |
| A. G. Rushlight Co. | 28,700 |
| A. H. Walsh Plb. Co. | 29,922 |
| Refrigerating and Ice Making Plant | |
| York Ice Machinery Corp. | \$15,804 |
| Northwest Ice Machine Corp. | 16,400 |
| Armstrong Ice Machine Co. | 18,160 |
| Vilter Mfg. Co. | 18,200 |
| Kahlanberger Eng. Co. | 20,740 |
| Wittenmeyer Machinery Co. | 24,300 |

A complete list of the alternate proposals on file in the office of Daily Pacific Builder.

PUGET SOUND, Wash.—Until May 11, 11 A. M., Specification No. 6697, bids will be received by Bureau of Yards and Docks, Navy Department, Washington, D. C., to remove existing refrigerating and ice making equipment and installing an automatic refrigerating unit, ice making equipment, motor-driven brine pumps and cold storage rooms at the Navy Yard (Hospital), Puget Sound, Wash. Specifications obtainable from above Bureau, or from Commandant, Navy Yard, Puget Sound, Wash., upon deposit of \$10, check payable to the Chief of the Bureau of Yards and Docks.

ifications obtainable from above Bureau, or from Commandant, Navy Yard, Puget Sound, Wash., upon deposit of \$10, check payable to the Chief of the Bureau of Yards and Docks.

PANAMA CANAL ZONE.—Until April 27, 10:30 A. M., under Schedule No. 2744, bids will be received by Panama Canal Commission, Washington, D. C., to furnish and deliver Cristobal (Pacific Port) material for overhaul of Pacific locks of the Panama Canal.

Sub-Bids Being Taken.
POST OFFICE Cost, \$25,000
SAN FRANCISCO. Sutter St. near Van Ness Avenue.

One-story and mezzanine floor Class C concrete and brick branch Post Office.
Owner—United States Government.
Architect—Withheld.
Contractor—P. F. Reilly and John Grace, 703 Market St., S. F.

Preparing Plans.
OFFICERS' QTRS. Cost, \$150,000
SAN FRANCISCO. Presidio (Infantry Terrace).

Three field officers' sets, 6 double sets commissioned officers' quarters, 1 single set officers' quarters (all 2-stories brick, reinforced concrete and hollow tile construction; the roof, hot water heating system, plumbing, hardwood floors; two baths in each set; gas ranges, refrigerators, etc.)

Owner—United States Government.
Plans by Constructing Quartermaster, Fort Mason.
Appropriation in Congressional bill now before the House. Funds available about July 1.

Preparing Plans.
LIBRARY, OFFICES Cost, \$20,000
SAN FRANCISCO. Presidio.
Two-story reinforced concrete library and offices for Medical Chief (tile roof).

Owner—United States Government.
Plans by Constructing Quartermaster, Fort Mason.
Appropriation in congressional bill now before the House. Funds available about July 1.

HALLS AND SOCIETY BUILDINGS

Contract Awarded.
MEMORIAL Contract price, \$33,800
PLEASANTON, Alameda Co., Calif.
One-story Class C masonry veterans' memorial hall, containing auditorium to seat 350 men's and women's club rooms; Spanish type; tile roof.)
Owner—County of Alameda.
Architect—Henry H. Meyers, K o h l Bldg., San Francisco.
Contractor—Wm. Myer, Blaney Ave., Cupertino.

Plans Being Figured—Bids Close April 29.

COMMUNITY CENTER Cost, \$650,000
SAN FRANCISCO. California St. and Presidio Avenue.

Two-story and basement reinforced concrete community center.
Owner — Jewish Community Center, Sidney M. Ehrman, Chairman, 68 Post St., San Francisco.
Architect — Hyman & Appleton, 68 Post St., and Arthur Brown Jr., 251 Kearny St., San Francisco.
Building will contain gymnasium, swimming pool, handball courts, auditorium, theatre, club rooms, lecture hall, game rooms, lounge rooms and kitchen.

Preparing Plans.

CLUBHOUSE Cost, \$50,000
ARCADIA, Los Angeles Co., Cal.
 Foothill Blvd. and Huntington Dr.
 One-story reinforced concrete club-
 house (\$800 sq. ft.); steel rolling
 doors, steel sash, etc. Auditorium
 to seat 400.
 Owner—Veterans of Foreign Wars,
 Post 2070, Arcadia.
 Architect—Wm. Lee Woollett, Archi-
 tects Bldg., Los Angeles.

Plans Being Figured—Bids Close April 26.

LODGE BLDG. Cost, \$40,000
RTD BLUFF, Tehama Co., Cal. Main
 St. N Walnut St.
 Two-story reinforced concrete Ma-
 sonic lodge (65x115 feet). Spanish
 type, part tile and composition
 roof, maple floors in banquet and
 club rooms, pine floors covered
 with linoleum in other portions.
 Owner—Vesper Lodge No. 84.
 Architect—Paul L. Dragon and C. R.
 Schmidts, Mercantile Bank Bldg.,
 Berkeley.

HOSPITALS

Contracts Awarded.
KITCHEN, ETC. Cost, \$118,000
STOCKTON, San Joaquin Co., Calif.
 State Hospital.

One-story kitchen and refrigeration
 plant (reinforced concrete construction,
 tile roof).

Owner—State of California.
 Architect—Peter S. Ala, 2130 N Com-
 merce St., Stockton.

Mechanical Eng.—Coddington Co., 222
 Kearny St., San Francisco.
General Work
Guth & Fox, 1516 27th Street, Sacra-
 mento, \$85,514.

Electric Work
Eddy Electric Co., 309 E Weber St.,
 Stockton, \$4,035.

Heating and Plumbing
Jos. C. Black, 721 W Elm St., Stock-
 ton, \$25,900.

HOTELS

Preparing Sketches.
HOTEL Cost, \$3,000,000
RENO, Nevada. (400 acre site near
 Highland Reservoir.

Three-story and basement Class A
 204 hotel rooms and 36 apartments;
 gambling casino, night club and
 swimming pool.

Owner—Chicago, Los Angeles & New
 York Capitalists, represented by
 Ralph T. Dale, Chicago, Ill. (to be
 known as the Reno Biltmore).
 Architect—A. Godfrey Bailey, 410
 Hillstreet Bldg., Los Angeles.

Segregated Bids Being Taken.
HOTEL & STORES Cost, \$30,000
STOCKTON, San Joaquin Co., Calif.
 SW Eldorado and Market Sts.

Two-story and full basement brick
 and concrete hotel and stores (six
 stores, 26 rooms) composition roof,
 steam heat, etc.

Owner—Withheld.
 Architect—Glenn Allen, 412 Market St.
 Stockton.

Agent for Owner—John Saccone, 1418
 E Lindsay St., Stockton.
 Bids are being received by Mr. Sac-
 cone on all portions of the work.

POWER PLANTS

LOS ANGELES, Cal.—Until 11 A.
 M., April 23, bids will be received by
 city purchasing agent, Thomas Ough-
 ton, for furnishing transformers un-
 der Spec. No. 2768. The items are:

- (1) three 10,000 KVA transformers;
- (1-a) alternate on above;
- (2) allowance deducted from bid if con-
 tractor does not furnish oil;
- (3) allowance deducted from bid if fac-
 tory tests are accepted in lieu of
 tests by engineer.

PALISADE, Colo.—Until April 28, 10
 A. M., under Specification No. 567-D,
 bids will be received by the U. S. Bu-
 reau of Reclamation, Denver, Colo.,
 to construct the Grand Valley Power
 Plant in connection with the Grand
 Valley Project, near Padisade, involv-
 ing in the main diversion and care of
 present tailrace during construction;
 removal of part of concrete in pres-
 ent tailrace; 1,100 cu. yds. of all classes
 of excavation; 2,000 cu. yds. back-
 fill; 1,450 cu. yds. concrete; placing
 87,500 lbs. of reinforcement bars and
 fabric; installing 19,400 lbs. of struc-
 tural steel and miscellaneous metal
 work; installing 3,680 in. ft. of elec-
 trical conduit; installing windows,
 window operators, doors, roofing and
 plumbing, and constructing metal
 lath and plaster partitions. This in-
 vitation for bids does not cover the
 purchase of materials, which are to
 be furnished by the Government.
 Plans obtainable from the Bureau of
 Reclamation at Denver.

To Be Done By Day's Work.
SUB-STATION Cost, \$325,000
WEST HOLLYWOOD, Los Angeles
 Co., Cal. Hawthorn St.

Two-story reinforced concrete sub-
 station (50x100 ft.); concrete floors
 steel sash, etc.

Owner—Los Angeles Bureau of Water
 and Power, 207 S. Broadway, Los
 Angeles.

Engineer—H. A. Van Norman, Chief
 Engineer, 207 S. Broadway, L. A.

**PUBLIC BUILDINGS, FIRE
 HOUSES AND JAILS**

Brick and Hollow Tile Bids Rejected.
HALL OF RECORDS Cost, \$300,000
MARTINEZ, Contra Costa Co., Cal.

Three-story Class A steel frame and
 concrete Hall of Records (hollow
 tile and metal lath partitions,
 steel sash, heating plant).

Owner—County of Contra Costa.
 Architect—E. Goeffrey Bangs, 411 30th
 Street, Oakland.

Structural Engineer—F. H. Tibbitts,
 Alaska Commercial Building, San
 Francisco.

Mechanical Engineer—G. M. Simonson
 Call Bldg., San Francisco.

Brick and hollow tile bids have been
 rejected and new bids will be adver-
 tised after July 1st.

Other awards previously reported.
 Setting of terra cotta, granite blocks
 and grade course bids held under ad-
 visement until April 11.

BANKS, STORES & OFFICES

Plans Being Completed.
SALESROOMS Cost, \$—
SAN FRANCISCO, 11th and Mission
 Streets.

Two-story reinforced concrete sales-
 room building, service station, etc.
 (composition roof, plaster facing,
 art stone trim, plate glass, steel
 sash, Neon lights, toilets, etc.)

Owner—Goodyear Tire & Rubber Co.,
 670 S Central Ave., Los Angeles.

Plans by Eng. Dept. of Owner.
 Agent—Milton Meyer, 50 Sutter St.
 Bids will be asked in about three
 weeks.

Plans Being Figured.
STORES, ETC. Cost, \$20,000
LAS VEGAS, Nevada. Third and
 Fremont Streets.
 Concrete block stores and service sta-
 tion.
 Owner—A. C. Grant, Las Vegas.
 Architect—Warner & Nordstrom, Las
 Vegas.
 Lessee—Sewell's United Stores et al.

Plans Completed.
STORE Cost, \$125,000
LOS ANGELES, Los Angeles Co., Cal.
 No. 6636-12 Hollywood Blvd.
 Four-story Class A reinforced con-
 crete and steel frame store (60x
 120 ft.); terra cotta facing.
 Owner—S. H. Kress & Co., 1031 S.
 Broadway, Los Angeles.
 Architect—Edward F. Sibbert, 114 5th
 Ave., New York City, New York.

Preparing Plans.
STORES, ETC. Cost, \$105,000
LOS ANGELES, Los Angeles Co., Cal.
 Wilshire Blvd. and Catalina St.
 Two-story brick stores, offices and
 garage (terra cotta and marble
 front); reinforced concrete garage.
 Owner—Withheld (Wright & Becker,
 owner's agent), 3900 Wilshire Blvd,
 Los Angeles.
 Achitect—E. Harvey, 2875 Wilshire
 Blvd., Los Angeles.

Preparing Preliminary Plans.
MARKET Cost, \$10,000
EAST OAKLAND, Alameda Co., Cal.
 One-story frame and stucco drive-in
 market (Spanish type).
 Owner—Withheld.
 Architect—Ray F. Keefer and Arthur
 L. Herberger, 770 Wesley Ave.,
 Oakland.

WHARVES AND DOCKS

Plans Being Completed.
WHARF Cost, \$100,000
OAKLAND, Alameda Co., Cal. Outer
 Harbor District.

Municipal garbage wharf.
 Owner—City of Oakland, W. W. Chap-
 pell, city clerk.

Plans by Eng. Dept., City Port Com-
 mission, foot of Grove St.

The wharf is to be 148x30-feet, of
 untreated timbers, resting on creosot-
 ed piles.

A slip is to be dredged alongside the
 pier 500x130-ft., involving moving ap-
 proximately 138,000 cu. yds. of mate-
 rial.

A street is to be constructed to give
 access to the wharf, which will involve
 laying about 124,000 sq. ft. of oil ma-
 cadam pavement.

The project also calls for approxi-
 mately 1750 feet of bulkhead, behind
 which a fill is to be made of dredged
 materials.

One thousand feet of this wall is to
 be of creosoted sheet piling, eight feet
 high from mud line. The remainder is
 to be built of untreated timber and
 about four feet high.

Bids will be asked in about 2 weeks.

Sub-Bids Being Taken.
BINS, ETC. Cont. price, \$21,483
SAN FRANCISCO, Islais Creek Ter-
 minal.

Timber bins and timber building (gal-
 vanized iron sheathing; 1300-ton
 capacity).

Owner—State of California (Harbor
 Board) Ferry Bldg.
 Engineer—Frank G. White, Ferry
 Building.

Contractor—F. J. Reilly, 6350 Fulton
 Street.

MEMBERS OF THE ASSOCIATED GENERAL CONTRACTORS

PACIFIC COAST AND INTERMOUNTAIN TERRITORY

CALIFORNIA STATE BRANCH

1318 Pershing Square Bldg.—TRinity 9418—Los Angeles

O. C. STRUTHERS, President

E. L. KIER, Vice-President

GEORGE HERZ, Secretary

MELVILLE DOZIER, JR., Manager

SOUTHERN CALIFORNIA CHAPTER

1318 Pershing Square Bldg.—TRinity 9418
Los Angeles, Calif.C. G. FitzGerald, President Melville Dozier, Jr., Manager
LYNN S. ATKINSON, First Vice-President (Engineering Div.)
WM. A. SIMPSON, Second Vice-President (Building Div.)The address of the firm is the same city in which is located the
Chapter office unless otherwise shown in membership list.

Building Contractors

| | | |
|----------------------------|---|-------|
| Atkinson, J. F. | 1102 Story Bldg., VAndike | 7783 |
| Baruch Corp., Herbert M. | 1015 Lincoln Bldg., TRinity | 5473 |
| Bradley Constr. Co., K. R. | 1833 West Pico, WASHINGTON | 2786 |
| Burgin, W. Jay | 1100 Redondo Ave., Long Beach, L. B. | 81103 |
| Byerts & Dunn | 7908 Santa Monica Blvd., Crestview | 9602 |
| Clinton Construction Co. | 1103 Spring Arcade Bldg., MADison | 2597 |
| Crowell, Wm. C. | 495 S. Bdwy., Pasadena, WAKEfield | 6692 |
| Crowell Co., Weymouth | 2104 E. 15th St., WESTmore | 5708 |
| DeCamp-Hudson Co., Ltd. | 1277 W. 24th St., WESTmore | 3382 |
| Dixon, L. E., Co. | 609 So. Grand Ave., TRinity | 4925 |
| Escherich Bros. | 234 W. 37th Place, ADams | 6294 |
| Hall, J. F. | 531 Douglas Bldg., MUTual | 6722 |
| Houghton & Anderson | 143 Rose St., MUTual | 5430 |
| K. P. Lowell & Co., Ltd. | 606 Union Bank Bldg., VAndike | 4072 |
| Macdonald & Driver | 311 Board of Trade Bldg., TUCKer | 6467 |
| McKee, Robert E. | 1128 Central Bldg., TRinity | 0291 |
| Miller, Geo. E. | 401 N. Canon Dr., B. H., OXFord | 7404 |
| Simpson Construction Co. | 1007 Architects Bldg., MUTual | 7261 |
| Snell, Fred C. | 339 N. Beverly Dr., Beverly Hills, OXFord | 6409 |
| Willard-Brent Co. | 254 E. 27th St., RIchmond | 2101 |

Bridges, Foundations

| | | |
|---------------------------|---------------------------------|-------|
| Ledbetter Co., W. M. | Box 1264, Arcade St., CApiitol | 13415 |
| Oberg Brothers | 707 San Fernando Bldg., ANGelus | 8759 |
| Raymond Concrete Pile Co. | 1008 Washington Bldg., VAndike | 6536 |

Highways, Paving, Grading

| | | |
|-----------------------------|---|--------|
| Basich Bros. | Torrance, Gardena | 446 |
| Bock, Geo. J. | 1007 S. Harvard, EMpire | 7614 |
| Donovan & Sons, J. G. | 4031 Goodwin Ave., OLYmpic | 0423 |
| Ferry, Peter L. | San Fernando Rd. and Bdwy., Glendale, OL. | 0164 |
| Fleming Construction Co. | Pomona | |
| Griffith Company | L. A. Railway Bldg., WESTmore | 9343 |
| Hall-Johnson Co. | P. O. Box 387, Alhambra, ELiot | 1855 |
| Herz & Co., Geo. | 310 Platte Bldg., San Bernardino, S. B. | 241-42 |
| Heuser, Chas. U. | 316 Allen Ave., Glendale, DOuglas | 3965 |
| Hudson, Chas. H. | 408 Rives-Strong Bldg., VAndike | 3374 |
| Jahn & Bressi | 701 Lane Mortgage Bldg., TRinity | 8674 |
| Lang Transportation Co. | 5501 Santa Fe Ave., JEFFerson | 3104 |
| Lewis Construction Co. | 300 S. Juanita St., WASHINGTON | 1407 |
| Packard & Tanner | 905 W. Latham St., Phoenix, ARIZ. | |
| Pearson & Dickerson | 4485 Cypress, Riverside, 1600 | |
| Ross, M. S. | 4011 Goodwin Ave., CApiitol | 7603 |
| Wells & Bressler | P. O. Box 596, Santa Ana, 227 | |
| Willis, C. C., & Sons, Inc. | 2119 E. 25th St., LAFayette | 9826 |

Class of Construction: (B) Building; (H) Highway; (P) Public Works; (R) Railroad.

Pipe Lines, Water Works

| | | |
|----------------------------|-----------------------------------|------|
| American Concrete Pipe Co. | P. O. Box 1428, Arcade Sta., JE. | 4211 |
| Haverty Co., Thos. | 316 E. 8th St., VAndike | 1171 |
| United Concrete Pipe Co. | Box 1, Station H, L. A., TWInoaks | 9196 |

Subways, Conduits

| | | |
|------------------------|-----------------------|--|
| Delta Construction Co. | P. O. Box 79, Compton | |
|------------------------|-----------------------|--|

General Engineering

| | | |
|--------------------------------|-------------------------------------|------|
| Atkinson, Lynn S. | 609 S. Grand, TRinity | 7451 |
| Bartmus, Peter | Hollywood Riviera, Redondo, Redondo | 6404 |
| Bent Bros., Inc. | 418 S. Pecan S., ANGelus | 7510 |
| Campbell-Reichert Co. | 4000 Whiteside Ave., ANGelus | 0598 |
| Cox, R. L. | 1100 Westminster, ALhambra | 1699 |
| EmSCO Conc. Cutting Corp. | 1517 Santa Fe Ave., VAndike | 7168 |
| Fitz-Gerald Eng. & Constr. Co. | 216 Rowan Bldg., TRinity | 5088 |
| Foley, D. A., Construc. Co. | 716 Grant Bldg., TUCKer | 7814 |
| Kemper Const. Co., Ltd. | 3701 Overland, Los Angeles | |
| Macco Construction Co. | Hynes, JEFFerson | 1148 |
| Merritt-Chapman-Scott Corp. | P. O. Box 507, San Pedro, | 2880 |
| Mittry Bros. Construction Co. | 722 Dewteler Bldg., VAndike | 0210 |
| Morrison-Knudsen Co. | 411 West Fifth St., MUTual | 7684 |
| Robinson-Roberts Co. | 706 Rives-Strong Bldg., TRinity | 2889 |
| Spicer, C. A. | 818 Financial Center Bldg., TUCKer | 9570 |
| Standard Dredging Co. | 325 Central Bldg., TRinity | 3253 |
| Watson, R. A. | 1026 N. McCadden Pl., GRANite | 4121 |

Affiliates

| | | |
|------------------------------|---------------------------------------|-------|
| Brashears & Co., C. | 501 Security Bldg., TRinity | 5091 |
| Consolidated Rock Prod. Co. | 656 S. Los Angeles St., TRinity | 0241 |
| Gilmore Oil Co. | 2423 E. 28th St., JEFFerson | 1211 |
| Graham Brothers | 1215 W. 7th St., Long Beach, L. B. | 65251 |
| Hartford Accident & Ind. Co. | 548 S. Spring St., MADison | 1471 |
| L. A. Brick Co. | 1078 Mission Road, ANGelus | 5684 |
| Sun Lumber Co. | Crescent Drive, Beverly Hills, OXFord | 6191 |
| Union Oil Co. | Union Oil Bldg., TUCKer | 7211 |

ALAMEDA COUNTY CHAPTER

354 Hobart St., Rm. 410—Glencourt 7400—Oakland, Calif.

S. G. Johnson, President H. J. Christensen, Treasurer
Geo. J. Maurer, Vice-President W. E. Hague, Manager

| | | |
|----------------------------|---------------------------------|------|
| Brennan, J. P. (B.) | 2820 Regent, Berkeley, BE. | 0346 |
| Christensen, H. J. (B.) | 1924 Broadway, Oakland, LA. | 7164 |
| DeVelbiss, C. Dudley (B.) | 369 Pine St., S. F., GA. | 3225 |
| Dyer Construction (B.) | 337 17th St., Oakland, GL. | 3203 |
| Furlong, Thos. H. L. (B.) | 460 Jerome Ave., Piedmont, HU. | 0620 |
| Jacobs & Pattiani (BP) | 337 17th St., Oakland, GL. | 3203 |
| Johnson, S. C. (B.) | 4652 Dolores Ave., Oakland, FR. | 6650 |
| Keating, W. C. (B.) | 925 Forum Bldg., Sacramento | |
| Lesure, E. T. (B.) | 87 Ross Circle, Oakland, OL. | 0389 |
| Littlefield, R. W. (B.) | 337 17th St., Oakland, HI. | 0994 |
| Lyons, W. E. (B.) | 354 Hobart St., Oakland, HO. | 5325 |
| Maurer, George J. Co. (B.) | 50 York Drive, Oakland, HU. | 3457 |
| Nordstrom, David H. (B.) | 354 Hobart St., Oakland, GL. | 7400 |
| Pedgrift, James H. (B.) | 4106 Broadway, Oakland, HU. | 1300 |
| Petersen, George (B.) | 1841 Bancroft, San Leandro, TR. | 2043 |
| Petersen, James B. (B.) | 4021 Agua Vista, Oakland, FR. | 9887 |
| Schultz, Herbert (B.) | 801 Mendocino, Berkeley, AS. | 2360 |
| Sullivan & Sullivan (B.) | 2653 Best Ave., Oakland, AN. | 4724 |
| Thornally, W. G. (B.) | 354 Hobart St., Oakland, GL. | 8476 |
| Westlund, Fred J. (B.) | 354 Hobart St., Oakland, GL. | 7400 |

Associate Members

| | | |
|----------------------------------|-------------------------------------|------|
| Berkeley Building Materials Co. |Masonic and Brighton, BE. | 2280 |
| Central Building Material Co. |915 Antonio, TR. | 9326 |
| Costa Building Materials Co. |808 Gilman St., BE. | 3162 |
| Cowell, Henry, Lime & Cement Co. |81 Franklin, HI. | 3398 |
| Davis Co. Jas. A. |517 Fairmont, BE. | 9360 |
| Lannom Bros. Mfg. Co. |5th and Magnolia, GL. | 3663 |
| Makin & Kennedy, Inc. |101 Fourth St., HI. | 0626 |
| Melrose Building Materials Co. |Tidewater Ave., FR. | 5787 |
| Oakland Building Material Co. |5000 Broadway, HU. | 6300 |
| Oakland Planning Mill Co. |2nd and Washington, LA. | 5503 |
| Pacific Coast Aggregates, Inc. |Broadway and Water, HI. | 0770 |
| Powell Bros. Inc. |Harrison and Pea, Alameda, CA. | 5101 |
| Sunset Lumber Co. |400 High St., AN. | 1000 |
| Tilden Lumber Co. |Foot of University Ave., BE. | 0697 |
| Transite Concrete Co. |401 Water St., TE. | 0720 |

SAN DIEGO CHAPTER

Spreckels Theater Bldg.—Main 4289—San Diego, Calif.

George R. Daley, President M. A. Mathias, Manager
M. H. Golden, Vice-President

| | | |
|--------------------------------|--|--------|
| Carroll, B. C. |4396 Maryland St., Hillcrest | 5274-M |
| Daley Corporation (HP) |4430 Boundary St., Randolph | 1136 |
| Dennis Constr. Co., V. R. (HP) |Box 183, Sta. A, Hillcrest | 8293 |
| Ford, E. Paul (HP) |Box 2, E. San Diego, Alameda | 5101 |
| Golden, M. H. (B) |404 California Bank Bldg., Frankl. | 7983 |
| Grove, Cecil B. |4316 Island Ave., Franklin | 7474 |
| Hazard Constr. Co., R. E. (HP) |2508 Kettner Blvd., Franklin | 6315 |
| Jarboe Constr. Co. (B) |208 Spreckels Theatre Bldg., Franklin | 3792 |
| Kier Const. Co. (HP) |First National Bank Bldg., Main | 4272 |
| Larsen, B. O. (B) |1340 E. St., Main | 4752 |
| Miracle Constr. Co. (HP) |Box 601, E. San Diego, Main | 2295 |
| Penick & Sons, T. B. (HP) |3075 L St., Main | 4582 |

NORTHERN CALIFORNIA CHAPTER

206 Sansome St.—Garfield 7107—San Francisco, Calif.

C. W. Wood, President Geo. G. Pollock, Vice-President
Floyd O. Booe, Secretary-Manager

| | | |
|------------------------------------|---|--------|
| Atkinson, Lynn S. (HPR) |1316-17 Edwards & Wilbey Bldg., S. F., Tr. | 7451 |
| Atkinson, Guy F., Co., Inc. (BHPR) |601 Russ Bldg., S. F., Sut. | 3629 |
| Ball, N. M. (HP) |1889 Yosemite Rd., Berkeley | 4422 |
| Basalt Rock Co., Inc. (H) |900 8th St., Napa, Napa | 105 |
| Bechtel Co., W. A. (BHPR) |155 Sansome St., S. F., GA. | 0780 |
| Bevanda, M. J. (HP) |319 Elks Bldg., Stockton | 7470 |
| Bishop, E. B. (HP) |900 Forum Bldg., Sacramento, Capitol | 2500 |
| Bodenhamer Const. Co. (HP) |Box 643, 354 Hobart St., Oakland | 4422 |
| Calif. Const. Co. (BHPR) |715 Standard Oil Bldg., S. F., DO. | 4820 |
| Casson, Jack A. (HP) |Hayward, Calif., Hayward | 856 |
| Clark & Henry Const. Co. (HP) |564 Market St., S. F., DO. | 2903 |
| Colley, W. C. (HP) |95 Northampton Ave., Berkeley, Ashbury | 1323 |
| Conner, J. L. (HP) |P. O. Box No. 86, Monterey | 1137-M |
| Connolly, T. E. (BHPR) |461 Market St., S. F., Kearny | 6408 |
| Conyes, R. A. (HP) |1043 38th St., Oakland, Olym. | 9391 |
| Currie, James (HPR) |1100 Peninsula Ave., Burlingame, Burl. | 3497 |
| Delin, C. M. (HPR) |206 Sansome St., San Francisco, Gar. | 7107 |
| Dodge Bros., Inc. (HP) |Fallon, Nevada, Main | 1761 |
| Drumm, A. D., Jr. (HP) |Fallon, Nevada, Main | 1348 |
| Eaton & Smith (HPR) |715 Ocean Ave., San Francisco, DE. | 6763 |
| Fairbanks, A. J. & J. L. (HP) |Linden Ave., S. F. | 5101 |
| Fay Improvement Co., The (HP) |Phelan Bldg., S. F., KE. | 4044 |
| Fitzmaurice, J. H. (HP) |2857 Hannah St., Oakland, Higate | 2490 |
| Force Construction Co. (HP) |70 Bellevue, Piedmont, Calif. | 3794 |
| Frederickson Bros. (BHP) |First Natl. Bank Bldg., Stockton, 3794 | |
| Frederickson & Watson Const. |873 81st Ave., Oakland, SW. | 1264 |
| French, George J., Jr. (HP) |P. O. Box No. 675, Stockton, 6676 | |
| Gerwick, Ben Inc. (HP) |112 Market St., S. F., SU. | 8454 |
| Granite Construction Co. (BHPR) |Watsonville, California, | 988 |
| Hanrahan Co. (HP) |Hobart Bldg., San Francisco, GA. | 1639 |
| Harney, Charles L. (HP) |74 New Montgomery St., S. F., GA. | 1711 |

| | | |
|---------------------------------------|---|-------|
| Heafey-Moore Co. (HP) |344 High St., Oakland, AN. | 0466 |
| Hemstreet & Bl. (HP) |411 "C" Street, Marysville, | 1333 |
| Hodgman & MacVicar (HPR) |714 Plymouth, Pasadena, Ter. | 1363 |
| Holland, J. P., Inc. (HP) |1834 McKinney Ave., S. F., MI. | 5400 |
| Isbell Const. Co. (HP) |Carson City, Nev., P. 1754 (Also Fresno) | |
| Jenkins, M. A. (HP) |3560 Y St., Sacramento Capital | 442 |
| Jones & King (HPR) |Fallon, Nevada, K. | 4471 |
| Kaiser Paving Co. (BHPR) |Latham Square Bldg., Oak, HI. | 2614 |
| Knapp, J. F. (HPR) |916 Financial Center Bldg., Oak, GL. | 1620 |
| Larsen Bros. (HP) |10059 Carpenter, Galt, Calif. | |
| Le Tourneau, R. C. (HPR) |122 Moss Ave., Stockton, | 471 |
| Lord & Bishop (HPR) |Native Sons Bldg., Sacramento, Main | 3981 |
| Lovelace, Nate (HP) |3433 "N" St., Sacramento, Capital | 1990 |
| McDonald, D. (HPR) |204 23rd St., Sacramento, Cap. | 1056 |
| McDonald, D. (HPR) |204 23rd St., Sacramento, Cap. | 1056 |
| McGillivray Const. Co. (HPR) |Box 927, Sacramento, Capital | 270 |
| McMillan, W. K. (HP) |2088 Howard St., San Francisco, MA. | 3876 |
| Meric-Fraser Co. (BHPR) |Eureka, Eureka | 808 |
| Nevada Contracting Co. (HPR) |Fallon, Nevada, Phone | 451 |
| Nevada Rock & Sand Co. (HP) |Reno, Nevada, Reno | 5291 |
| Nighbert, Fred W. (HP) |No. 10 "H" St., Bakersfield | |
| Pacific Pavements Co. (HP) |12 Oak Grove Ave., S. F., GA. | 0068 |
| Pacific States Construction Co. (HP) |Call Bldg., S. F., DO. | 0879 |
| Phillips Co., John (HP) |582 Market, San Francisco, KE. | 4471 |
| Pollock, Geo. Co. (HPR) |P. O. Box 903, Sacramento, Main | 1457 |
| Rohi, H. W. (HPR) |4351 Alhambra Ave., Los Angeles | |
| Six Const. Co., Inc. (BHPR) |Financial Center Bldg., S. F., Gar. | 3842 |
| Skels & Graham Co. (HPR) |P. O. Box 108, Berkeley, BE. | 709 J |
| Siems-Helmets, Inc. (BHPR) |206 Sansome St., S. F., DA. | 5235 |
| Tedford, J. N. (HP) |Fallon, Nevada, Main | 461 |
| Teichert, A. & Son, Inc. (HP) |1846 37th St., Sacramento, Main | 6586 |
| Tucker, H. V., Co. (HP) |2819 Grove St., Berkeley, BE. | 709 J |
| Tucker, H. V., Co. (HP) |300 Vermont St., S. F., MA. | 7583 |
| Ulrich Const. Co., Geo. J. (BHP) |Modesto, Modesto | 921 |
| Valley Paving & Construction Co. (HP) |Bank of America Bldg., Fresno, 3-7418 | |
| Von der Hellen & Piersen (HPR) |San Jose, Calif., 3-7418 | |
| Ward Engr. Co. (HP) |315 Montgomery St., S. F., DAV. | 8984 |
| Wood, C. W. (HP) |P. O. Box 1435, Stockton, 8743 | |
| Young, Clarence (HP) |5250 Broadway Ter., Oakland, OL. | 3743 |
| Young & Son Co., Ltd. (HP) |999 Colusa Ave., Berkeley, Berk | 5511 |

Associate Members

| | | |
|--|--|------|
| American Bitumuls Co. (Bitumuls) |200 Bush St., San Francisco | |
| Anderson, B. C. (Commissary) |Boulder City, Nev. | 3030 |
| Andrews, F. T., Co. (C. P. A.) |1650 Russ Bldg., S. F., GA. | 7712 |
| Associated Oil Co. (Asso. Prod.) |79 N. Mont'y St., S. F., KE. | 4800 |
| Austin Western Road Machinery Co. (Road Machinery) |435 Brannan St., San Francisco, DO. | 2183 |
| Autocar Sales & Service Co. (Autocar Tractors) |1600 Bryant St., S. F. | |
| Bacon, Edward R. Co. (Road Machinery) |Folsom & 17th Sts., S. F. | |
| Blake Bros. Co. (Crushed Rock) |Balboa Bldg., San Francisco | |
| Calaveras Cement Co. |315 Montgomery St., San Francisco | |
| Calif. Corr. Culvert Co. (Corr. Pipe) |5th & Parker, W. Berkeley | |
| Cement Gun Construction Co. (Cement Guns) |58 Sutter St., S. F. | |
| Contractors Insurance Agency (Insurance) |206 Sansome St., S. F. | |
| Cowell Lime & Cement Co. (Cement) |22 Market St., San Francisco | |
| Davis, Norris K. (Equipment) |400 7th St., San Francisco | |
| Garfield & Co. (Equipment) |P. O. Box 423, Stockton | |
| Geiger Iron Works (Equipment) |P. O. Box 423, Stockton | |
| Glanville Rock Co. (Crushed Rock) |Watsonville | |
| Harneschger Sales Corp. (Equip.) |82 Beale St., San Francisco | |
| Hartford Rental & Service Co. (Equip.) |1600 Bryant St., S. F. | |
| Link Belt Co. (Equip.) |400 Paul Ave., San Francisco | |
| Murray & Ready (Labor Agency) |784 Howard St., S. F. | |
| Northwest Engineering Co. (Northwest Shovel) |23 Main St., S. F. | |
| Pacific Coast Aggregates |700 Wells Fargo Bldg., S. F., DA. | 7216 |
| Pacific H. B. A. Steels Co., Inc. |940 Brannan St., San Francisco | |
| Pacific Port. Cement Co. (Golden Gate) |Hunter-Dulin Bldg., S. F. | |
| Pland-Evans (Commissary) |Merchants Ex. Bldg., S. F., GA. | 5923 |
| Robinson Tractor Co. (Caterpillar Tractors) |1705-09 E. 12th, Oak. | |
| Santa Cruz Portland Cement Co. (Santa Cruz) |Crocker Bldg., S. F. | |
| Shell Oil Co. (Shell Products) |100 Bush St., San Francisco | |
| Soule Steel Co. (Reinforcing Steel) |1750 Army St., San Francisco | |
| Spears-Wells Machinery Co. |9th and Cedar Sts., Oakland | |
| Standard Oil Co. of Calif. (Stand. Prod.) |Standard Oil Bldg., S. F. | |
| Traffic Service Bureau (Commissary) |24 California St., San Francisco | |
| Union Oil Co. of Calif. (Union Products) |L. A. & S. F. | |
| United Commercial Co., Inc. |234 Stewart St., San Francisco | |

PACIFIC NORTHWEST BRANCH

4134 Arcade Building, Seattle, Wash.

JAS. MURDOCK, President

J. C. COMPTON, Vice-President

H. V. BOGERT, Rec. Secretary

J. B. WARRACK, Treasurer

P. L. CROOKS, Vice-Pres. and Secretary

PORTLAND CHAPTER

Multnomah Hotel Lobby—Atwater 7883—Portland, Ore.

Paul L. Crooks, President Philip Hart, 2nd Vice-President
Ross B. Hammond, 1st Vice-President J. A. Lyons, Treasurer
G. B. Herington, Executive Secretary

| | | |
|-------------------------------|--------------------------------|------|
| Anderson Construction Co. |682 E. 69th St., N., Gar. | 0474 |
| Andrews Construction Co. (BH) |102 N. Broadway, Br. | 5521 |
| Atkinson, Guy F. & Co. (BHP) |Yeon Bldg., Atw. | 3961 |
| Badrann, J. J. (HP) |681 E. 42nd St., N., Cr. | 3945 |
| Baker Construction Co. (B) |202 Multnomah Hotel, Atw. | 7441 |
| Christensen, Fred, Inc. (BHP) |187 E. 34th St., Ea. | 8934 |

| | | |
|------------------------------------|--------------------------------------|------|
| Cochrane Construction Co. (HP) |65th & Ainsworth, Tr. | 5944 |
| Compton, J. C. (HP) |McMinville, Ore., McM. | 106 |
| Crooks, P. L. (HP) |Slerry Bldg., Atw. | 7767 |
| Dann, J. J. (PHR) |424 Third St., Atw. | 5837 |
| Dougan-Hammond Constr. Co. (B) |307-8 Studio Bldg., Bea. | 4444 |
| Douglas, A. R. (HPR) |Kalispel, Montana | |
| Eisen-Weygandt Co. (HP) |Foot of Jefferson, Atwater | 4090 |
| Endicott, W. L. (HPR) |Yachato, Oregon | |
| Gates, E. L. (HPR) |Kamela, Oregon | |
| Gilpin Construction Co. (HPR) |Worcester Bldg., Atw. | 6220 |
| Grays Harbor Constr. Co. (BHPR) |Hoquiam, Wash. | |
| Greenwood, A. C. (HPR) |Fallon, Nev. | 3030 |
| Griffin, K. C. (BHR) |826 E. Caruthers, Lan. | 2479 |
| Guthrie & Co., A. Inc. (BHPR) |552 Sherlock Bldg., Atw. | 8316 |
| Hammond, Ross B. (B) |1312 Public Service Bldg., Atw. | 2159 |
| Haver Bros. Construction Co. (PHR) |Multnomah Hotel, Atw. | 7441 |

Class of Construction: (B) BUILDING; (H) HIGHWAY; (P) PUBLIC WORKS; (R) RAILROAD.

| | |
|------------------------------------|---|
| Hoffman, L. H. (BP) | Public Service Bldg., Atw. 3181 |
| Jacobson Construction Co. (BP) | McKay Bldg., Atw. 5027 |
| Jacobson-Jensen Co. (PH) | 407 Stanton, Gar. 3313 |
| Johnson Contract Co. (HPR) | 414 Exchange Bldg., Atw. 0678 |
| Johnson-Gardner Co. (HPR) | 414 Exchange Bldg., Atw. 0678 |
| Kern & Kibbe (HPR) | 290 E. Salmon St., Ea. 4116 |
| Kuckenberg & Wittman (BPR) | 226 Board of Trade Bldg., Br. 1999 |
| La Pointe Constr. Co. | 629 E. 54th St. N., Gar. 8312 |
| Lindstrom & Feigenson (BPHR) | 421 Rlwy. Exch. Bldg., Atw. 2662 |
| Lyons, J. A. (BPHR) | 1001 Halsey St., Tr. 2841 |
| McNerney Bros. (BPHR) | 201 Worcester Bldg., Atw. 6444 |
| Midstate Contract Co. (HP) | Box 33, Yakima, Wash. |
| Milne & Dussault (PH) | 1853 E. Broadway, Tab. 7277 |
| Morrison & Knudsen (BPHR) | 319 Broadway, Boise, Idaho |
| Morgan, T. M. (H) | 5410 Wilshire Blvd., Los Angeles |
| Morrison Trucking Co. (BPHR) | 391 E. 6th St., Ea. 8327 |
| Newport Construction Co. (PHR) | 317 Exchange Bldg., Atw. 2109 |
| Pacific Bridge Co. (BPHR) | Ft. of E. Salmon St., Ea. 2164 |
| Parker & Banfield (BP) | 984 E. 17th St., Sel. 6182 |
| Parker-Schram Co. (PHR) | Couch Bldg., Atw. 4375 |
| Peck, E. C. & Co. (PH) | Drain, Oregon |
| Puckett, W. H. Co. (PHR) | 319 Broadway, Boise, Idaho |
| Purdin, Sandebug, Elk & Lind (P) | 55 W. Humboldt, Tr. 7564 |
| Quinn, J. L. (B) | Box 1107, Klamath Falls, Ore. |
| Rebman, J. (PH) | 343 Vancouver Ave., Tr. 7825 |
| Robertson, Hay & Wallace (B) | 605 Weatherly Bldg., Ea. 3613 |
| *Saxton & Looney | Corvallis, Ore. |
| Seed, John S. (B) | 201 Worcester Bldg., Atw. 6444 |
| | Honorary Member and Director of Chapter |
| Silbaugh, C. E. (BPH) | Burns, Ore. |
| Shea & Co., J. F. (PHR) | 211 Henry Bldg., Atw. 2435 |
| Stebinger Bros. (B) | Worcester Bldg., Atw. 6444 |
| Sullivan & Doyle (PIR) | Ft. of Curry St., Atw. 5297 |
| | Box 104, Portland, Ore. |
| Traver, L. N. (B) | Corvallis, Ore. |
| Umpqua Dredging & Constr. Co. (PH) | Reedsport, Ore. |
| United Contracting Co. (BPHR) | 309-10 Stock Ex. Bldg., Atw. 5296 |
| von der Hellen & Pierson (HR) | Naches, Wash. |
| White, Ernest & Co. (B) | Twin Falls, Idaho |
| Wolfe, O. D. (HR) | Washougal, Wash., 9872 |
| Wren & Greenough (PHR) | 1037 Ch. of Com. Bldg., At. 9882 |
| Wright Constr. Co. (BPH) | Aberdeen, Wash. |
| Young, I. L. (BPH) | 524 Henry Bldg., At. 0097 |

Associate Members Portland Chapter

| | |
|-------------------------------------|----------------------------------|
| Balzer Machinery Co. | 275 Pine St., Atw. 9391 |
| Beall Pipe & Tank Co. | 85 Columbia Blvd., Wa. 3171 |
| Bitumuls Asphalt Sales Co. | 210 Thompson St., Tr. 1193 |
| Cascade Investment Co. | 509 E. Main St., Ea. 8315 |
| Clyde Equipment Co. | 355 Thurman St., Br. 0885 |
| Columbia Brick Works. | 301 E. Madison, Ea. 1101 |
| Concrete Pipe Co. | 169 Thompson St., Tr. 1164 |
| Electric Steel Foundry | 475 N. 24th St., Bea. 6344 |
| Feenaughty Machinery Co. | 309 E. Yamhill, Ea. 2187 |
| Grand Sheet Metal Works | 60 E. Third N., Ea. 2181 |
| Howard Cooper Corporation | 361 Hawthorne, Ea. 8188 |
| Lature, J. L. Equip. Co. | 312-314 E. Madison St., Ea. 8166 |
| Loggers & Contractors Machy. Co. | 345 E. Madison St., Ea. 4128 |
| McCraken-Ripley Co. | 65 Albion Ave., Wal. 7650 |
| McMillan, A. Co. | 350 E. Ankeny, Ea. 0178 |
| Metropolitan Casualty Ins. Co. The. | Wilcox Bldg., Atw. 7521 |
| National Hospital Assn. | 400 Mohawk Bldg., Atw. 5291 |
| Nicolai-Neppech Co. | 227 Davis St., Berk. 0685 |
| Oregon City Sand & Gravel Co. | Oregon City, Oregon |
| Oregon Portland Cement | 321 E. Madison, Ea. 3116 |
| Phoenix Iron Works | 360 Hawthorne, Ea. 0029 |
| Pomeroy, J. H., & Co. | Box 48, Seattle, Wash. |
| Pure Iron Culvert & Mfg. Co. | 763 Gladstone, Sel. 2275 |
| Rodgers, Hart, Banks. | Railway Exch. Bldg., Atw. 8496 |
| Santa Cruz Portland Cement | 45 Fourth St., Atw. 9848 |
| Snow, L. A. & Co. | 24 Union Ave., Ea. 6482 |
| Standard Oil Co. | Pacific Bldg., Bea. 4161 |
| Steel Tank & Pipe Co. | 404 Columbia Blvd., Wal. 2401 |
| Swigert, Hart & Yett | Ft. of E. Salmon St., Lan. 1125 |
| Union Oil Co. of California | Yeon Bldg., Atw. 9521 |
| Wallace Bridge & Structural Steel | P. O. Box 48, Seattle, Wash. |
| Western Road Machinery Co. | 720 E. Water, Ea. 4862 |
| Zimmerman, Wells & Brown | Ft. of Sheridan, At. 0221 |

Affiliated Builders Division, Portland Chapter

| | |
|------------------------------|------------------------------|
| Allt, Fred W. | 1118 Mallory Ave., Wal. 2083 |
| Alyn, B. T. | 7 E. 60th St. N., Tab. 0194 |
| Blackman, D. R. | 1140 Powell Blvd., Sel. 2400 |
| Carson Construction Co. | 310 Oak St. |
| Chandler Const. Co. | 400 C. of C. Bldg., Tr. 8024 |
| Dewitt Building Co., Geo. W. | 585 E. 41st N., Gar. 3412 |
| Duncan, J. A. | 474 E. Eighth N. |
| East Side Building Co. | 319 Railway Exchange Bldg. |
| Eklund, N. O. Co. | 1395 Sand, Gar. 3512 |
| Goldenberg, G. | Abington Bldg., Atw. 1675 |
| Coodridge, D. A. | 449 E. 44th N., Tr. 9945 |
| Greiling, F. H., Director | 908 E. 23rd N., Gar. 7184 |
| Hurlbert, Russell S. | Weatherly Bldg., Ea. 3613 |
| Irwin, A. H. | 1197 Garfield, Lan. 1266 |

| | |
|------------------------------|------------------------------|
| Johnson & Neubert | 375 E. 52nd St., Tab. 7727 |
| Kiecher, Wm. | 1170 Mallory Ave., Wal. 6223 |
| Knott & Rogers. | 24 E. 81st St., Tab. 7214 |
| Krausse, Rudolph K. | 457 E. 15th N., Gar. 1783 |
| Leistner, C. | 775 E. 14th N., Gar. 4902 |
| Moore, J. Bryson | 1444 Sandy Blvd., Gar. 8260 |
| Murphy, John | 488 Raleigh St. |
| Nelson, Herman | 385 E. 11th N., Gar. 2508 |
| Nilson, Emil | 449 E. 48th N., Tr. 6433 |
| Quigley, Wm. | 56 E. 52nd, Tab. 9057 |
| Ryan, Wm. F. | 1211 E. Kelly St., Tab. 1860 |
| Schenk, A. J. | 1275 Prescott, Tr. 7432 |
| Schmitt, H. A. | 2610 52nd St., Sun 7865 |
| Seed, J. S., Honorary Member | Worcester Bldg., Atw. 6444 |
| Stuart, Peter | 755 Irving, Bea. 3673 |
| Twitchell, P. A. | 567 E. 35th St. N., Tr. 1579 |
| Winship, T. B. | 461 E. 48th N., Tr. 7706 |
| Henkel-Shackelford | 1040 Minnesota, Univ. 0904 |
| V. D. Reverman | 353 E. Burnside |
| L. L. Hickok | 1111 Sandy Blvd. |
| Fred Sandstrom | 201 Worcester Bldg. |
| C. W. Christiansen | 445 Multnomah |

SPOKANE CHAPTER

West 515 First Avenue—Main 6822—Spokane

| | |
|----------------------------------|--------------------------------|
| Max J. Kunej, President | I. G. Anderson, Vice-President |
| Nick Norman, Vice-President | Dan Hannah, Secty.-Treas. |
| Alloway & Georg (B) | Hutton Bldg. |
| Auld & Shinn (B) | 1121 Indiana |
| Burnette, C. A. (H) | 1118 Ide Ave. |
| Byers, W. A. (H) | W. 1204 Mansfield |
| Clifton, Applegate & Toole (HPR) | Hutton Bldg. |
| Collins, J. H. & Co. (H) | Colville, Wash. |
| Colonial Building Co. (BH) | Hutton Bldg. |
| Crick, James (H) | Realty Bldg. |
| Degerstrom, N. A. (HPR) | Peyton Bldg. |
| Edwards, J. E. (H) | S. 1423 Adams |
| Geist, W. L. (H) | W. 444 23rd Ave. |
| Hansen Construction Co. | W. 1517 Jackson |
| Harding, Geo. (H) | Walla Walla, Wash. |
| Hargrave Construction Co. (H) | W. 418 Twentieth |
| Hewett, F. R. (H) | W. 420 Twenty-second |
| Joslin & McAllister (H) | Realty Bldg. |
| Kunej, Max J. (H) | Hutton Bldg. |
| Larson Bros. (B) | Hyde Bldg. |
| Long, Oliver J. (H) | W. 1924 Mansfield |
| Lyons & Price (H) | W. 503 Fourteenth |
| March Construction Co. | W. 1002 Riverside, Spokane |
| Martin, F. E. (B) | Galaxy Hotel |
| McLellan, A. (B) | E. 932 Ermina |
| Medby, M. C. (B) | S. 3614 Arthur |
| Meyers, W. G. | S. 2217 Tekon St. |
| Morin, S. (B) | W. 1009 Ide |
| Norman, Nick (B) | 231 Waverly Place |
| Nyberg, Carl (H) | Realty Bldg. |
| Orino, Sam (H) | Realty Bldg. |
| Power, C. A. (H) | S. 1703 Grand |
| Siemens, Spokane Co. (BPHR) | Realty Bldg. |
| Spokane Paper & Stationery Co. | S. 152 Jefferson |
| Standard Asphalt Paving Co. (HP) | Chronicle Bldg. |
| Standard Oil Co. of Calif. | Old National Bldg. |
| D. A. Sullivan & Co. | Realty Building |
| Terteling, J. A., & Sons (HP) | 511 Sound Ave. |
| The American Bank | Spokane |
| Tobin, James, & Son (H) | Box 916 |
| Triang Construction Co. (H) | W. 100 Ide |
| True-House Construction Co. (B) | N. 119 Wall |
| Wheeler & England (HP) | Coeur d'Alene, Idaho |
| Young, Peter J. (B) | S. 11 Cedar St. |

Associate Members

| | |
|---|----------------------------------|
| Beall Pipe & Tank Corp. | Realty Bldg. |
| Brandt Bros. | W. 14 Main Ave. |
| Coeur d'Alene Hardware & Foundry | Wallace, Idaho |
| Commercial Importing Co. | 617 Western Ave., Seattle, Wash. |
| Consolidated Supply Co. | W. 1118 Ide Ave. |
| Construction Equipment Co. | 1118 Ide Ave. |
| Feenaughty Machinery Co. | N. 715 Division St. |
| W. P. Fuller & Co. | N. 229 Post St. |
| General Machinery Co. | E. 3501 Riverside |
| Gladding, McBean & Co. | 524 Old National Bldg. |
| Haweye Fuel Co. | N. 740 Division St. |
| Hoffus-Ferris Equipment Co. | W. 728 Mallon |
| Holley-Mason Hardware Co. | S. 157 Howard |
| Jones & Dillingham Co. | W. 715 First Ave. |
| Jones & Mitchell | Hutton Bldg. |
| Long Lake Lumber Co. | N. 348 Wall St. |
| W. S. McCrea & Co. | 212 Symons Bldg. |
| J. E. McGovern & Co. | 550 Peyton Bldg. |
| Not-Atwater Co. | S. 157 Monroe St. |
| Old National Insurance Agency | Old National Bank Bldg. |
| Spokane Concrete Pipe Co. | N. 2627 Dakota |
| Spokane Culvert & Tank Co. | N. End Division Street Bridge |
| Union Oil Co. | 611 Chronicle Bldg. |
| Washington Brick, Lime & Sewer Pipe Co. | S. 151 Washington St. |

Class of Construction: (B) Building; (H) Highway; (P) Public Works; (R) Railroad.

PACIFIC

25¢
per Copy

SKILL - INTEGRITY



RESPONSIBILITY

CONSTRUCTOR

CONSOLIDATED WITH

Building and Engineering News

IN THIS ISSUE



Twenty-five Thousand Miles of Highways

By Smith W. Brookhart, U. S. Senator from Iowa

Widening Santa Ana River Bridge

By Spencer B. Lane, Assoc. Mem. Am. Soc. C. E.

Colonel Starrett, A.G.C. Leader, Passes

Our Anti-Trust Laws Need Modification

By Leo H. Shapiro, Attorney-at-Law

Northern California Chapter Special Meeting

California State Builders Exchange Convenes
at Bakersfield

Unit Bid Prices — Construction News



Send for a Sample Copy of



The only daily construction newspaper affording complete coverage of the construction activities in Central and Northern California and the major projects undertaken in the Eleven Western States.

Features timely reports on all types of building and engineering construction—work contemplated, bids wanted, bids opened and contracts awarded. Building permits, building contracts, mechanics' liens and acceptances, business opportunities, official proposals, etc.

Free sample copies will be forwarded upon request.

Subscription price, \$1.50 per month or \$15.00 per year when paid in advance.



DAILY PACIFIC BUILDER

545-547 Mission Street

San Francisco, Calif.

PACIFIC CONSTRUCTOR

With which is Consolidated Building and Engineering News

Official Publication of the Associated General Contractors of America
for the Eleven Pacific Coast States

J. P. FARRELL, *Editor*

SPENCER B. LANE, *Assoc. Editor, Assoc. M. Am. Soc. C. E.*

VOL. 15

SAN FRANCISCO, CALIF., APRIL 1, 1932

No. 6

Editorial Comment

Col. William A. Starrett, national president of the Associated General Contractors of America, was called to the great beyond March 25.

Mr. Starrett during his lifetime was trusted with many high positions and never failed in his trust. He was of strength, of character. As he thought, he lived and naught could turn him from right. He fought uncompromisingly for what he believed to be right and still retained the respect and friendship of those who differed with him.

When the one Great Scorer comes to write against your name, it matters not that you won or lost, but how you played the game.

Colonel Starrett goes to the after-life with Godspeed from the construction industry after many years of an honest, upright life, with no tongue of malice to say ill of him.

Statistics on the income taxes paid in 1930 by corporations engaged in construction, made public by the Federal Income Tax Bureau, are published in another section of this issue.

Analysis of these figures shows that the net profit made by the 19,385 corporations was 1.7 per cent of their gross income. Only 44 per cent of the corporations made a profit during 1930, which is nearly 10 per cent less than the number reporting a profit in the previous four years.

Publication of the 1931 profits will prove of interest—and those of 1932 more interesting—we are sure.

Construction of public improvements serves as an employment stabilizer, particularly when general business conditions develop sinking spells. In public construction, road building is a large factor. Because of its importance, road building should be unfettered, in so far as possible, by the whims of politics and emergency legislation which would curtail construction activities.

Proposals have been made in various states and local communities which would lessen the money available for new roads. Fortunately, this movement has met with little applause or success.

If the need for better roads were not so pronounced and the lack of good roads not so costly, proposals to divert or decrease road money, for instance, might be logical. But circumstances of the present and immediate

future are such that the highway industry should not be in a position wherein it shudders every time a meeting of lawmakers is called.

Road funds are easily collected through motor vehicle and gasoline taxes, yet there is no logical reason why these mediums should be used to collect money for purposes other than roads. The high type of roads of today have been built largely through the efforts and contributions of motorists who should not be penalized because they have developed and supported so admirable a financial plan.

Every dollar diverted from its intentional use on the highways means 85 cents directly taken away from workers. That is reason enough for permitting funds dedicated to roads to build roads.

The more opportunities there are for highway traffic accidents the more accidents occur, states a committee of the City Officials' Division of the American Road Builders' Association. This committee of ten leading traffic authorities reported to the recent twenty-ninth annual convention and road show of that association that the popular idea about good roads having more accidents is due to the increase of traffic attracted to new roads, thereby increasing the opportunities for accidents. If new roads have built into them all the requirements for safe travel, then the new road is necessarily safer for equal traffic than an old road without safety provisions.

High economical and comfortable speeds of inexpensive cars have developed more rapidly than safety provisions could be made in the roads, according to the committee report. The history of congestion is similar in that the number of vehicles has increased more rapidly than the capacities of the roadways to care for them.

Streets and country roads must be constructed so that it is as difficult as possible for the motorist to have an accident. The individual is held by authorities to be responsible for 85 per cent of road and street accidents.

The dual type highway of several lanes with a distinction in color and smoothness has been found useful in keeping motorists in separate lanes, the report states.

A parkway separating traffic in opposite directions relieves headlight glare, protects left-hand turners, and can be used to reduce the number of intersections with secondary roads.

Highway engineers must anticipate increased speed and flexibility in motor vehicles to design and improve roads that will, in so far as possible, make the roads foolproof.

Limit Stakes and Levels

By THE EDITOR

Truly, it is a joy to meet and get to know men in the construction business. Men who do things. Men who construct roads and build bridges. Men who harness rivers and tunnel mountains. "Creators," they are. More than twenty years association in the construction publication business has put the writer in touch with every branch of the construction industry and the individuals connected with it. It is only recently, however, that he has had direct contact with the men in the engineering field—these men who specialize in projects requiring "Skill, Responsibility and Integrity."

Truly, it is a joy to have them drop into the office for a chat regardless of how busy you might be. Some with the regalia of the field, consisting of high top boots, sombrero hat, khaki shirt wide open at the throat and a smile on the sun-tanned face that bespeaks peace of mind and supreme satisfaction.

It is a pleasure, indeed, to extend a hand for a real-honest-to-goodness shake. You feel the sincerity of that handclasp coupled with that smile of perfect satisfaction.

It is a pleasure, indeed, to meet these men from the great wide open spaces.

May their visits be often. Our latchstring is out. Let them consider themselves welcome at all times.

Members of the Oregon congressional delegation have taken a stand against entrance of the federal government in the gasoline tax field, a message received by United Press from Senator Steiwer, disclosed.

Negotiations are under way between the Seattle Chapter, Associated General Contractors of America, and labor union representatives seeking a wage adjustment that will aid local construction activity. The labor groups concerned are the Seattle Building Trades Council, the Bricklayers' and the Carpenters' Union. The contractors are seeking a 25 per cent reduction in the wage scale.

In an effort to rid the construction industry of the disastrous practice of bid peddling, the Associated General Contractors have appointed a committee of three to confer with a like committee of the American Institute of Steel Construction. Representing the contractors on the committee will be W. G. Luce, Hegeman-Harris Co., New York; M. B. Markland, M. B. Markland Co., Atlantic City, and William Steele III, Philadelphia. Those appointed to act for the Institute are R. T. Brooks, George A. Just Co., New York; A. J. Post, Post & McCord, New York, and H. B. Hirsch, Belmont Iron Works, Philadelphia.

From all over the country come reports that builders and laborers are either voluntarily taking or being forced to take reductions in wages. The amount of cut varies from 15 to 33 per cent. It seems to be generally believed that builders, like most all other wage earners, should take reductions and that by so doing the building business will be stimulated. There are others who argue that wage reducing is a detriment to the revival of business. Be this as it may, all agree that if reductions are necessary, the sooner they are completed the better it will be for all concerned.

A bill providing that bidders on state highway work

in Kentucky should be prequalified was defeated in the Kentucky legislature last month. The bill would have authorized the highway commission to prequalify all contractors and to set up the standards under which they were to be qualified. A classification system was provided with the aim that small contractors would be given an opportunity to secure work of the size and type which they would be able to do.

Faced with the necessity of abandoning its part-time unemployment relief through which 4500 men throughout the state have been given jobs since last October 15, the State Highway Commission, at its March session in Riverside, last month, began a search of state funds for additional money to continue the work program.

An original \$1,600,000 appropriated is nearly exhausted.

Chairman Earl Kelley of Redding said, he would be in favor of "not letting any more contracts if it will help get money to continue this unemployment relief."

"If we abandon this project," he said, "it will throw 4500 men out of jobs. They all have wives and children. And I just can't see that many more men out of work."

"It's a serious situation and I don't think we should act definitely to end the undertaking until we positively find there are no more funds available."

Col. Walter Garrison, director of public works, informed the board that the part-time workers who have been employed on highway maintenance projects have been notified that their work will be concluded April 15.

Other members concurred with Chairman Kelley in urging continuation of the work.

HIGHWAYS BEST ABILITY FOR PUBLIC TRANSPORTATION

The highway is at everyone's door and it exists because upon it depend many essentials of life, declared Harold S. Shertz, Esq., before motor freight meeting during the twenty-ninth annual convention and road show of the American Road Builders' Association.

"No other medium of communication or transportation has been developed which does not depend on the highway for its building or continuation," Mr. Shertz explained. "Waterways serve those on the shores, railroads aid people with sidings along the route, airplanes reach only their landing fields, and electrical communication and power must be served at the generating source by highways. From the raw material, to the manufacturer, to the distributor, to the retailer, to the consumer the highway plays a necessary part."

"The automotive age has almost entirely relieved the landowner of the expense of building country roads. No longer does the farmer have to join with his neighbors contributing labor, horses and tools to build a passable road over which to haul his produce to railroad or market. His roads have been gradually improved so that his radius of marketing is extended and he can sell to the best advantage at all times of the year."

"The highway has expanded new uses for commodities in the petroleum, rubber and numerous other industries. Automotive work has become the nation's largest industry. New industries developed as a result of highway building have increased tremendously the freight tonnage of other transportation agencies."

"The greatest usefulness of the highway lies in public control by highway users rather than by agencies that wish highways regulated so that private profits may be increased. Since the earliest historic times the highway has been serenely useful, interwoven with daily life."

25,000 Miles of Highways Is Plan Of Senator Brookhart

By SMITH W. BROOKHART, U. S. Senator from Iowa*

TRANSPORTATION is the lifeblood of the nation. Good roads are as essential, indispensable to the economic health of the nation as the blood veins to the human body.

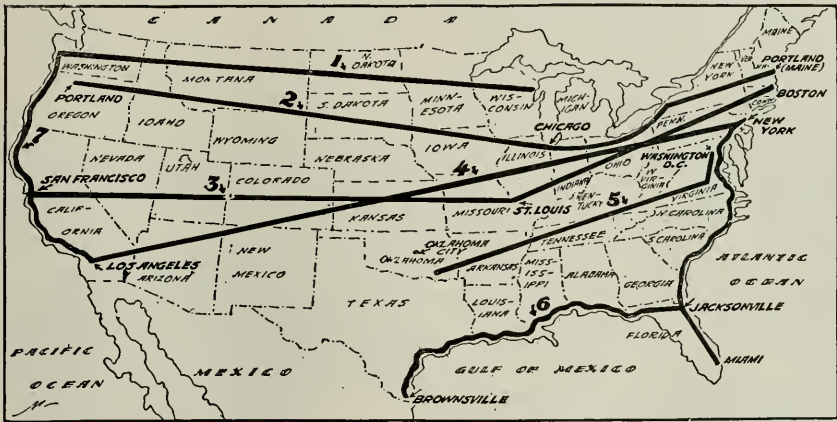
We have advanced far since the stage coach days which saw these States, spreading westward from the Atlantic seaboard, welded into an indissoluble union. With energy, courage and resourcefulness, we have conquered pioneering hardships by the sheer force of initiative and dogged determination.

Yet, with all our progress, our industrial skill, our system today has serious defects. We need only to look

national highways, covering and traversing every section of the country, I introduced in the Seventy-first Congress a bill for the construction of 25,000 miles of trunk highways. With certain modifications, I am reintroducing the bill at the present session.

Let me review briefly what the bill proposes to do and then we can discuss the reasons why its enactment is vital. Not only to fulfill our transportation requirements, but to stimulate business recovery and relieve unemployment.

The bill authorizes the construction of three direct ocean-to-ocean roadways, two highways running north and south on each coast, two intermediate highways



The map shows the seven main highways which Senator Smith W. Brookhart proposed the United States construct to revive business. The routes are: 1—Great Lakes to State of Washington; 2—Portland, Maine, to Portland, Oregon, via Chicago; 3—Boston to San Francisco, via St. Louis; 4—New York to Los Angeles; 5—District of Columbia to Oklahoma; 6—New York to Jacksonville, Florida; to Brownsville, Texas; 7—From Washington State to Los Angeles along coast.

The project, presented to the Senate in a bill calling for \$2,000,000,000 construction fund, embraces 25,000 miles of proposed trunk lines for both motor truck and passenger automobile traffic. In addition to the seven trunk lines, the bill will also propose construction of laterals connecting each State capital with the main highways. The roads would be routed to avoid large cities, and each road would be as nearly straight as possible, according to the plan.

about to see the millions of unemployed, shelterless, starving, to know that something is wrong. Their plight is the result of a combination of complicated causes.

One of our great faults has been our lack of organized national planning. We have left too much to chance and to greed. That may be a natural corollary in the rapid growth of a young nation. It is not an excuse.

"BUILT HAPHAZARDLY"

Nowhere have we been more derelict than in providing for our transportation needs. Especially is this true in our road and highway systems. We have built haphazardly, pouring out millions in Federal and State funds, with precious little to show for our expense and our pains.

We have not a single trunk highway worthy of the name connecting the Atlantic with the Pacific, or the North with the South.

To meet this pressing need for a unified system of na-

through the Middle West, Southwest and Far West, and a system of feeder routes connecting the capital of every State in the country with one or more of the trunk lines.

PROPOSED ROUTES

The routes are:

1. From a point on the Great Lakes to a point on the Pacific Ocean in the State of Washington.
2. From Portland, Maine, to Portland, Oregon, by way of Chicago.
3. From Boston to San Francisco by way of St. Louis.
4. From New York to Los Angeles.
5. From the District of Columbia, by way of Richmond, through the States of Tennessee and Arkansas to a point in Oklahoma.
6. From New York to Jacksonville, Florida, following the coast of the Atlantic Ocean so far as practicable, and from a point on such route near Jacksonville to Brownsville, Texas, following near the coast of the Gulf of

*As told to Kenneth Clark. Copyright, 1932, by Universal Service, Inc., and reproduced by special permission.

Widening Santa Ana River Bridge Near Riverside, California

By SPENCER B. LANE

MANY bridges become dangerous and inadequate for an increased volume of traffic while still structurally sound. This condition was facing the ornamental concrete arch bridge over the Santa Ana River at the base of Mount Roubidoux. The bridge was built by the County of Riverside, but had been taken into the highway system of the State. It is located at the west city limits of the City of Riverside. The problem was solved by building a new structure of the same type immediately adjacent to the old. The old and new are in reality two separate structures not tied together, but they give the appearance of being a single bridge.

The highway reached the east end of the old bridge over a dangerous curve having a radius of thirty feet. A large concrete pylon at the abutment obstructed the view around this curve. This curve was replaced by one having a radius of 500 feet. The pylon was moved to the edge of this curve where it does not interfere with the view.



General View of Bridge. Old Bridge Between Lines of Temporary Barriers and Far Railing

The old bridge was straight. On account of the steep, rocky slope of the mountain which comes close to the east abutment, part of this new long radius curve was thrown onto the bridge. This was done by varying the width of the new structure.

The old bridge had a width of 24 feet between handrails. There were no sidewalks. A five-foot sidewalk was added along the south side of the old structure. The width of the roadway on the completed bridge, partly on the old and partly on the new, varies from 46 feet at the west abutment to a little over 77 feet at the east abutment. The upstream side of the new structure follows a graceful curve.

The new abutments—earth filled box type—are of similar design to the old. They were poured against the old so there appears to be one structure. Old and new are supported on wood piles at the west end; are on solid rock at the east end.

Both old and new structures are made up of five reinforced concrete arch spans of the solid spandrel earth-filled type. The two end spans are 95 feet. The next two spans are 102 feet. The middle span is 106 feet; a total length of 500 feet between abutments. Each new pier was placed next to an old one and designed to match the one already in place. Both old and new piers have rounded ends and battered sides. The old and new are about eight feet apart. The new pier shafts vary in length due to the varying roadway widths. Pier No. 2 is about 29 feet long, pier No. 5 about 40 feet.

The excavation for the new piers was carried to about 20 feet below the level of the gravel stream bed. Cofferdams of 4x12 timbers were driven with a No. 6 McKiernan-Terry steam hammer. This hammer was operated by compressed air furnished by a 360 cubic-foot Schramm portable compressor. Excavation was done by a 3/4-yard Northwestern shovel equipped with clamshell bucket. This Northwestern was also used to handle cofferdam timbers and steam hammer.

There were 435 wood piles driven in the foundations. The average length was 25 feet. These piles were driven with a No. 2 Vulcan steam piledriver. A large amount of water was encountered in the excavations. This was handled by four electrically driven Byron Jackson vertical shaft pumps. All concrete was poured in the dry. The work on the substructure was done during the summer months. It was carried on by two shifts. On the remainder of the work one shift was used.

The downstream spandrels of the new structure line up from one abutment to the other. The upstream spandrels change direction at each pier; follow the general line of the curve due to the changing width of the roadway. The floor beams and floor slab cantilever out about six feet beyond the spandrels on both the old and new structures. The change in direction of the spandrels at the piers is eased by a curve of the curb and handrail at each pier and by a long easy curve at the east abutment.

The floor slab of the new structure joins the floor slab of the old at the same level. The slabs were joined with a structural steel shape, which strengthened the edge of the old slab. No attempt was made to dowel the new concrete into the old.

The curve at the east and extending onto the structure made it necessary to take care of super-elevation. This was done by sloping the floor slab of the new structure. The floor slab of the old was level. In order to avoid disturbing this the super-elevation was taken care of in the asphaltic concrete wearing surface. This wearing surface is 2 inches thick on the new structure. It is increased as required on the old.



Northwest Caterpillar at Pier. Old Bridge at Left.

Due to its distinctive architectural treatment—it is often referred to as the most distinctive in Southern California—this bridge is well known. The original treatment has been retained. The new handrail, like the old, is

precast concrete in the form of rain crosses. The old light standards did not match the light standards installed by the city of Riverside along the road of the city, so new standards which conformed to the others along the road were installed. These standards were precast concrete, furnished by the Marbelite Co. The old pylons were moved to new positions. The new position of the pylon which was moved at the east end required a foundation 18 feet deep. This was secured by sinking 16 inch well casing to rock, and two feet into the rock, then filling the casing with concrete.

A concrete retaining wall has been installed to keep the highway from washing where it approaches the east abutment. This retaining wall, like the pylon, is supported by 16 inch well casing sunk to rock and filled with concrete. A niche has been built into this wall for a palm which is to be planted when the bridge is dedicated by Governor Rolph on March 29, 1932. Handrail to match the handrail of the bridge extends along the top of this retaining wall.

About 4400 cubic yards of concrete were required for the job. This concrete, up to the floor slab, was delivered in mixer trucks. Truck mixers and loading plant were supplied by the Transit Mix Concrete Co. of San Bernardino. The work was so close to the sand and gravel plant that this method could be used to advantage. It was found to be quite satisfactory. Two sizes of mixer trucks were used, 2½ yard and 4 yard.

About 260 tons of reinforcing steel were required. 1300 lineal feet of precast handrail were placed. 1300 cubic yards of earth fill were placed in the arches and abutments.

Two-way traffic had to be maintained at all times during the construction, as there is no other bridge available. This requirement made it necessary to complete the new structure ready for traffic before the handrails of the old bridge could be demolished and the sidewalk added. While the traffic was using only the new structure the necessary work was done on the old, and the old structure repaved.

The bridge contractor also secured the contract for grading and paving the approaches. Both contracts will be completed at the same time.

The contractor started work in August 1931. The work is practically completed at this time.

This project is part of the highway system of the state. It was handled by the Department of Public Works of the State of California. Design and construction was under the supervision of the Bridge Department of the State Division of Highways. Mr. C. H. Purcell is State Highway Engineer. Mr. Charles E. Andrews was State Bridge Engineer when the work started. Mr. Andrews was placed in charge of the San Francisco-Oakland bridge, and Mr. F. W. Panhorst was Acting State Bridge Engineer when the work was being completed. Mr. M. E. Whitney was Resident Engineer. He had two assistants during the entire construction.

The contractor was Byerts & Dunn of Los Angeles. The work received Mr. Dunn's personal attention during most of the construction period. During the construction of the substructure Mr. Geo. Thatcher had charge of one shift and Mr. Ralph Edmunds of the other.

CEMENT CONTRACTORS ELECT

Abe Doty has been elected president of the Master Cement Contractors' Association of Alameda County. Paul Henning was elected vice-president, and Jas. E. Wentworth, secretary-treasurer. The Executive Committee consists of Frank Jepson, N. J. Lindstrom and Walter Todd.

LETTERS TO THE EDITOR

The following communication is in answer to a letter forwarded to the editor of Pacific Constructor by Colonel Allin. Mr. Allin's letter was published in our issue of March 1st.

San Francisco, February 25, 1932.

Col. B. C. Allin,
Director of the Port,
Stockton, Cal.

My dear Colonel Allin:

I have before me copy of your letter of February 9th, addressed to J. P. Farrell, editor of Pacific Constructor, and relating to the article appearing in that publication written by the undersigned in regard to bids opened on the railroad work for the Port of Stockton.

With the thought that it may serve to clear up any misunderstanding regarding this matter, may we submit the following statements in reference to certain points discussed in your letter of February 9th.

Referring first to paragraph 4, in which you make reference to the personal call of the undersigned and Mr. Woods, both in advance of the opening date of bids.

It is quite true that you told us that the city intended to award the material items separately if it saw fit, and we in turn urged you not to call for bids in this manner on later work, feeling that more satisfactory prices would be received by the city on a basis of one complete contract. I am sure that at no time during these conferences was the specific question raised regarding the possibility of the city taking the material items from the general contractor's schedule and awarding them separately as was finally done in this case. We at all times assumed that it was the intention of the city authorities to award the contract on the basis of a complete schedule in each case; that is, either separately for all materials or separately for the general contract, or for the two of them combined in one bid. I am sure that had it occurred to us otherwise it would certainly have been brought up for discussion.

We further feel that the decision to award the contract in this manner must have been a somewhat later idea for the reason that you did not call for bids in this manner in our presence but at first ruled that it could not be done until his particular attention was called to the later section in the specifications and he then reversed himself and stated that he believed it would be possible to award separately the material items in the contract schedule in this manner.

The remainder of the arguments which you make in support of the city shopping bids after receipt of same appear quite logical but you must take into account that these matters are largely governed by circumstances at the time the bids are received. For example, in connection with the reference which you make to the item of rail and tie plates, I believe every bidder had received a lower quotation than that which he had included in his bid between the hours of 4:30 p. m. and 8 o'clock of that evening. In every instance this was too late to permit revising of bid, but was it any fault of the bidder that the particular company who submitted these quotations got them in too late to be considered by the bidders? You cannot deny that under these circumstances the bidder must quote his prices based on the best and most complete information available, and to do otherwise would be absurd.

In your wide experience you of course know that situations often develop subsequent to receipt of bids which entirely alter conditions and might have made a considerable difference in prices submitted. Nevertheless, this does not change the fact that matters of this sort should be followed through in an established ethical manner to the end that the fairest possible competition may be brought about in every case.

Assuming your own desire to be of constructive help rather than to be in a position of criticizing, we are

Yours very truly,

FLOYD O. BOOE,
Secretary-Manager.

SALT LAKE CITY SEWER AWARD IN SUPREME COURT

A fundamental question—namely whether or not a governmental body can bar the low bidder from a contract providing that concern is responsible—will be threshed out before the Utah state supreme court.

The case has attracted wide attention throughout the west—this because of the tendency in some states to grant contracts to resident concerns, even when a non-resident is low bidder.

Miss P. Schulte, Salt Lake taxpayer, has filed action against that city seeking to restrain Ryberg Brothers, Salt Lake, from proceeding with two units of a sewer construction project. She argues that the American Concrete & Steel Pipe Company of Los Angeles, bid \$117,691.48 on one unit, slightly under Ryberg Brothers' offer of \$117,958.14. On the other unit, she alleges the California concern offered to undertake the job for \$115,702.12, while Ryberg Brothers, who were awarded the contract, bid \$117,870.54.

Miss Schulte contends that low bidders, if proven to be financially responsible and honest, must receive the contract, even though they might be non-residents. She infers that the fact that the low bidder was a foreign concern was the reason it failed to receive the contract.

COLONEL STARRETT, A. G. C.

LEADER, CALLED BY DEATH

William Aiken Starrett, national president of the Associated General Contractors of America, borne June 14, 1877, at Lawrence, Kan. Died at Madison, N. J., March 25, 1932.

Mr. Starrett had been critically ill for several months, suffering from paralysis. At the time of his death he was an active member of President Hoover's organization for unemployment relief and as a territorial director of Harvey D. Gibson's New York emergency committee.

As a contractor, Mr. Starrett erected many large structures in various sections of the United States, among these being the Empire State Building in New York City, the world's tallest building. The Hotel Bellevue, the old O'Connor & Moffat Building and the Bank of America Building at New Montgomery and Market Streets are a few of the San Francisco structures erected by Mr. Starrett.



Col. William Aiken Starrett

Mr. Starrett is survived by two sisters, Mrs. William S. Dinwiddie and Mrs. Frederick Whitton, both of Berkeley; a son, David Starrett; a daughter, Helen Ruth Starrett; a brother, Paul Starrett, and his widow, Mrs. Eloise Starrett.

Henry J. Kaiser of Oakland, national vice-president of the Associated General Contractors of America, will succeed the late Col. William A. Starrett as president of the organization for the remainder of the current year as well as serving as national president in the year 1933.

WILLIAM AIKEN STARRETT

Attended Chicago preparatory schools and University of Michigan.
Entered commercial business in Chicago on leaving college.
In 1888 joined elder brother as employee of George A. Fuller

Company, builders, in New York office, then just opened. Successively timekeeper, field engineer, building superintendent.

In 1901 joined with other brothers in formation of Thompson-Starrett Company, builders. 1904-1905 in charge for that company of building Union Station at Washington, D. C. 1905 returned to New York as general superintendent and vice-president of that company, continuing until 1907.

In 1913 joined as member of firm with Goldwin Starrett and others in formation of Starrett & Van Vleck, architects.

In summer of 1916 took Plattsburg training, afterward commissioned as officer in Corps of Engineers, U. S. Reserve. Called into service as major of Engineers, U. S. A., at outbreak of World War and assigned to duty as chairman of Emergency Construction Section of War Industries Board, charged with establishing and conducting the army's war construction program, including building of all cantonments, hospitals, army bases and all army construction work for war purposes in this country. Promoted to colonel, Q. M. C., in March, 1918. Promoted to major general, U. S. Army, through the war resided in Washington, D. C., but with much traveling throughout the United States in connection with army construction work.

May, 1917 received degree of B.S. in C.E. from University of Michigan, nunc pro tunc as of class of 1897.

In 1919-1921, after the war, vice-president of George A. Fuller Company. In 1919 went to Japan for that company and introduced there several modern steel frame buildings, specially designed to resist earthquake. On return from Japan took administrative charge of Fuller Company's business as vice-president. Visited Japan two succeeding years, attending to business matters there.

In May, 1922, with Paul Starrett and others, formed Starrett Brothers, Inc., still continuing as vice-president under its present name—Starrett Brothers & Eken, Inc.

Resident of Madison, N. J. Mayor of Madison, N. J., 1919-1921. Member of Delaware River Treaty Commission, appointed by governors of New York, New Jersey and Pennsylvania to devise treaty between those three states for apportionment of uses of waters of Delaware River, 1924-1925.

Member of Sigma Phi Fraternity, American Society of Civil Engineers, American Society of Mechanical Engineers and Society of American Military Engineers; member of American Institute of Architects, 1911-1918; registered professional engineer and architect, states of New York and New Jersey.

In addition to above, received usual New Jersey state and national commendations for service. Entered Officers' Reserve as colonel, Quartermaster Corps, on receiving honorable discharge, and continues that Reserve commission. Active in Officers' Reserve movement. President of the New Jersey Chapter, Officers' Reserve Association, 1923.

March, 1929, president of the newly formed Starrett Corporation, a holding company embracing Starrett Brothers, Inc., the Starrett Investing Company, the Wall & Hanover Street Realty Company and a number of constituent interests of the original Starrett Brothers, Inc., which, under the name of Starrett Brothers & Eken, Inc., remains the principal factor in the Starrett Corporation and of which he remains vice-president.

Author of: Short story, "Marked 'Shop,'" Atlantic Monthly, July, 1917; four articles on government building, Scientific American, September 7, 1918, 28, and October 12, 1918; article "Building for Victory," Scribner's, November, 1918; "New Building in an Ancient Empire," Scribner's, September, 1923; three articles on building construction, Saturday Evening Post, April 7, May 12, June 9, 1928; book, "Skyscrapers and the Men Who Build Them," Scribner's, 1928.

WEBB GIVES RULING ON PUBLIC WORKS
LABOR

Contractors on California state or government projects are justified by law in importing crews from other states. Attorney General U. S. Webb holds that labor can be imported into California if the workmen are citizens of the United States by birth or naturalization.

Webb wrote an opinion in response to a request from the district attorney of Mendocino county. Citizens and workmen protested because a sub-contractor on a state highway job imported a crew of Oregon men, when there were many Mendocino county men eager for work. Webb pointed out the word "alien" in the state law referred to workers from foreign countries.

Marlow Pumps, Ridgewood, N. J., has added a new Triplex sludge pump to its existing line of Marlow Simplex and Duplex sludge pumps. The new size pump, of the plunger pattern, is equipped with Hyatt roller bearings, V-belt drive, and inlet and outlet 6-in. flanged connections.

Contractors Machinery Exchange**Rentals a Specialty****1135 · 57th Avenue****OAKLAND, CALIF.****FRUITVALE 0715**

Our Anti-Trust Laws Need Modification

By LEO H. SHAPIRO, *Attorney-at-Law*

THERE is now pending before Congress an inquiry as to the present feasibility of our Anti-Trust Laws. Legislation has been introduced calling for their modification.

Enacted in 1890 to meet public demand for protection against practices which were believed to encroach upon and threaten the public welfare, there is no doubt that the Sherman Law served an important valuable purpose at that time. During that period there was in existence a number of vast aggregations of capital which had then monopolized or threatened to monopolize many important branches of industry in this country and seemed likely to drive out of existence smaller independent business concerns.



LEO H. SHAPIRO

In 1924 Congress enacted two supplements, one of which was known as the Federal Trade Commission Act, which Act was aimed at unfair trade practices and its enforcement

was intrusted to a commission. The other was the Clayton Act which, in part, was an effort to put enforcement of the Anti-Trust Law into the hands of injured persons by making it easier for them to sue combinations.

The principal and controlling provisions of the Sherman Law is in its declaration that "every contract, combination in the form of trust or otherwise, or conspiracy in restraint of trade of commerce" and every attempt to monopolize any part of such trade or commerce is declared illegal and made the subject of penal provisions.

The Sherman Law is based upon the ancient common law of England, and although this is conceded, nevertheless that country and its two most progressive and forward looking dominions, Canada and Australia, have long since abandoned the ancient common law principles which formerly governed the subject, while the United States has retained these principles in all their age-old rigor, and has even extended their scope. In the Danbury Hatters' case (Loewe vs. Lawlor 208 U. S. 247), the Supreme Court said that the Sherman Law "Has a broader application than the prohibition of restraints of trade unlawful at common law."

Examination of the record of debates in Congress which throughout a period of two years preceded the enactment of the Sherman Law shows that the sole and single purpose under discussion was the repression and prevention of the great aggregation of capital known as trusts. At no time during these debates was any suggestion made that the proposed law should be extended into the domain of private business which did not possess the qualities of a trust and be made applicable to agreements among competitors in business in their effort to correct ruinous conditions of excessive competition.

In the early history of the Sherman Law the original purpose of that law was maintained and the prosecutions brought by the government were directed entirely toward the disruption of great aggregations of capital in the nature of trusts. It was only by gradual development that the scope of that law was extended into the domain of business generally by the institution of many proceedings by the government against various kinds of co-operative agreements entered into by competitors in business, not consolidated into aggregations of capital or trusts, whereby such competitors undertook to correct excessive conditions of competition which threatened their welfare and seemed even to imperil their future existence.

In the large number of cases thus instituted by the government the federal courts have uniformly held such agreements to be unlawful restraints of trade and therefore in violation of the Sherman Law.

In diametrical opposition to the principles which govern such situations in England, Australia and Canada, the courts of this country have declared such agreements unlawful by the strict and unabated application of the rigorous principles of the ancient common law.

In Standard Sanitary Manufacturing Co. vs. U. S. (226 U. S. 20) the Supreme Court, speaking of the provisions of the Sherman Law, said:

"Nor can they be evaded by good motives. The law has its own measure of right and wrong, of what it permits or forbids, and the judgment of the courts cannot be set up against it in a supposed accommodation of its policy with the good intention of the parties, and it may be, of said good results."

In the case of M. Thomsen vs. Casper (243 U. S. 66) the court said:

"We have already seen that a combination is not excused because it was induced by good motives or produced good results."

In the more recent and now celebrated case of U. S. vs. Trenton Potteries Company, et al. (273 U. S. 392) the Supreme court declared it to be a violation of the Sherman Law for a number of competing manufacturers to enter into an agreement fixing the sales prices of their

(Continued on Page 12)



HERCULES EXPLOSIVES

THE CONTRACTORS' FAVORITE

HERCULES POWDER CO.

Standard Oil Building

San Francisco

DOuglas 2330





Here To There And Back Again



LOOKING 'EM OVER

This issue slipped up on us. It is now the press deadline, and we are still waiting for a story. Trouble is, the boys throughout the western states are slow in sending copy and material to us.

* * * *

For the past month we have been trying to get the straight of a story happening around Ely, Nevada. Bill Reppert of the Nevada State Engineer's Department, or V. H. Vargas, District Attorney of Ely might be able to help us out.

* * * *

Story has to do with trying to rope and brand "the Wild Ass of the Desert" and also a trip to bury a dog. There was a chinaman mixed up in it, but not for long, as he made the length of Ely's main street in nothing flat.

* * * *

That story would make a good yarn for this page, or else we have been peddled a tank amyl acetate by the red-headed guide who piloted the trip to bury the dog.

Ralph ("Schedule") Keenan—there is a boy who is hard to keep up with! In writing it, we never know whether his name or that of the Pacific Bridge Company should come first.

* * * *

Years ago Ralph got an automobile fender wrapped around his head and the doctors gave him exactly no time at all to live. He has never liked other people to make schedules for him, so he figured out his own recuperation time, and made it on schedule.

* * * *

In Kansas City, Keenan walked into the wrong hotel room by happy mistake, found Bob Wilson making some figures dance up and down a slide-rule. Wilson had a Middle West gas line to worry about. This meant nothing to Keenan until he found there was a river crossing in it—and then they joined up!

* * * *

In Iowa, they ran into a lot of enmity and native son argument—so left, with nothing in the world but **HAND-SOME PROFIT.**

Ralph always has the situation figured out, but never has it in hand—he prefers that someone else have it in hand. For this purpose, he has a couple of braw huskies. Jack Graham, who was a boxing fighter long enough to become a danged good Superintendent.

* * * *

On these Keenan jobs, Charlie Winters is supposed to run the office and paper work. Charlie will generally be found on the job wrassling a tug-boat and flock of barges around.

Ralph isn't married at the present time, and a dozen women will have no peace in this world until something is done about it!

And then there will be one woman who will lead a hard life. Ralph gets up in the middle of the night, looks at the weather and figures out next day's schedule.

* * * *

If the boys will send Ralph to the Boulder Dam job, he will find a concealed profit in it—we think he already has it figured out.

We are taking a chance in suggesting that the Contractors on the Dam job might be overlooking a bet. Considering the fact that they have the largest construction contract in the world today, they are probably entitled to be a little snarky and high-hat.

* * * *

The dam builders are not snooty—they realize that the only reason they have the job is because they bid about four million dollars low, when one-fortieth of that would have been enough under.

After all that, perhaps we should say something nice about Keenan. Only thing we can think of is, he makes friends out of his competitors—but keeps them for competitors.

This seems to be a Pipe Line Field Day, so must mention the Continental Line from Texas to Chicago. Bob Steele graduated from Stanford but decided to go to work instead of running a gasoline filling station.

* * * *

Steele was one of the "worryers" on the Continental Line. This was a high-pressure gas line. 24 booster pumping stations along the line, each station using 5 per cent of the gas, and still the line delivered gas at the Chicago end.

Steele has since worried himself sick, trying to catch that "blue deer"—he has figures to prove that there was no gas at the Chicago end of the line, and besides, the last four booster plants ran on nothing net!



Anti-Trust Laws Need Modification

(Continued from Page 10)

products—an agreement thought necessary to correct a ruinous state of competition—even though the prices thus fixed were reasonable. It would be difficult to exaggerate the disturbing effect caused by this decision upon every branch of competitive industry in the United States, particularly because during the past few years there has existed an almost universal state of overproduction and excessive competition among manufacturers, a condition difficult of correction in the absence of concerted agreement.

Other adjudicated cases could be cited to show that the Sherman Law rigorously asserts and maintains the doctrine of ruthless competition and forbids the more sensible principle of co-operation.

In England, Australia and Canada co-operative agreements designed for the welfare of an industry are regarded as lawful and encouraged, while in this country the principle of competition based upon the ancient maxim that "competition is the life of trade" has been enforced solely upon the narrow and mistaken idea that the interests of consumers are alone to be considered and that consequently all co-operative agreements affecting the important elements of production, territory and prices are deemed unlawful because of the likelihood that their effect will be to increase prices to consumers.

In England, Australia and Canada the interests of the public as a whole constitute the standard by which the subject is governed.

The difference thus shown to exist between the state of law on this subject and in the three countries named is of the widest and most significant character. For, in cases where the welfare of an industry is threatened by ruinous competition or overproduction—no better illustration of such a situation can be given than in the existing conditions in the oil industry in this country—and co-operative agreements are clearly indicated as being necessary to correct such conditions, such agreements are prohibited in this country by the Sherman Law upon the theory that the results may be injurious to consumers; whereas in England such agreements are declared lawful whenever they are necessary for the preservation or welfare of the industry affected. This latter doctrine by express declaration of the courts of the countries herein mentioned is based upon a consideration of the welfare of the public as a whole, including in that designation not merely consumers but also manufacturers, distributors and labor.

As a result of fundamental changes in American business, the usefulness of the Sherman Law is seriously questioned. A considerable body of public opinion is demanding a change which would permit intelligent co-operation for the eradication of uneconomic practices recognized as evils, without the constant fear of prosecution, heavy fines and imprisonment. In fact, need for an equitable and fair modification of the Sherman Law has long been recognized by persons and associations of authority. As far back as 1905 President Roosevelt urged modification. President Taft in 1908 favored modification. Labor is opposed to the Sherman Act. The Commerce Committee of the American Bar Association in 1927 recommended modification and further said "In England and in the British Colonies the rule against restraint seems to be that only those are unlawful which are injurious to the public, including producer, consumer and laborer."

It is evident from past experience that the rigorous principle maintained by the Sherman Law has been to exert a repressive and injurious effect upon the welfare

of trade and consumers in this country. Our courts have during the period of at least twenty years past so extended the scope and power of the Sherman Law that it is no longer limited to its original purpose of disrupting and preventing trusts and monopolies, but has in countless instances been directed against the practice upon the part of plain business units which do not possess the power of becoming monopolies, of employing methods of co-operation among themselves for the purpose of averting ruinous competition and the demoralization of the particular industries affected.

Our courts have not followed the judicial principles enumerated by the courts of Great Britain, Australia and Canada, but have held that our anti-trust laws forbid co-operation among competitors regardless of good results and of the good purposes which may characterize such co-operation.

As has been shown, this stern interpretation of the Sherman Law constitutes a marked extension of its original purposes and is based upon the proposition that competition and not co-operation is calculated to promote the welfare of our country. Our courts have enforced the principle of competition even when it is carried to the extent of ruinous or cut-throat competition in respect to prices, production or territory.

Such a principle is based upon the mistaken theory that competition, although relentless and mutually destructive, is commendable and desirable because it tends to lower the prices of commodities to the consumers. Such a principle is false and unsound because it fails to take into account the welfare of those who are engaged in production and distribution; that is to say, the manufacturers and the merchants of this country as well as labor, but only keeps in view solely and wrongfully the supposed benefits to the consumer. Obviously this doctrine is based upon the ancient dogma that competition is the life of trade as against the more sane and modern maxim that "co-operation is the life of trade."

During the past few years there has been an abundant volume of business transacted in this country; but apart from the great and in a certain sense self-sufficient corporations of dominating magnitude, the great bulk of manufacturing and distributing business of this country has been conducted without adequate profit.

It is scarcely open to dispute that the principal and controlling cause of this condition is to be found in the existing prohibition of the Sherman Law against sane and sensible agreements of co-operation among competitors designed to prevent the ruinous and excessive competition which has been existing among the plain business units of this country.

The public interest, vastly changed conditions and increasingly keen competition not only between our own industries but also from foreign countries which lack restrictions similar to those imposed by the Sherman Law imperatively require the liberation of independent and individual business men from the fear which now restrains them from necessary co-operative endeavor essential to their future success.

Modification of existing trust laws to conform more to the laws now prevailing in England, Australia and Canada, as interpreted by the courts of those countries, would provide the remedy for the existing situation.

A "Crescent" scraper of 14-cu. yd. rated capacity, has been built by Sauerman Bros., Inc., of Chicago, for use on Mississippi River levee work. This is larger by 2 cu. yd. than the largest previous bucket, and larger by 4 cu. yd. than any bottomless bucket built prior to 1931. The new bucket is 12½ ft. long, 11½ ft. wide and 7 ft. high.

A. G. C. Chapter Activities

SECRETARIES OF A.G.C. CHAPTERS THROUGHOUT THE PACIFIC COAST
ARE REQUESTED TO SUBMIT ITEMS FOR PUBLICATION IN THIS DEPT.

NORTHERN CALIFORNIA CHAPTER HOLDS SPECIAL MEETING, MARCH 18

By R. J. RATH

A special meeting of the Northern California Chapter, Associated General Contractors of America, Inc., was held at the Engineers' Club, San Francisco on the night of March 18. In so far as the membership of the



Clyde W. Wood

Northern California Chapter is widely scattered, this affair had a very special significance, as it brought together, as all similar meetings do, the outstanding engineering contractors from the northern part of the State of California, and the State of Nevada, not to mention those who journeyed from Southern California to join their brothers of industry in the north.

Public improvements constituted the chief topic of discussion, while "gas tax diversion," "day-labor" and "credits" also held the attention of the membership.

The State Department of Public Works, Division of Highways, was very ably represented by Mr. Charles H. Purcell, State Highway Engineer, who assured those present that his department was making every possible effort to rush the highway program. He called attention to the fact that appropriations for the 1932 program approximated \$23,000,000, while the carry-over from 1931 would bring the total amount available to approximately \$40,000,000. Of this amount about \$6,000,000 is to be used for maintenance and the balance for new construction. According to Mr. Purcell, his department was planning about 212 miles of high-grade road work and about 260 miles of secondary highway, the program to

include the construction of 30 bridges. During the first quarter, according to Mr. Purcell, the actual contract awards would amount to approximately \$8,700,000, while the major portion of the balance would be under-way by June.

Mr. Purcell also touched on the subject of pre-qualification, pointing out that the State of California placed this measure in effect in November, 1929. Concerning the actual working of the pre-qualification requirement, Mr. Purcell said, "As of March 1, 1932, the department has placed its stamp of approval on 351 contractors, while 16 have been rejected; 8 for lack of capital and 8 for lack of experience. During the period referred to, 150 sets of plans were refused by the State Department to contractors who were not considered responsible."

At the conclusion of Mr. Purcell's talk, which proved of extreme interest, Mr. Henry Claudius, of the Pacific States Construction Company, evoked much laughter by asking the speaker just how much the State of California had saved as a differential between estimated costs on road work and contract prices. Upon being informed that this sum during the year 1931 amounted to about \$1,600,000, Claudius addressed the assemblage and suggested that the contractors involved arise in their places and take a bow.

Mr. Frank McKee, Director of the Highway Department of the State Chamber of Commerce, spoke in a very interesting manner, particularly stressing the necessity of educating the general public to the fact that high-grade roads are becoming more and more an economic necessity. "Statistics have proven," said McKee, "that the cost of operating an automobile over high-grade roads is about two cents per mile less than the cost of operating the same automobile over low-grade highways." Mr. McKee, speaking for the State Chamber of Commerce, called attention to the fact that that organization was diametrically opposed to any diversion of gas tax; that it very heartily endorsed continued road improvements throughout the state, and that it was giving much attention to the present grade-crossing problem.

William H. Worden, Director of Public Works of the City and County of San Francisco, received his first official introduction to the membership, having assumed his official duties in January of this year. Director Worden expressed his pleasure for the opportunity of thus becoming better acquainted with the membership of A.G.C., and assured them that his department would be pleased to co-operate with the contractors at all times. Mr. Worden pointed out that while the department had no money available at the present time, a revenue of \$240,000 in the month of May, and \$225,000 anticipated in the month of August from the state, might be used for road construction purposes. An orator of ability, Director Worden found a warm welcome among those present,

Phone TRinity 0241 for —
Rock-Sand-Gravel-Plaster
Cement-Mixed Mortar-Stucco
Lath-Lime Putty-Reinforcing Steel

**Consolidated Rock
Products Co.**

656 S. Los Angeles St.

Los Angeles, Calif.

who were more than favorably impressed with his unquestionable sincerity in his assurances of a real business-like administration.

Adolph Teichert, Jr., led the discussion on the subject of credits, pointing out the necessity of adhering consistently to specified credit terms and calling particular attention to the splendid work being done along credit lines by the Construction Industries Credit Bureau, the representatives of which organization were formally introduced.

The subject of "bid-cutting" was very ably covered by none other than John J. Casey, San Francisco's new City Engineer. Mr. Casey asserted that neither the city and county or the contractor could possibly gain as a result of underbidding to the degree where profits become a minus quantity, declaring that fair profits always resulted in more satisfactory work for all parties concerned.

Mr. George Pollock, Chairman of the Day-Labor Committee, made quite an extensive report on the progress being made by his committee, laying particular stress on the splendid work accomplished by the Secretary-Manager of the Northern California Chapter, Mr. Floyd Booe. Mr. Lynn Atkinson, another most active worker on this committee and Chairman of the Day-Labor Committee for the Southern California Chapter, supplemented the report of Mr. Pollock and told in detail of the achievements of A.G.C. in its effort to eliminate the waste and inefficiency brought about wherever the day-labor plan has been put into effect. Mr. Atkinson also spoke at some length on the prevailing wage scale in connection with public work, urging immediate relief for the reason that a vast amount of work was actually being held up, pending settlement of this all-important controversy.

This was the first general meeting of the Northern California Chapter since the election of Mr. Clyde Wood as its President.

President Wood conducted the meeting in a most admirable fashion, making a strong appeal for continued co-operation among A.G.C. members, and inviting in the interests of organized unity those equipment and material houses not at present within the ranks of the organization, to participate in its very active and efficient program that is being constantly carried on in the interests of the construction fraternity.

PACIFIC CONSTRUCTOR, official organ of the Associated General Contractors for the eleven Western states, takes this opportunity to express to the speakers of the evening the most sincere thanks of the officers and members of the Northern California Chapter, and to assure those who fill public positions of trust that this and all other Chapters of A.G.C. can ever be depended upon by them for a full measure of co-operation.

By Mark Tuttle, Chapter Manager

SALT LAKE CITY, UTAH. — At the regular March meeting of Intermountain Branch, attention was called to a provision in the Emergency Highway Bill which provides that the Secretary of Labor shall fix the rate of wages to be paid thereon for the various classes of labor. Our members are unanimously in favor of a minimum wage, but feel that to avoid numerous complications and uncertainties that the wages should be fixed by the various State Highway Departments, and the rates of pay inserted in the notices calling for bids. It has been our experience that it is the financially respon-

sible and experienced contractor who hesitates to bid on proposed construction where the provisions of the contract are indefinite and uncertain. It is the irresponsible contractor, with nothing to lose, who is willing to take a chance on such work. Senator Hayden, chairman of the Senate Post Office and Post Roads Committee, is going to introduce an amendment providing for this change, and our congressional delegation were advised of the wishes of our members in relation to this matter.

The building industry in this city, as elsewhere, is faced with a condition and not a theory. During the last two years the downward revision of wages and salaries has practically engulfed everybody making their livelihood either by mental or physical efforts. At the present time, in this territory there is a complete paralysis in building activities. The cost of materials entering into buildings has shown a decided drop. It is not unreasonable to assume that if labor costs are also adjusted a marked improvement would result. In a number of large cities mechanics have voluntarily accepted cuts anticipating their action would pep up building, and in several of these cities slight building improvement is shown, and there are brighter building prospects in 1932 due to these wage adjustments. Practically all of the skilled work the past year, on buildings constructed in this territory, has been performed by poorer classes of workers in the various crafts or by the organized and skilled employee working for wages much below the published union scale. Our members have consistently stood for paying the highest wages in all the various crafts, but experience has shown it is absolutely impossible to compete when figuring these prices as against the gyppo contractor who figures on getting skilled labor at the price our members usually pay for common labor.

A preliminary meeting was held with a committee from our chapter and representatives from the carpenters' union, and it is to be hoped that something may develop which will stimulate the building game in this territory with a thought of benefiting the better class of workmen, the various lines of business affiliated with the industry and the responsible general contractor.

J. F. ATKINSON, CONTRACTOR,

CALLED TO THE GREAT BEYOND

John F. Atkinson, 73, for more than thirty years one of the leading building contractors in Southern California, died March 3 aboard the steamer Orangi, while enroute from Sidney, Australia, to Auckland, New Zealand. Death came suddenly from heart disease.

Mr. Atkinson was born in Marshalltown, Iowa, 73 years ago. He was one of a family of contractors, there being six brothers engaged in building construction. He was the oldest of the six. Only the youngest, Guy Atkinson of San Francisco, now survives. Lynn Atkinson, who was for many years one of the leading road builders in Southern California, died a number of years ago. His son, Lynn S. Atkinson, has been highly successful in the construction field, being one of the builders of the Pardee dam in northern California and the Coolidge dam in Arizona.

Mr. Atkinson took an active interest in the organizations of his craft. He was one of the founders of the original Master Builders Association of Los Angeles, which later became Southern California Chapter, Associated General Contractors of America, of which he was a member at the time of his death. He served as director of the Chapter for a number of years.

Construction Materials and Equipment

TRADE NOTES—PERSONALS

FIRST COMMERCIAL VERTICAL PARKING MACHINE DEDICATED

Vertical parking on a new type automatic machine which parks 48 automobiles on the ground space normally allotted to six cars was recently inaugurated in Chicago.

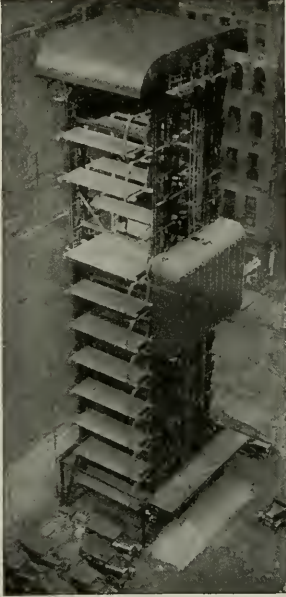
The new machine, perfected by engineers of the Westinghouse Electric and Manufacturing Company, is now in operation at the W. R. Moulds parking lot on Monroe Street, between State and Dearborn Streets. It was formally dedicated in a parade and dedication ceremony headed by Col. A. A. Sprague, commissioner of public works, who represented Mayor Anton J. Cermak.

Concerning this machine, the first commercial installation of its type in the world, Mayor Cermak made the following statement:

"Chicago again leads the world in accepting the latest innovation in electrical engineering designed to alleviate downtown parking problems.

"It is significant that the new parking unit has its first commercial installation in Chicago's famous loop district, one of the world's most congested traffic centers. Every city in the country where traffic congestion is a problem will watch the results of the new development, the most practical solution to the traffic congestion problem that engineers have yet devised."

The new machine consists of cradles, one for each car, supported between two endless chains which pass over sprocket wheels at the top and bottom of travel; the chains are driven by electric motors, and by means of automatic control any cradle can be brought quickly to the driveway level for receiving or discharging an automobile.



48-Car Vertical Parking Machine.

Associated Equipment Distributors of Seattle, at their annual meeting, elected Harry B. Fay of the Western Tractor & Equipment Co., president, to succeed J. B. Stam of the Clyde Equipment Co. L. A. Snow was elected vice-president and Clayton De Wolfe, secretary-treasurer.

The Cleveland Tractor Company, of Cleveland, Ohio, manufacturers of Cletrac crawler tractors, announced appointment of Smith Booth Usher Company as exclusive distributors covering the contracting, municipal and industrial trade in Southern California and Southern Nevada. Under a previous arrangement, Cleveland Tractor Company was represented in Southern California for the past fourteen years by the Mack Woolridge Company.

The Thew Shovel Co., Lorain, Ohio, has published several new pages listing corrections for addition to previous issues of the Thew Handbook. New clearance charts, additional information on clamshell buckets and loads, cable lengths, air cleaners, anti-freeze compounds, and cooling, and electric installations are but a few of the items covered in the new sheets.

The Austin-Western Road Machinery Co., 400 North Michigan Ave., Chicago, has published new bulletins describing two of its line of road graders. The Austin 101 leaning wheel grader is described in bulletin 1238 and the Austin 77 six-cylinder dual-drive motor grader is covered in bulletin 1239.

A seamless, flexible metallic tubing, made of special bronze alloy seamless pipe, corrugated in round-thread single-lead deep wall form and protected with a casing of braided copper, has been placed on the market by the Bendix Aviation Corp., South Bend, Ind. The tubing is designed for use as a fluid connection between moving parts for absorption of vibration and conveyance of liquids, semi-liquids, steam or gas. In tests it has withstood pressure of 10,000 lb. per sq. in. and temperatures of over 500 deg. The hose is being manufactured at present with internal diameters from three sixteenths to one inch.

RENO, NEV.—Reno Builders' Exchange, recently organized, has elected a board of directors, consisting of T. W. Macaulay, A. T. Donnels, J. B. Boyd, Harry Frey, R. L. Seltzer, T. J. Geister, H. Curtain, Len Savage, Byron Morris, L. B. Self, J. Smith, H. M. Crane, Ralph Shearer and H. F. Marlur.

NOrmandie 4303

NOrmandie 7715

LEO HONEK

EXCAVATING CONTRACTOR
CONCRETE PAVEMENT BREAKING
Compressed Air Equipment

2941 Denby Avenue

Los Angeles, Calif.

United Commercial Co., Inc.

*All Our Used Machinery, Second-hand
Shovels at Less Than Cost*

234 Steuart Street

San Francisco

BID PEDDLING ILLEGAL, SUPERIOR COURT RULES

In the East Bay the case of J. H. Fitzmaurice vs. A. F. Hansen has been watched with considerable interest for some months past. The charge, in effect, was that of peddling a bid.

Clyde C. Sherwood, attorney for the Builders' Exchange of Alameda County, represented the plaintiff, J. H. Fitzmaurice.

Judge Wood, of the Superior Court of Alameda County, on March 22, rendered a decision against the defendant and assessed the damages at \$3,100.

Hansen admitted on the stand that he used the plaintiff's bid when he made up his bid to the Board of Supervisors on the Hayward Memorial. Hansen further admitted that he had told the plaintiff "that he had used his bid" and that he had later given the sub-contract for the concrete work to another contractor at a less price than the amount of the plaintiff's bid.

Hansen claimed he was not liable because it was understood by the parties that a formal, written contract would be executed after the job was awarded by the Board of Supervisors. Judge Wood ruled that the oral agreement was enforceable.

Fitzmaurice is a member of Northern California Chapter of the Associated General Contractors, which organization became interested in the case from its inception, not only because Fitzmaurice is an A.G.C. member, but because this has seemed to be a clear case where a sub-contract figure had been misused. In discussing the case with Wm. E. Hague, Manager of Alameda County Chapter, he stated "this is an important decision and should do much to stabilize a condition which is admittedly bad. Less peddling and more honor among contractors in all lines would be a big help toward putting the business on a profitable basis once more."

INCREASED HIGHWAY TRAFFIC IS PREDICTED FOR THE WEST

Traffic on the Federal aid highway system in 11 Western States, will, in general, increase by 45 to 60 per cent in the period 1930 to 1940, according to a report issued by the Bureau of Public Roads of the U. S. Department of Agriculture.

The Federal aid system is approximately 7 per cent of the total rural road mileage in each of these States and is made up of the important State and interstate routes.

This report is the result of a traffic survey conducted from September, 1929, to October, 1930, in co-operation with the highway departments of Arizona, California, Colorado, Idaho, Nebraska, New Mexico, Nevada, Oregon, Utah, Washington and Wyoming. The investigation was undertaken to obtain essential facts about the density, type, capacity and distribution of traffic units as a basis for planning highway development to serve present and future traffic. The data presented in the report may be used by each of the States as the basis for the preparation of a program of road construction, reconstruction and maintenance consistent with traffic requirements for each year up to 1940.

The routes of the Federal aid system are classified as having light traffic when there are less than 600 vehicles per day; as having intermediate traffic when there are between 600 and 1500 vehicles per day; and as having heavy traffic when there are more than 1500 vehicles per day. In 1930 11.3 per cent of the mileage carried heavy traffic, 18 per cent carried intermediate traffic and 65.9 per cent carried light traffic. For 1935 the indicated figures are 14.0 per cent, 22.1 per cent and 59.1 per cent.

For 1940 they are 16.0 per cent, 25.0 per cent and 54.2 per cent. During the ten-year period the heavy traffic roads will increase by 1670 miles, the intermediate traffic roads by 2534 miles and the light traffic roads of the Federal aid highway system will decrease by 4204 miles.

Among the facts developed by the survey are the following: The annual travel of vehicles on the Federal aid system in the 11 States amounts to 8,400,000,000 miles. In six States vehicles from outside of the State constitute more than 20 per cent of the traffic and in three States they constitute more than 30 per cent. The average for the 11 States is 15 per cent. Trucks of less than three tons capacity constitute 85 per cent of the truck traffic and less than 6 per cent are of five tons capacity or over. Eighty-six per cent of all trucks were operated in the service of owners, 8.7 per cent were operated as contract haulers and only 5.5 per cent were operated as common carriers. City-owned passenger vehicles constituted 61 per cent of the passenger vehicles observed. The number of passengers per car averaged 2.42 including the driver.

GOSS BILL—H. R. 4680

Herewith is published a copy of the Goss Bill (H. R. 4680), providing for the listing of sub-contractors on all Federal Government construction. The proposed measure has been referred to the committee on expenditures:

H. R. 4680

A bill to require contractors on public building projects to name their sub-contractors, material men and supply men, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, that contracts in excess of \$5,000 in amount for the construction, alteration, or repair of any public building of the United States or of the District of Columbia within the geographical limits of the States of the Union or of the District of Columbia shall be awarded only to bidders whose bids are accompanied by a statement containing the names and addresses of the sub-contractors, material men and supply men whose services to bidder intends to utilize in the performance of the work. Such contracts shall also contain provisions for payment by the contractor of liquidated damages for failure to utilize such sub-contractors, material men and supply men in the performance of the work. Sums assessed or paid as liquidated damages for such failure may be remitted or refunded by the supervising architect of the treasury, but only in case it is shown to his satisfaction that substitution for a sub-contractor, material man or supply man, as the case may be, was justified by reason of the inability or unwillingness of such sub-contractor, material man or supply man to furnish the materials or supplies, or properly to perform the work, as the case may be.

Section 2. No claim for the remission or refund of liquidated damages shall be granted under this act unless application therefor is filed within one year after the liability of the contractor accrues. If any such application for refund of any sum paid as liquidated damages is denied, or if no application for such refund is filed within the period provided for filing applications under this section, such sum shall be covered into the treasury as miscellaneous receipts.

Section 3. This act shall take effect thirty days after its passage but shall not affect any contract then existing or any contract that may thereafter be entered into pursuant to invitations for bids that are outstanding at the time of the passage of his act.

SANTA ANA, CALIF.—General membership meeting of the Orange County Builders' Exchange will be held April 5 at Fullerton, according to Frederic Sanford, secretary-manager. The electrical contractors and dealers will provide a program of entertainment. A feature of the day will be the Third Annual Builders' Exchange Golf Tournament to be played at the Hacienda Country Club.

Pacific Clay Products

General Offices: 650 Chamber of Commerce Bldg.,
1151 SOUTH BROADWAY
Los Angeles, Calif.

California State Builders' Exchange Convenes at Bakersfield

AN APPEAL to President Hoover to use his influence to obtain financial aid for the building industry in California was made by delegates attending the semi-annual convention of the California State Builders' Exchange at Bakersfield last month.

Resolutions adopted called upon Governor James Rolph, Jr., and state and national officials to assist in a revival of home building and other types of construction.

Senators Hiram W. Johnson and Samuel Shortridge were urged by the state organization to further federal building construction in this state. This action was taken upon the request of the Alameda County Chapter, Associated General Contractors of America. William E. Hague, manager of the East Bay organization, in a communication to the state exchange urged unified support in petitioning Congress to make further appropriations for postoffice construction and other government work in Northern California. The communication cited the fact

believe that this condition can be remedied and an immediate revival of business and employment follow if the government use its influence to have the financial institutions resume the extension of credit to our business so that the home building and general construction may proceed;

Be It Further Resolved that a copy of this resolution be sent to the President of our Nation, to Senators and Congressmen of California, to our Governor, requesting their immediate attention to this resolution; also that copies be sent to the trade papers, magazines and the press.

H. L. Sweeney of Santa Barbara, a director of the state organization and chairman of the labor committee, in discussing wage scales in the construction business, pointed out that there has been a general downward trend of wages throughout the country of about 25 per cent.

"It does not take very much intelligence," said Sweeney,



Delegates in Attendance at Semi-Annual Convention of California State Builders' Exchange, Ltd., at Bakersfield, March 18-19

that California is the most backward state in the Union in the proportion of funds actually appropriated for federal government construction. Individual exchanges and their members were requested to communicate with California senators with a view to obtaining additional appropriations which will put this state on a parity with other states.

The resolution directed to President Hoover follows:

Whereas, the distressing conditions in the building industry have continued for three years and still continue, thus impoverishing our nation, and

Whereas, the building industry, the second largest in our nation, is practically at a standstill today, and the great mass of skilled and unskilled workers engaged in the manufacture of materials and the erection of buildings are idle, and

Whereas, there is a tremendous sustained loss in investment and deterioration of equipment.

Therefore, Be It Resolved that the California State Builders' Exchange, Ltd., in convention, be-

ney, "to realize that unless the banker and financier place money and credit in the hands of the manufacturer, agriculturist and general business, the next six months will see another slip downward in wages equal to the last six months."

Speaking on compensation insurance, Sweeney declared the rates should be set by an impartial board. He also advocated that vocational training should be studied by an impartial committee composed of an equal number of school authorities and employers who employ boys and girls.

William H. George, president of the San Francisco Builders' Exchange and a director in the state organization, wired the meeting that he was unable to attend due to a wage scale conference now under way in San Francisco. Mr. George, in his wire, expressed his desire to put through a wage scale that could be adopted throughout the state.

P. M. Sanford of Richmond, former state exchange president, delivered an interesting address on conditions in the building industry at the present time.

Con Franke, mayor of Stockton and engaged in the electrical business in that community, wired the convention seeking to have the next session held in Stockton. The mayor's request was followed by another wire from the Stockton Chamber of Commerce and the pleadings of three delegates from that city. It was unanimously voted to hold the next meeting in Stockton.

The activities of the State Department of Professional

SMITH BROS. TRUCK CO.

"TRANSPORTATION SPECIALISTS"

Portable Crane Service—Rigging

1704 E. 16th St. Los Angeles WEstmore 3271

and Vocational Standards, charged with enforcement of the Contractors' License Law, were highly commended by the state exchange in a resolution adopted at the request of Mano Zan, secretary of the Los Angeles Builders' Exchange.

Carlos W. Huntington, state registrar of contractors, delivered the principal address at the closing session, speaking on the value of the license law to the industry and the building public. He cited the need for greater co-operation on the part of individual building organizations throughout the state. Many questions with regard to enforcement of the law were answered by the registrar to the satisfaction of the delegates, many of whom, apparently, were not familiar with the routine of the state department.

R. H. Hubbard, Bakersfield building inspector, delivered an interesting address on building inspection, showing the progress made in efficient inspection from ancient times up to the present.

Allison Honer, vice-president of the National Association of Builders' Exchanges, spoke on the activities of the national organization and the work it was doing at Washington for the betterment of the building interests.

The convention closed with a banquet in the Spanish ballroom of the Hotel El Tejon. Speakers included Col. Carlos W. Huntington, state registrar of contractors, and Mark L. Requa, Republican national committeeman.

Among the many reports submitted and approved were those of the committee on legislation and arbitration, copies of which are published herewith:

REPORT OF LEGISLATIVE COMMITTEE

Your Legislative Committee begs to submit the following report.

We recommend adoption of the following:

1. That our legislative efforts be concentrated on but few issues—those directly affecting our industry and considered the most important to it.
2. That consideration of the laws relating to the financial structure of the industry is now our most important legislative subject, involving as it does lien rights and priorities, they in turn determining practices in construction finance and credits.
3. That we gather the several interests concerned into conference, with the hope of composing their differences, in order that all may go with one accord to the next Legislature to obtain any necessary legislation.
4. That we first seek the good offices of the California Building Congress in our endeavors toward such unity of purpose and toward obtaining legislative results from it.
5. That we continue actively the Construction Industries Joint Committee of California in its endeavors for the advancement of private initiative.
6. That we contact allied interests who make a practice of appearing at legislative sessions for the purpose of co-operating in the resistance of unfavorable laws.
7. That each member exchange closely contact the Senators and Assemblymen in its district, each exchange in the way suited to it, to the end that we may appear before acquaintances at least when we contact Sacramento.
8. That each of such officials be made familiar with the following and similar facts: The composition of each exchange as a cross-section of the industry, in community, manufacturers, dealers, general and specialty contractors, the extent of the employes of all these and their families, and their influence in civic affairs; the composition of the State Exchange with its 19 member exchanges throughout the State, united to elevate the industry; the 23,000 licensed contractors of the State and their various craft organizations, who look to the State Exchange as the co-ordinating body of the industry; the constant and intimate contact throughout the State of the State Exchange and its member exchanges with organizations of the professional elements, such as architects and engineers, for the solution of common problems and similar contact with civic organizations in the interest of efficiency in governmental affairs, etc.
9. That each member exchange designate a political representative, acquainted with legislators, familiar with public methods, who will be subject to the call of the Legislative Committee.
10. That we endorse such revision of the Federal Bankruptcy Law as will minimize unduly severe losses to creditors and as will curb organizations in the interest of efficiency in governmental affairs, etc.
11. That we favor such revision of "anti-trust" laws as will remove impediments which prevent industry from co-operatively purging itself of unscrupulous operators who bring ruin to themselves, their creditors, their right competitors, and who depress economic conditions throughout the field of their operations.
12. That we oppose all efforts to divert any revenues from gasoline taxation to any purpose other than construction, maintenance or improvement of highways.
13. That we do not now favor any amendments to the State Contractors' License Law.
14. That we favor reduction of compensation insurance rates commensurate with the lessened hazards provided by employers' safety work, and the removal of present bounty on employees' willful neglect and disobedience of safety rules.

Respectfully submitted,

W. H. George, Mano Zan, Dan Wagner, P. M. Sanford.

V. J. Anderson, H. N. Patterson, C. F. Rhodes, P. J. Steven, M. E. Summers, James Brinkhurst, E. Brasch, E. H. Higgins.

REPORT OF ARBITRATION COMMITTEE

The California State Legislature in 1927 passed the California Arbitration Act at the behest of several groups in the State, the principal of which was the Los Angeles Chamber of Commerce, the Commercial Board of Los Angeles and the San Francisco Chamber of Commerce, the latter organization being the actual proponent of the bill.

The purpose, of course, of commercial arbitration is in its essence an attempt to avoid having recourse to our civil courts in cases of disputes, or differences, all of which entail much time, large expense and the loss of the most vital factor that underlies our commercial life—good will.

The Act as passed by the California Legislature, and which in the due course of process went into effect in the latter part of June, 1927. In the Act there are some fourteen sections and which is patterned very much after the Standard Arbitration Law set up by the American Arbitration Association, which is the mother body for commercial arbitration in the United States.

Among the provisions of the Act the following sections guide the procedure of those coming under its force.

Section 1 (1280) provides for the validity of arbitration agreements either by written consent to be inserted into the contract at the time it is drawn up, or by a written agreement to submit an existing controversy to an arbitrator.

Section 2 (1281) stipulates what may be arbitrated and how a judgment may be rendered.

Section 3 (1282) deals with preliminary procedure should the parties disagree as to the question of arbitration.

Section 4 (1283) deals with ways and means for the appointment of arbitrators.

Section 5 (1284) provides means for a stay of civil action pending a hearing by arbitration.

Section 6 (1285) provides that where a court hearing is granted it shall be heard in a summary way.

Section 7 (1286) details the powers, procedure and scope of the hearing by the arbitrators.

Section 8 (1287) names the time, manner and place where an order confirming the award of the arbitration board may be obtained.

Section 9 (1288) sets forth under what conditions the award may be vacated.

Section 10 (1289) provides for a modification or correction of an award.

Section 11 (1290) procedure for a motion to vacate, modify or correct an award.

Section 12 (1291), judgment and the filing of same.

Section 13 (1292) deals with the force and effect of a judgment.

Section 14 (1293) provides that appeals may be taken from a judgment as in a civil action.

Accordingly it is plain to see that if those in the building industry who feel called upon to turn to civil courts for redress will give consideration to the matter of arbitration they will be able to have all the necessary presentation and consideration of their claims and in a manner as well as to assure them of justice to which they themselves will readily agree.

For in the case of arbitration, in the majority of cases, each side to the controversy is represented by the principal, who has factually secured his own attorney for he is the one who presents his side of the case to the arbitrator.

One of the outstanding examples of the successful operation of commercial arbitration is the Arbitration Court of the New York Building Congress, where all claims, demands, disputes, differences, controversies and misunderstandings arising under, out of, or in connection with, or in relation to the particular contract which carries this clause, shall be submitted to and be determined by arbitration, pursuant to the arbitration law of the State of New York, in the tribunal of justice known as the Court of Arbitration, established and conducted by the New York Building Congress and in accordance with its rules.

In its arbitration machinery it provides for the owner, the banker, the real estate broker, the architect and engineer, the contractor, sub-contractors, material dealers and manufacturers, and labor.

So successful has been the result produced that now arbitration cases running into the hundreds of thousands of dollars are now being submitted to the tribunal just referred to and are being successfully adjusted to the satisfaction of all.

This is the first report of your Arbitration Committee, and due to the fact that commercial arbitration, while a vital factor, being new to us is looked upon with doubt and assistance. Accordingly it is hoped that the recommendations offered will be carried back to your various groups and endeavor, if possible, to set up a small tribunal in your own exchange; this will enable you to establish your organization at the center of influence and corrective activity in the building industry in your community.

Your committee men hold themselves in readiness to aid at all times and will be glad to receive from you every consideration for an attempt to arbitrate the next dispute that comes to your attention affecting members of the building industry.

It is, therefore, recommended that each Builders' Exchange in the State of California give heed and attention to the use of commercial arbitration among its membership and those associated with the building industry. It is also recommended that the year-end reports of every contractor drawing contracts to insert in such instruments the following clause:

"Any controversy or claim arising out of or relating to this contract, or for the breach thereof, shall be settled by arbitration in accordance with the laws of the State of California, under the rules of the American Arbitration Association, and judgment may be entered on the award in any court having jurisdiction."

The rules of the American Arbitration Association are standard form set up by the American Arbitration Association and cover the proper mechanics of procedure, which are now accepted by some ten of the largest States and are being presented to some thirty-five others.

The matter of forms in submission agreements are standard and can be very easily procured by addressing the chairman of your committee and we are attaching for the sake of the record a standard form which includes the rules of the American Arbitration Association.

In closing we beg to submit that in recommending to the building and construction industry of California the use of commercial arbitration, as a substitute for appeal to the civil courts, we are offering one of the most forward thinking procedures that is today before American business.

However, if the delegates will take home this thought and endeavor to establish at their exchanges machinery whereby all those associated with the building industry in its various forms and activities can bring their disputes for adjudication you will be offering a service which will add greatly to the utility and influence of your organization in your community.

Mr. Chairman, I move you the adoption of this report.
 ARBITRATION COMMITTEE, CALIFORNIA STATE BUILDERS' EXCHANGE.

MANO ZAN, Chairman.

**OREGON CONTRACTORS DIVIDED
 ON SIX-HOUR A DAY PROPOSAL**

Oregon contractors are almost evenly for and against the six-hour day for state highway work as a solution to the present unemployment problem.

Both proponents and objectors included among the score of answers received to a circular letter mailed by J. M. Devers, state highway commission attorney, advance definite reasons for their opinions.

Some objectors pointed out that higher work already is poorly paid, and a further cut in income would rest in increased destitution during winter months. One contractor estimated operation of the plan would increase cost of a \$100,000 contract by at least \$3,750, the increase ultimately to be footed by the state taxpayers. Others believed that unless the short day were put into universal effect, good workmen would gravitate to firms on an eight hour basis, leaving the inefficient on the short-day short-pay basis.

Those favoring the proposal countered that any plan offering hope of better conditions should be tried out and given a fair change at least until the economic stringency ends.

During the summer months, they maintained, that two 6-hour shifts would be superior to the present one 8-hour period during daylight hours. Employment estimated increased between 25 and 30 per cent by inaugurating the six-hour day would eliminate the present jobless, it was said.

C. F. Swigert, president of a Portland bridge building company, was outspoken in favor of a shortened day.

"I have seen the working day gradually reduced from 12 hours to 8 hours, usually in one-hour steps," said Swigert. "The same objections have always been raised, but when the reduced hours were put to the test, objections were found not nearly as important as at first thought."

**HOW TO ESTABLISH RENTAL
 RATES FOR ROAD EQUIPMENT**

Items that enter into a determination of the proper rental rate to establish for highway equipment as reported by a joint committee of the American Road Builders'

Association and the American Association of State Highway Officials at the 29th Annual Convention and Road Show in Detroit are as follows:

Operating Charges. (a) Average cost of repairs and upkeep; (b) Operation expense, fuel, oil, etc., together with

Fixed Charges. (a) Operating depreciation; (b) Idle depreciation; (c) Interest; (d) Taxes; (e) Insurance; (f) Profit; (g) Overhead, storage, administration.

Note: Items (c) to (g) of the fixed charges apply only if the equipment is privately owned.

Annual depreciation on a \$600 machine with a life of five years and a scrap value of \$100 at the end of that period is given below as computed by three methods:

| | Straight line | Diminishing value | Sinking fund 6% interest |
|-------------------|---------------|-------------------|--------------------------|
| First year | \$100 | \$180.72 | \$88.70 |
| Second year | 100 | 126.28 | 94.02 |
| Third year | 100 | 88.25 | 99.66 |
| Fourth year | 100 | 61.67 | 105.64 |
| Fifth year | 100 | 43.08 | 111.98 |
| Totals | \$500 | \$500.00 | \$500.00 |

The value of service with respect to having equipment ready when needed must be considered for each special case.

Depreciation is both natural, as consumed in production work, and functional, due to obsolescence or inadequacy.

The adoption or use of established rental rates may be debarred by law in acquiring equipment for a state, but a consideration of such rental rates will furnish information useful in cost accounting, according to the committee report.

SAN FRANCISCO—Wm. H. George was re-elected president of the San Francisco Builders' Exchange at the meeting of the directors in the exchange quarters at 666 Mission street, last Wednesday.

Jos. B. Keenan and Emil Hogberg were re-elected first and second vice-presidents, respectively. C. W. Carle was elected third vice-president.

R. J. H. Forbes, secretary, and Alexander Mennie, treasurer, were both re-elected.

Jas. H. Pinkerton and W. Kowalkowski are the two new directors on the board. Re-elected members on the board of directors are: W. H. George, Jos. B. Keenan, Emil Hogberg, R. J. H. Forbes, Alexander Mennie, John D. McGilvray, A. H. Wilhelm, C. W. Carle and E. M. Hundley.

LONG BEACH, CALIF.—The March membership meeting of the Long Beach Builders' Exchange was a success, according to E. A. Bradbury, manager, who reported a good attendance, a fine entertainment, eloquent speakers and a good dinner. Harvey Naeve and six members of the Patten-Blinn Lumber Company, provided the entertainment and Elmer Tucker submitted a digest on Business Economics. H. L. White, Steve Ford, Ray Baldwin and Harvey Fremming discussed the unemployment problem, advocating shorter hours and a shorter week.

Golden State Flooring Corporation
Hardwood Flooring Headquarters
 C. E. COATES, Manager
 RHODE ISLAND STREET, Bet. 16th and 17th Street
 San Francisco, California
 Telephone Market 3177

SUCONEM Super Concrete Emulsions Limited
 —for Better Concrete— 3710 S. ALAMEDA ST., Los Angeles
 District Offices
 46th Ave. and 308 Stock Ex. Bldg., 216 Walker Bldg.,
 Oakland, Calif. Portland, Ore. Seattle, Wash.

Around The Builders' Exchanges

SECRETARIES OF BUILDERS' EXCHANGES THROUGHOUT THE PACIFIC COAST
ARE REQUESTED TO SUBMIT ITEMS FOR PUBLICATION IN THIS DEPARTMENT

FRESNO, CALIF.—Fresno Builders' Exchange, in annual meeting last month, elected three new directors, T. A. Osborne, L. G. Jeffrey and R. E. Jolly, and re-elected the following directors: A. M. Goedel, M. W. Hancock, A. M. Loper, F. M. Low, A. M. Healey, J. M. Brown, H. G. Rohr and E. O. Thompson. The directors will meet at an early date to elect officers.

P. M. Sanford, past president of the California State Builders' Exchange, was the principal speaker at the annual meeting of the Fresno Exchange.

"The water has been squeezed out of real estate and we have arrived at new values," said Sanford. "There are a few adjustments to make and you are doing that with labor. Building is beginning an upward movement. The great corporations of the state, which have retrenched during the past few years and stagnated their building program, are now coming back, now that the building industry has reached bedrock."

Ralph Bowdle of Sacramento, district supervisor of the department of professional and vocational standards, told the group that legislation benefiting the industry must come from within the industry if it is to be effective. President C. E. McMullin asked support of the exchange's actions to insure its continued strength. Secretary Harry Cayford reported the exchange in sound financial condition, with practically no reduction in membership from a year ago.

BAKERSFIELD, CALIF.—Reorganization of the Bakersfield Builders' Exchange, under the new name of Kern County Builders' Exchange, is announced. Member-

ship in the organization will be permitted throughout the county, according to D. J. Turner, secretary.

During the regime of G. A. Graham, retired president of the organization, membership of the Bakersfield institution increased more than 100 per cent, bringing the membership to approximately 90 per cent of all the building contractors in Bakersfield, and newly elected officers of the exchange hope to make the organization county-wide, with sub-offices in Taft and other cities of Kern county.

W. T. Drury has been named president of the organization. F. A. Greenough is vice-president, and H. C. Evans, treasurer. Directors will be President Drury, Vice-President Greenough, Treasurer Evans, with G. A. Graham, George Wilson, L. H. Moon, W. M. Fisher, P. J. Stevens, W. W. Smetzer, Alex Simpson, Ray Walters and T. W. Frazer.

PORTABLE CRUSHING PLANT

DEVELOPED BY AUSTIN-WESTERN

To meet the growing demand for larger capacity units capable of reducing rock and pit run gravel to smaller sizes, two new Western portable crushing and screening plants have been developed by the Austin-Western Road Machinery Company, 400 North Michigan Avenue, Chicago. The two new models, known as No. 100 and No. 90, are compact and readily portable. The over-all height is under 12 feet, the over-all length, exclusive of pit conveyor, is under 26 feet, and the over-all width, exclusive of the delivery conveyor, is less than 10 feet. The two

Construction Profit Shown by Income Taxes

STATISTICS on the income taxes paid in 1930 by corporations engaged in construction made public by the federal Income Tax Bureau, are reported in The Constructor, national A.G.C. publication. Analysis of these figures shows that the net profit made by the 19,385 corporations was 1.7 per cent of their gross income. Only

44 per cent of the corporations reporting made a profit during 1930, which is nearly 10 per cent less than the number reporting a profit in the previous four years.

Below are given the figures revealed by income tax reports as submitted by construction corporations:

| | 1927 | 1928 | 1929 | 1930 |
|---|-----------------|-----------------|-----------------|-----------------|
| Total number of corporations reporting..... | 17,609 | 18,770 | 19,499 | 19,385 |
| Number of corporations reporting a net profit..... | 10,071 | 10,179 | 10,261 | 8,643 |
| Per cent of total which reported a net profit..... | 57% | 54% | 53% | 44.5% |
| Gross income on which a net profit was made..... | \$2,413,183,931 | \$2,317,186,317 | \$3,072,843,804 | \$2,039,248,339 |
| Net income reported..... | 171,159,963 | 170,905,881 | 265,340,156 | 143,241,946 |
| Income tax paid..... | 20,078,238 | 17,175,226 | 26,123,649 | 14,391,065 |
| Net-income less income tax, net profit..... | 151,081,725 | 153,730,655 | 239,216,507 | 128,850,881 |
| Per cent of gross income as a net profit for corporations reporting a net income..... | 6.26% | 6.6% | 7.78% | 6.3% |
| Number of corporations having no profit or loss..... | 1,257 | 1,474 | 1,514 | 1,404 |
| Number of corporations reporting a deficit or loss..... | 6,281 | 7,117 | 7,724 | 9,338 |
| Per cent of total which reported a loss..... | 36% | 37% | 39% | 48% |
| Gross income of corporations reporting a loss..... | 642,410,274 | 661,088,717 | 777,909,528 | 832,346,257 |
| Total losses reported..... | 59,417,399 | 71,369,108 | 67,607,497 | 79,190,243 |
| Per cent of gross income as a loss for those corporations reporting losses..... | 9.25% | 10.7% | 8.69% | 9.5% |
| Gross income of all corporations reporting..... | \$3,055,594,205 | \$2,978,275,034 | \$3,850,753,332 | \$2,871,594,596 |
| Total net incomes less income taxes less total losses reported results in a combined net profit of..... | 91,664,326 | 82,361,547 | 171,609,010 | 49,660,638 |
| Per cent of combined gross incomes of profitable and profitless corporations shows a combined net profit earned by all corporations reporting as engaged in construction..... | 3% | 2.7% | 4.4% | 1.7% |

models are identical except that the No. 100 plant contains both primary and reduction crushers and the No. 90 plant contains but one crusher. A two-deck screen is used in the No. 100 machine and a single-deck screen in the No. 90. When moving from one location to another it is necessary only to disconnect the pit and delivery conveyors. The machines do not project below the ground level at any time, and it is not necessary to dig a pit for the lower end of the delivery conveyor or the bucket carrier which returns the crushed material to the screen. The plants can be operated by separate power units, but are designed to accommodate self-contained units for driving the entire plant. Where it is desired to load the finished product directly into trucks, a 20-foot delivery conveyor is furnished a 2½-yard storage hopper allowing the material to accumulate while a loaded truck pulls away and an empty one takes its place.

**NEW HEAVY-DUTY VIBRATION
ANNOUNCED BY LINK-BELT CO.**

Two new types of vibrating screens have just been announced by Link-Belt Company, Philadelphia, Pa. These screens are known as:

(1) Link-Belt positive drive type, heavy-duty vibrating screen, which is made with both single and multiple decks.

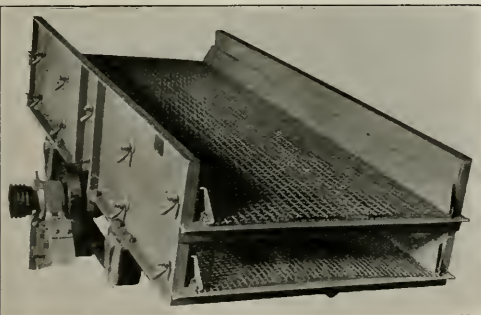
(2) Link-Belt unbalanced pulley type, heavy-duty vibrating screen, made with single and multiple decks.

These two additions to the Link-Belt line of vibrating screens fill industry's needs where large screen openings are required and heavy capacities must be handled.

The positive drive type, pictured here, is the single-deck design, the feed end being in the foreground. This type screen can be furnished to provide any given fixed amplitude, with shaft speeds to suit.

In the positive drive type screen the amplitude of vibration is fixed at the factory, before shipment, to suit the work the screen is to do. Any given amplitude will cover a wide range of screening surface openings. The angle of the screen inclination, the speed of operation and the direction of the rotation all are readily changed at any time to suit the kind, size and condition of material to be screened. The rotation determines whether the vibrations are with or against the flow of the material.

Folder 1262 covering the new Link-Belt vibrating screens, giving dimensions, clearances, etc., will be sent gratis upon request to the Link-Belt Company, 2045 West Hunting Park Avenue, Philadelphia, Pa.



Link-Belt Vibrating Screen

**DIRECTORY OF LICENSED
CONTRACTORS TO BE ISSUED**

Carlos W. Huntington, Registrar of Contractors, announces completion of the first OFFICIAL DIRECTORY of licensed contractors. The volume is priced at \$3.50, being printed at cost by the State Printer.

The compilation is set alphabetically and geographically, and so arranged that every contractor and every line of business allied with the construction industry may find easy access to information most vital to the 23,600 licensed contractors, their industry, the law and its modus operandi.

It is the plan of the state to issue a complete Licensed Contractors' Register twice a year, about April 1 and September 1. As the fiscal year of the department ends on June 30, the new listings will be compiled during July and August so as to make available for the trade another directory on or about September 1. This action has been taken by the state in conformance with the provisions of the licensed contractors' act, calling for such expenditure and sale at cost of this big volume.

Copies of the directory will be obtainable from the San Francisco offices of the Registrar, in the State Building, after April 1 upon payment of \$3.50, checks for same to be made payable to the Registrar of Contractors. The purchase price includes two supplements to bring the directory up-to-date at the close of the year.

OAKLAND, CALIF.—To Wm. E. Hague, executive secretary of the Alameda County Chapter, goes the credit for the action of the California State Builders' Exchange, Ltd., meeting in semi-annual convention in Bakersfield, to request President Hoover, Governor Jas. Rolph and Senators Johnson and Shortridge to seek further appropriations for postoffices and completion funds for other government projects in the California district.

In a communication to the state exchange, urging action on the part of that organization, Hague pointed out that California is the most backward of all important states in the Union in the proportion of funds actually appropriated for the construction of postoffices, as against funds allocated.

"Allocated amounts," Hague wrote the state body, "mean nothing at this time of need and distress, but if we could get half of that nineteen million of allocated money over into the appropriated column it would mean much relief and employment to each and everyone engaged in the building business throughout the state."

Figures submitted by Hague, quoted in Congressional Document No. 788 of the 71st Congress, being the report of the Interdepartment Committee relating to public buildings, follows:

| State | Authorized and Appropriated | Allocated to be Appropriated |
|---------------------|-----------------------------|------------------------------|
| California | \$16,302,500 | \$19,815,000 |
| Connecticut | 5,235,000 | 1,515,000 |
| Florida | 7,465,000 | 960,000 |
| Illinois | 31,750,000 | 7,140,000 |
| Iowa | 5,165,000 | 1,535,000 |
| Kentucky | 5,398,000 | 980,000 |
| Massachusetts | 14,715,000 | 6,795,000 |
| Michigan | 11,155,000 | 5,500,000 |
| Missouri | 9,670,000 | 8,605,000 |
| New York | 59,453,000 | 21,275,000 |
| Ohio | 18,670,000 | 9,110,000 |
| Pennsylvania | 32,352,000 | 12,890,000 |

UNIT BID SUMMARY

Compiled from the Daily News Service of Pacific Constructor

19 MILES OIL PROCESSING—ARIZONA STATE HIGHWAY

ARIZONA STATE—O. F. Fisher, 516 S 7th St., Phoenix, awarded contract by Arizona State Highway Commission, at \$51,493.09, for highway construction on the Globe-Safford Highway, F. A. P. 15-D and 87-E. The work, which begins at the end of the present oil surfacing near Bylas and extends southeasterly approximately 18½ miles to the beginning of the pavement near Matthews Wash, consists of the placing of mineral aggregate and the oil processing of roadway by the road mix method. The approximate quantities are:

Federal Aid Project No. 15—15-D Reopened

- (1) 7242 cu. yds. mineral aggregate;
- (2) 10,189 cu. yds. ml. mineral aggregate, haul;
- (3) 123,114 gals. oil applied to roadway (CIP);
- (4) 379 cu. yds. screening for seal coat (CIP);
- (5) 4.937 ml. mixing, laying down and finishing;
- (6) 9.874 miles reshaping shoulders (CIP).

Federal Aid Project No. 87-E

- (7) 19,748 cu. yds. mineral aggregate;
- (8) 65,866 cu. yd. ml. mineral aggregate, haul;

- (9) 335,724 gal. oil applied to roadway (CIP);
- (10) 1034 cu. yds. screening for seal coat (CIP);
- (11) 13,446 ml. mixing, laying down and finishing;
- (12) 26,738 miles reshaping shoulders (CIP).

The bids follow:

- (A) O. F. Fisher.
- (B) Martin Bros. Trucking Co.
- (C) Lee Moor Construction Co.
- (D) N. G. Hill & Co.
- (E) Skeels & Graham Co.
- (F) Phoenix-Tempe Stone Co.
- (G) New Mexico Construction Co.
- (H) Ralph Flensant Construction Co.
- (I) R. H. Martin.

| | —Federal Aid Project No. 15-D, re-opened— | | | | —Federal Aid Project No. 87-E— | | | | Totals | | | | |
|----------|---|-------|---------|-------|--------------------------------|---------|-------|-------|---------|-------|----------|---------|-------------|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | | (9) | (10) | (11) | (12) |
| (A)..... | \$.50 | \$.09 | \$.0475 | \$.30 | \$400.00 | \$20.00 | \$.50 | \$.09 | \$.0475 | \$.30 | \$400.00 | \$20.00 | \$51,493.09 |
| (B)..... | .40 | .09 | .052 | 1.25 | 425.00 | 25.00 | .40 | .09 | .052 | 1.25 | 425.00 | 25.00 | 51,996.35 |
| (C)..... | .48 | .07 | .05 | 1.50 | 440.00 | 75.00 | .48 | .07 | .05 | 1.50 | 440.00 | 75.00 | 54,179.37 |
| (D)..... | .60 | .08 | .051 | 1.00 | 400.00 | 15.00 | .58 | .08 | .051 | 1.00 | 400.00 | 15.00 | 54,600.45 |
| (E)..... | .48 | .08 | .055 | 1.25 | 450.00 | 35.00 | .48 | .08 | .055 | 1.25 | 450.00 | 35.00 | 55,597.81 |
| (F)..... | .494 | .09 | .05 | 1.00 | 440.00 | 13.00 | .69 | .09 | .05 | 1.00 | 440.00 | 13.00 | 56,968.77 |
| (G)..... | .46 | .08 | .063 | .85 | 435.00 | 15.00 | .46 | .08 | .063 | .85 | 435.00 | 15.00 | 57,154.33 |
| (H)..... | .51 | .09 | .056 | 3.00 | 450.00 | 23.00 | .51 | .09 | .056 | 3.00 | 450.00 | 23.00 | 59,659.57 |
| (I)..... | .57 | .09 | .06 | 2.00 | 500.00 | 30.00 | .57 | .09 | .06 | 2.00 | 500.00 | 30.00 | 62,877.19 |

ANAHEIM-TELEGRAPH ROAD—LOS ANGELES COUNTY

LOS ANGELES, Cal.—J. L. McClain 3452 W Slauson Ave., submitted low bid to county supervisors March 23 at \$104,769.15 to improve Anaheim-Telegraph Road, from Bandini Crossing of the A. T. & S. F. railway at Garfield Ave., to San Gabriel River. The improvement, which is 18,347 lin. ft. or 2.47 miles in length, will involve:

- (1) 19,829 cu. yds. excav. (incl. shaping and removing of trees);
- (2) 291,077 sq. ft. 10-7-7-10-in. compressed concrete pavement;
- (3) 1193 sq. ft. 8-in. compressed concrete pavement;
- (4) 291,077 sq. ft. 3-in. asph. wearing surface;

- (5) 111,075 sq. ft. 2-in. asph. concrete wearing surface;
- (6) 105,085 sq. ft. 4-in. asph. concrete base;
- (7) 107,685 sq. ft. 4-in. disintegrated rock base with oil and rock wearing surface;
- (8) 171,366 sq. ft. 5-in. disintegrated rock or old macadam and disintegrated rock base;
- (9) 297,060 sq. ft. 4-in. do;
- (10) 66 cu. yds. cement conc. cradle;
- (11) furnish and place pile butts;
- (12) 30 lin. ft. furnish and place 8-in. corr. metal pipe, type A;
- (13) furnish and place Calco embankment protectors;

- (14) construct 2 drainage structures complete at Sta. 101 plus 55 and 146 plus 60.

Cash contract No. 424. George W. Jones, county road commissioner.

Complete bids follow:

- (A) J. L. McClain.....\$104,769.15
- (B) Griffith Company.....104,839.75
- (C) L. A. Paving Co., Inc.....107,524.13
- (D) Osborn Company.....110,863.33
- (E) Geo. H. Oswald.....113,362.92
- (F) Hall-Johnson Co.....114,168.59
- (G) Southwest Paving Co.....121,429.36
- (H) Geo. R. Curtis Pav. Co.....120,150.35
- (I) So. Calif. Roads Co.....123,860.66
- (J) E. H. Haddock, Ltd.....124,082.08

Unit bids follow:

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (14) | |
|----------|-------|--------|-------|--------|--------|---------|-------|--------|-------|---------|--------|--------|---------|----------|
| (A)..... | \$.50 | \$.185 | \$.19 | \$.045 | \$.032 | \$.0575 | \$.04 | \$.027 | \$.02 | \$10.00 | \$2.75 | \$1.10 | \$10.00 | \$100.00 |
| (B)..... | .36 | .19 | .21 | .045 | .04 | .06 | .04 | .03 | .02 | 10.00 | 2.00 | 2.00 | 15.00 | 900.00 |
| (C)..... | .30 | .19 | .20 | .045 | .035 | .075 | .05 | .03 | .025 | 9.00 | 4.00 | 1.50 | 15.00 | 917.00 |
| (D)..... | .50 | .20 | .20 | .055 | .035 | .075 | .035 | .02 | .015 | 10.00 | 3.00 | 1.50 | 10.00 | 900.00 |
| (E)..... | .70 | .195 | .195 | .046 | .032 | .062 | .045 | .025 | .023 | 10.00 | 2.50 | 1.25 | 10.00 | 950.00 |
| (F)..... | .32 | .20 | .21 | .057 | .0375 | .075 | .045 | .03 | .025 | 10.00 | 4.00 | 1.50 | 12.00 | 900.00 |
| (G)..... | .33 | .206 | .206 | .051 | .038 | .074 | .065 | .04 | .032 | 17.00 | 6.00 | 1.50 | 10.00 | 1100.00 |
| (H)..... | .60 | .2165 | .2165 | .047 | .031 | .06 | .043 | .032 | .028 | 8.40 | 2.40 | 1.08 | 10.40 | 1038.00 |
| (I)..... | .40 | .206 | .26 | .065 | .048 | .073 | .069 | .034 | .025 | 16.00 | 2.10 | 1.10 | 12.00 | 780.00 |
| (J)..... | .85 | .195 | .21 | .057 | .04 | .077 | .045 | .03 | .0275 | 8.00 | 2.75 | 1.40 | 10.00 | 925.00 |

DAILY PACIFIC BUILDER

Features in every issue a summary of the developments in the construction field: work contemplated, bids wanted, bids opened and contracts awarded for all types of building and engineering construction. The subscription price is \$1.50 per month or \$15.00 per year when paid in advance. Send for sample copy. Daily Pacific Builder, 545 Mission St., San Francisco, or phone GARfield 8744.

11.17 MILES HIGHWAY—NEVADA STATE

AWARD

LYON COUNTY, Nev.—As previously reported, J. N. Tedford, Fallon, Nev., at \$54,223.68 awarded contract by State Highway Commission to reconstruct a portion of the State Highway System between Hoyer and Bulkhead, Route 3, Sections D2, D1 and C1, 11.17 miles, involving:

- (1) 67,000 cu. yds. rdwy. excav.
- (2) 1,400 cu. yds. struc. excav.
- (3) 26,893 cu. yds. sel. borow excav. in place;
- (4) 111,773 yd. sta. overhaul;
- (5) 11.17 miles prepare subgrade and shoulders;
- (6) 13 demolish headwalls;
- (7) 17 demolish siphon inlets and outlets;
- (8) 2 demolish reinf. conc. box culv.
- (9) 35,600 cu. yds. crushed rock or crushed gravel surf. in place;
- (10) furnish water equipment;
- (11) 2,435 M. gal. apply water;
- (12) 171 cu. yds. Class A concrete;
- (13) 76 cu. yds. Class B concrete;
- (14) 818 lin. ft. 18-in. corr. metal pipe in place;
- (15) 428 lin. ft. 24-in. do;
- (16) 152 lin. ft. 36-in. do;

- (17) 290 lin. ft. 24-in. corr. metal siphon pipe in place;
- (18) 88 lin. ft. remove corr. metal pipe;
- (19) 204 lin. ft. remove and reset corr. metal pipe;
- (20) 40 corr. metal pipe culvert extensions;
- (21) 248 lin. ft. stand. timber guard rail;
- (22) 68 monuments;
- (23) 4 F. A. markers;
- (24) 11.17 miles finish rdwy.;
- (25) 2,491 lin. ft. remove fence;
- (26) 19,816 lin. ft. remove and reconstruct fence;
- (27) 1,791 lin. ft. construct fence;
- (28) 38 remove trees;
- (29) 770 lin. ft. remove wooden guard rail.
- (A) J. N. Tedford, Fallon, \$54,223.68.
- (B) Nevada Rock & Sand Co., Reno, \$55,828.92.
- (C) A. D. Drumm Jr., Fallon, \$57,594.93.
- (D) Dodge Bros., Inc., Fallon, \$52,427.46.
- (E) Ishell Constr. Co., Carson City, \$68,441.23.
- (F) Engineer's Estimate, \$76,594.71.

| | (A) | (B) | (C) | (D) | (E) | (F) |
|------|--------|---------|--------|---------|--------|---------|
| (1) | .15 | .15 | .16 | .20 | .23 | .25 |
| (2) | .50 | .75 | .80 | .50 | 1.00 | 1.00 |
| (3) | .25 | .25 | .29 | .25 | .30 | .40 |
| (4) | .02 | .01 | .02 | .01 | .01 | .02 |
| (5) | 50.00 | 50.00 | 50.00 | 50.00 | 50.00 | 75.00 |
| (6) | 5.00 | 2.50 | 5.00 | 5.00 | 5.00 | 5.00 |
| (7) | 6.00 | 15.00 | 10.00 | 5.00 | 10.00 | 7.50 |
| (8) | 37.50 | 25.00 | 25.00 | 25.00 | 50.00 | 50.00 |
| (9) | .50 | .52 | .52 | .60 | .68 | .65 |
| (10) | 500.00 | 2000.00 | 100.00 | 1000.00 | 100.00 | 1000.00 |
| (11) | 1.00 | .25 | 1.00 | 1.00 | 1.00 | 1.75 |
| (12) | 23.00 | 25.00 | 28.00 | 27.00 | 30.00 | 30.00 |
| (13) | 23.00 | 24.00 | 27.00 | 25.00 | 30.00 | 28.00 |
| (14) | 1.30 | 1.50 | 1.25 | 1.50 | 1.50 | 1.50 |
| (15) | 1.70 | 2.00 | 1.25 | 2.00 | 2.25 | 2.00 |
| (16) | 3.35 | 3.50 | 4.00 | 3.75 | 3.75 | 3.00 |
| (17) | 2.00 | 2.40 | 2.50 | 2.50 | 2.70 | 3.00 |
| (18) | .50 | .50 | .50 | .50 | .50 | .50 |
| (19) | .75 | 1.00 | .75 | .75 | 1.00 | 1.00 |
| (20) | 15.50 | 20.00 | 17.50 | 17.50 | 22.00 | 20.00 |
| (21) | .75 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| (22) | 2.50 | 2.50 | 3.00 | 3.00 | 3.00 | 3.00 |
| (23) | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 |
| (24) | 50.00 | 100.00 | 100.00 | 100.00 | 50.00 | 50.00 |
| (25) | .02 | .04 | .05 | .05 | .05 | .05 |
| (26) | .04 | .10 | .05 | .08 | .05 | .10 |
| (27) | .15 | .20 | .15 | .15 | .25 | .15 |
| (28) | 8.00 | 10.00 | 5.00 | 10.00 | 2.50 | 20.00 |
| (29) | .03 | .05 | .05 | .25 | .05 | .05 |

REINF. CONC. BRIDGE—MONO COUNTY—STATE

MONO COUNTY, Cal.—Carl Ingalls, Inc., P. O. Box 1593, Bakersfield, at \$14,633 submitted low bid to the State Highway Commission to construct a reinf. conc. girder bridge across West Walker River twenty-four miles north of Bridgeport, consisting of three 30-ft. spans on concrete bents and abutments with wing walls, involving:

- (1) 600 cu. yds. struc. excav.
- (2) 450 cu. yds. rdwy. excav.
- (3) 15 cu. yds. light riprap;
- (4) 410 cu. yds. Class A Port. cem. conc. (struc.)
- (5) 180 cu. yds. Class A Port. cem. conc. (tremie)
- (6) 50,000 lbs. reinf. steel;

- (7) 200 lbs. phosphor bronze expansion plates;
 - (8) 230 lin. ft. timber railing;
 - (9) 1 lot, misc. items to be removed;
 - (10) 1 lot, misc. items of work.
- Complete bids follow:
- (A) Carl Ingalls, Inc. \$14,633
 - (B) J. W. Hoopes, Sacramento. 19,209
 - (C) F. H. Neilson, Orland. 19,665
 - (D) Robinson Roberts, L. A. 19,920
 - (E) Schuler & McDonald, Oakland 21,452
 - (F) Nevada Const. Co., Fallon. 21,734
 - (G) Nelson Bros., Eureka. 21,812
 - (H) Lord & Bishop, Sacto. 24,845
 - (I) J. W. Terrell, Sacramento. 29,910

Unit bids follow:

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
|------|--------|-------|--------|---------|---------|-------|-------|--------|-------|----------|
| (A.) | \$1.35 | \$.55 | \$2.50 | \$18.25 | \$14.50 | \$.04 | \$.47 | \$1.00 | \$645 | \$236.70 |
| (B.) | 4.00 | 4.00 | 3.00 | 24.00 | 14.00 | .06 | .45 | 1.30 | 250 | 225.00 |
| (C.) | 4.00 | 1.00 | 7.00 | 25.33 | 13.16 | .0475 | .47 | 1.00 | 200 | 200.00 |
| (D.) | 6.00 | 5.00 | 3.00 | 23.25 | 17.50 | .06 | .25 | 2.00 | 750 | 400.00 |
| (E.) | 5.00 | 1.50 | 3.00 | 22.00 | 25.00 | .06 | .50 | .80 | 600 | 400.00 |
| (F.) | 5.50 | .50 | 3.00 | 23.00 | 16.00 | .055 | .60 | 1.50 | 900 | 500.00 |
| (G.) | 4.75 | 1.00 | 8.00 | 24.75 | 17.00 | .06 | .40 | 1.50 | 900 | 500.00 |
| (H.) | 5.00 | .60 | 3.00 | 30.00 | 30.00 | .05 | .50 | 1.00 | 500 | 200.00 |
| (I.) | 5.00 | 1.00 | 5.00 | 36.00 | 35.00 | .07 | .30 | 1.50 | 500 | 500.00 |

SAN MATEO, San Mateo Co., Cal.—Union Paving Co., Call Bldg., San Francisco, at \$4,253.25 for Alternate B, awarded contract by city council to resurface Fifth Ave. bet. Railroad Ave. and Bayshore Highway, involving:

- (1) 95,500 sq. ft. pave. (rock and emulsified asphalt);
 - (2) 330 lin. ft. gutter.
- ALTERNATE (B)
- (1) 95,500 sq. ft. pave. (asph. conc.);
 - (2) 330 lin. ft. gutter.
- ALTERNATE (C)
- (1) 95,500 sq. ft. pave. (rock pave and natural asph. surf.);
 - (2) 330 lin. ft. gutter.

Total bids follow:

- ALTERNATE (A)
- W. O. Tyson, Redwood City, (1) \$75 (2) \$0.4; total \$4265.
- T. Cohn, San Francisco, (1) \$.60 (2) \$.042; total \$4407.
- A. J. Raisch, San Jose, (1) \$1 (2) \$.044; total \$4758.
- Granite Const. Co., Watsonville (1) \$1 (2) \$.046; total \$457.
- Langfeld-Oldund, San Mateo (1) \$1.15 (2) \$.0475; total \$5163.25.
- W. A. Dontanville, Salinas, (1) \$.90 (2) \$.0513; total \$5416.35.

- ALTERNATE (B)
- Union Paving Co., San Francisco (1) \$.85 (2) \$.0395; total \$4253.25.
 - T. Cohn, San Francisco, (1) \$.60 (2) \$.057; total \$5899.50.
 - Pay Imp. Co., San Francisco, (1) \$.89 (2) \$.0574; total \$6049.50.

- ALTERNATE (C)
- Pacific Pavements Co., San Francisco (1) \$.98 (2) \$.049; total \$5247.90.
 - Langfeld-Oldund, San Mateo (1) \$1.15 (2) \$.055; total \$5909.50.
 - T. Cohn, San Francisco (1) \$.60 (2) \$.058; total \$5999.
 - W. A. Dontanville, Salinas, (1) \$.90 (2) \$.0663; total \$6938.85.

BIDS OPENED

SANTA CRUZ COUNTY, Calif.—F. W. Nighbert, 10 H St., Bakersfield, at \$15,980 submitted low bid to the State Highway Commission to clear and grub about 5.1 miles of highway right of way between Inspiration Point and Vine Hill Road, involving:

Complete bids follow:

| | Unit | Total |
|----------------------------|------|----------|
| F. W. Nighbert | 188 | \$15,980 |
| J. E. Ely, Oroville | 295 | 25,075 |
| Ward & Washburn Santa Cruz | 450 | 39,015 |
| G. F. Atkinson, S. F. | 524 | 44,540 |
| A. Mitchell, Sacramento | 530 | 45,050 |
| Meyer Rosenberg, S. F. | 754 | 64,940 |

BIDS OPENED

SAN FRANCISCO.—C. L. Harney, 74 New Montgomery St., at \$973.49 submitted low bid to Department of Public Works to improve the east end and half of the crossing at Ortega and 37th Ave.; est. cost \$995. Project involves:

- (1) 2,446 sq. ft. asph. conc. pave.;
- (2) 47 sq. ft. unarmored conc. curb;
- (3) 330 sq. ft. one-course art. stone walks;
- (4) 2 brick catchbasins;
- (5) 76 ft. 10-in. V.C.P. culvert.

Complete bids follow:

| | (1) | (2) | (3) | (4) | (5) |
|-------------------|-------|-------|-------|-------|----------|
| (A) C. L. Harney | | | | | \$973.49 |
| (B) E. J. Treacy | | | | | 988.89 |
| (C) Eaton & Smith | | | | | 993.61 |

Unit bids follow:

| | (1) | (2) | (3) | (4) | (5) |
|----------|-------|--------|-------|---------|--------|
| (A)..... | \$.22 | \$1.00 | \$.20 | \$85.00 | \$2.00 |
| (B)..... | .25 | 1.00 | .20 | 75.00 | 1.50 |
| (C)..... | .24 | 1.00 | .16 | 100.00 | 1.40 |

Bids held under advisement.

STORM SEWERS—SALT LAKE CITY, UTAH.

SALT LAKE CITY, Utah.—Complete list of bids received by Salt Lake City for the construction of the East Side Storm Sewer, follows:

| | Concrete and Vit. Pipe | Concrete and Vit. Pipe |
|---|------------------------|------------------------|
| Ryberg Bros., Salt Lake City (awarded contract)..... | \$117,958.84 | \$117,958.84 |
| American Concr. & Steel Pipe Co., Salt Lake City..... | 117,691.48 | 117,691.48 |
| Hartenbower Bros., Salt Lake City..... | 119,279.88 | 119,279.88 |
| Gibbons & Reed Co., Salt Lake City..... | 119,375.58 | 119,375.58 |
| Clyde & Whiting, Springville..... | 128,296.70 | 128,296.70 |
| Jas. J. Burke & Co., Salt Lake City..... | 132,281.13 | 132,281.13 |
| Paul Paulsen, Salt Lake City..... | 135,355.00 | 135,355.00 |
| Christensen-Gardner, Inc., Salt Lake City..... | 135,894.19 | 135,894.19 |
| Morrison-Knudsen Co., Salt Lake City..... | 141,190.85 | 141,190.85 |
| Utah Construction Co., Ogden..... | 155,250.20 | 155,250.20 |
| Frank Parrott, Salt Lake City..... | 127,961.08 | 127,961.08 |
| Enoch Smith, Salt Lake City..... | 132,269.35 | 132,269.35 |
| Mullins & Wheeler, Salt Lake City..... | 150,851.58 | 150,851.58 |

Complete bids for the West Side Storm Sewer follow:

| | Rect. Reinf. Concr. Monolithic Conduit and 60" Pipe | Rect. Reinf. Concr. Monolithic Conduit and 60" Pipe | Circ. Reinf. Monolithic Conduit and 60" Pipe |
|--------------------------------------|---|---|--|
| Ryberg Bros. (awarded contract)..... | \$117,879.54 | \$135,413.34 | \$142,773.01 |
| Paul Paulsen..... | 119,077.00 | ..... | ..... |
| American Concr. & Steel Pipe Co..... | 120,911.20 | 115,702.12 | 120,948.80 |
| Frank Parrott..... | 122,498.15 | ..... | ..... |
| Gibbons & Reed Co..... | 125,422.44 | 150,382.74 | 120,953.29 |
| Christensen-Gardner, Inc..... | 129,379.20 | 153,894.20 | ..... |
| Clyde & Whiting..... | 131,690.69 | 141,989.69 | ..... |
| Hartenbower Bros..... | 132,295.85 | 117,759.60 | ..... |
| V. P. Strange, Salt Lake City..... | 136,558.25 | ..... | 129,773.20 |
| Utah Construction Co..... | 137,783.00 | ..... | 135,508.90 |
| Enoch Smith..... | 138,408.50 | ..... | ..... |
| Jas. J. Burke & Co..... | 152,234.37 | 178,878.85 | 205,560.47 |
| Mullins & Wheeler..... | 164,074.75 | ..... | ..... |
| Morrison-Knudsen Co..... | 180,622.25 | 173,494.50 | ..... |

BIDS OPENED

LOS ANGELES, Cal.—As previously reported, Macco Construction Co., Hynes, Cal., and Lewis Constr. Co., 300 S. Juanita St., Los Angeles, bidding jointly at \$2,087,750, under Proposition No. 1 and \$2,086,950 under Proposition No. 2, submitted low bid to the county supervisors to construct San Gabriel Dam No. 2, involving:

Proposal No. 1

- (1) 250,000 cu. yds. A excav., open cut for dam foundation;
- (2) 7,200 cu. yds. B excav., cutoff trenches;
- (3) 180,000 cu. yds. C excavation;
- (4) 1,000 cu. yds. driving inlet tunnels;
- (5) 970,000 cu. yds. A rockfill, dumped rockfill in body of dam;
- (6) 95,000 cu. yds. B rockfill, large selected rock on downstream face;
- (7) 52,500 cu. yds. C rockfill, packed rock on upstream face of dam;
- (8) 8,000 cu. yds. concrete, A in upstream cutoff wall;
- (9) 6,500 cu. yds. concrete, B all plain concrete except in upstream cutoff wall;
- (10) 8,000 cu. yds. concrete, C all reinforced concrete;
- (11) 2,000 cu. yds. concrete D tunnel lining;
- (12) 440,000 sq. ft. placing 6-in. reinf. granite facing slabs;
- (13) 3,000 lin. ft. drilling A grout holes less than 10 ft. deep;
- (14) 7,500 lin. ft. drilling B grout holes less than 50 ft. deep, more than 10 ft.;
- (15) 20,000 lin. ft. drilling grout holes, less than 150 ft. deep, more than 50 ft.;
- (16) 7,500 lin. ft. drilling D grout holes re-drill through grout;
- (17) 12,000 lin. ft. drilling E grout holes less than 20 ft. deep;
- (18) 1,700 holes, placing fittings in grout holes;
- (19) 1,300 lin. ft. placing grout pipe;
- (20) 500 cu. yds. pressure grouting;
- (21) 14,000 lin. ft. placing water seals;
- (22) 275,000 lbs. placing gates and valves;
- (23) 50,000 lbs. placing operating pipes and steel vent pipes;
- (24) 100,000 lbs. placing steel trash rock and struc. steel and operating tank;
- (25) 200,000 lbs. placing reinf. steel in plain concrete;
- (26) 6,000 lbs. placing iron pipe hand rail;
- (27) 150 lin. ft. placing tile drains;
- (28) 4,500 lin. ft. placing steel dowels;
- (29) 500 cu. yds. backfill, all types;
- (30) 15,000 men to be furnished lodging;
- (31) 15,000 men to be fed.

Proposal No. 2 involves the same quantities except for item No. 12, which is 440,000 sq. ft. placing 6-inch reinforced granite facing slab. Total bids follow: (A) Macco Constr. Co., Clearwater, and Lewis Constr. Co., Los Angeles—Proposal No. 1, \$2,087,750; Proposal No. 2, \$2,086,950.

(B) L. E. Dixon, Los Angeles, and Hall-Johnson Co., Adhambra—Proposal No. 1, \$2,238,300; Proposal No. 2, \$2,211,000.

(C) Bent Bros., Inc., Los Angeles, and Winston Bros., Minneapolis, Minn.—Proposal 1, \$2,424,780; Proposal No. 2, \$2,462,780.

(D) Utah Constr. Co., San Francisco—Proposal No. 1, \$2,441,970; Proposal No. 2, \$2,441,970 (these are totals given in bid form; item (12) Proposal

OREGON PINE PILES—LOS ANGELES

LOS ANGELES, Cal.—J. H. Baxter & Co., 508 Edison Bldg., submitted low bid to county supervisors March 21 at \$4240 for furnishing of untreated Oregon pine piles, involving:

- (1) 24,000 lin. ft. piles, varying in length from 32 ft. to 36 ft., and having a minimum diameter at butt of 12-in., approx. 1000 piles;
- (2) 2000 lin. ft. piles, approx. 40 ft. in length, and having a minimum di-

ameter at butt of 16-in., approx. 50 piles;

- (3) 2000 lin. ft. piles, approx. 40 ft. in length, and having a minimum diameter at butt of 18-in., approx. 50 piles.

F.o.b. district's trucks at plant of B. E. C. Eaton, 202 N Broadway, County Flood Control Engineer. Bids follow:

| | (1) | (2) | (3) | Total | Net Total* |
|-----------------------------|-------|-------|-------|-----------|------------|
| J. H. Baxter & Co..... | \$105 | \$16 | \$175 | \$4240.00 | \$4240.00 |
| H. A. Browning Lbr. Co..... | 115 | 135 | 145 | 4470.00 | 4470.00 |
| Consolidated Lbr. Co..... | 11375 | 17975 | 215 | 4645.00 | 4645.00 |
| Hammond Lumber Co..... | 135 | 185 | 21 | 5380.00 | 5380.00 |
| Chas. R. McCormick Co..... | 14 | 21 | 235 | 5650.00 | 5650.00 |
| Patten-Blinn Lbr. Co..... | 1675 | 1975 | 295 | 6510.00 | 6425.00 |

*With discount.

LOW BIDDER—ROAD WORK—GLENDALE

GLENDALE, Los Angeles Co., Cal.—P. J. Akmadzich, 3028 Gilroy Street, Los Angeles, submitted low bid to the city council March 24, at \$17,410.14 to improve Verdugo Road between Canada Blvd. and La Crescenta Ave., involving:

- (1) grading;
- (2) 3628 lin. ft. Class B curb;
- (3) 12,618 sq. ft. cem. conc. gutter;
- (4) 124,286 sq. ft. 6-in. asph. concrete pavement;
- 4-in. base with 2-in. wear. surf.;

- (5) 1225 sq. ft. 3-in. asph. conc. pave.; (on course);
- (6) 1240 sq. ft. 6-in. concrete pave.;
- (7) 100 lin. ft. 30-in. corrug. iron pipe storm drain.

J. C. Albers, city engineer.

Total bids:

| | |
|---------------------------------|-------------|
| (A) P. J. Akmadzich..... | \$17,410.14 |
| (B) Southwest Paving Co..... | 18,998.73 |
| (C) Heuser & Garnett..... | 19,727.41 |
| (D) G. R. Curtis Paving Co..... | 21,583.92 |
| (E) Gibbons & Reed Co..... | 21,899.56 |
| (F) Henderson & Zaich..... | 21,994.63 |
| (G) Griffith Co..... | 24,824.07 |

Unit bids follow:

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
|----------|-----------|------|------|------|------|------|----------|
| (A)..... | \$1200.00 | \$30 | \$18 | \$10 | \$06 | \$16 | \$150.00 |
| (B)..... | 2502.00 | .33 | 195 | .098 | .07 | .18 | 550.00 |
| (C)..... | 2700.00 | .30 | 23 | .10 | .05 | .18 | 450.00 |
| (D)..... | 4000.00 | .36 | 20 | .104 | .06 | .125 | 600.00 |
| (E)..... | 3100.00 | .34 | 25 | .11 | .055 | .20 | 425.00 |
| (F)..... | 3000.00 | .38 | 20 | .115 | .06 | .15 | 450.00 |
| (G)..... | 1451.20 | .40 | 25 | .145 | .10 | .18 | 400.00 |

No. I is 22c, whereas item (12) Proposal No. II is 25c.
 (E) Geo. Pollock Co., Sacramento—Proposal I, \$2,441,120; Proposal No. II, \$2,458,320.
 (F) T. E. Connolly, San Francisco—Proposal No. I, \$2,485,165; Proposal No. II, \$2,514,165.

Unit bids follow:

PROPOSAL NO. I

| | (A) | (B) | (C) | (D) | (E) | (F) |
|-----------|-------|-------|--------|-------|--------|-------|
| (1)..... | \$.75 | \$.65 | \$1.10 | \$.90 | \$1.15 | \$.92 |
| (2)..... | 5.00 | 9.00 | 4.00 | 9.00 | 5.00 | 2.00 |
| (3)..... | 1.25 | 1.75 | 1.40 | 1.10 | 1.15 | 1.56 |
| (4)..... | 15.00 | 15.00 | 7.50 | 15.00 | 10.00 | 15.00 |
| (5)..... | 1.00 | 1.00 | 1.20 | 1.15 | 1.15 | 1.20 |
| (6)..... | 1.30 | 1.25 | 1.45 | 1.70 | 1.25 | 1.70 |
| (7)..... | 1.95 | 3.50 | 3.00 | 2.70 | 3.05 | 2.00 |
| (8)..... | 5.20 | 5.00 | 5.00 | 3.00 | 11.00 | 8.00 |
| (9)..... | 8.20 | 7.00 | 8.00 | 10.00 | 9.00 | 10.00 |
| (10)..... | 10.00 | 9.70 | 11.00 | 12.00 | 10.00 | 12.50 |
| (11)..... | 16.77 | 20.00 | 17.00 | 17.50 | 15.00 | 14.00 |
| (12)..... | .16 | .14 | .10 | .22 | .21 | .25 |
| (13)..... | .40 | .50 | .35 | .75 | 1.00 | .50 |
| (14)..... | .70 | 1.50 | 1.25 | 1.25 | 2.00 | 1.25 |
| (15)..... | 2.25 | 2.25 | 2.50 | 2.50 | 2.50 | 2.25 |
| (16)..... | .90 | 1.00 | 1.25 | 1.00 | 2.00 | 1.00 |
| (17)..... | 1.00 | 1.00 | .50 | .75 | 1.00 | .50 |
| (18)..... | .80 | .50 | .25 | 1.00 | .30 | .50 |
| (19)..... | .25 | 1.00 | .50 | .40 | .20 | .20 |
| (20)..... | 42.00 | 25.00 | 40.00 | 30.00 | 10.00 | 30.00 |
| (21)..... | .25 | .30 | .25 | .30 | .30 | .25 |
| (22)..... | .02 | .02 | .025 | .02 | .025 | .02 |
| (23)..... | .025 | .02 | .01 | .05 | .03 | .05 |
| (24)..... | .02 | .02 | .02 | .02 | .03 | .02 |
| (25)..... | .015 | .02 | .015 | .02 | .015 | .02 |
| (26)..... | .10 | .05 | .08 | .10 | .05 | .10 |
| (27)..... | .45 | .20 | .16 | .50 | .50 | .50 |
| (28)..... | .75 | .10 | .30 | .70 | .30 | .10 |
| (29)..... | 2.00 | 1.00 | 2.00 | .75 | 1.00 | 1.00 |
| (30)..... | .30 | .30 | .30 | .25 | .25 | .15 |
| (31)..... | 1.40 | 1.20 | 1.20 | 1.35 | 1.25 | 1.35 |

ALTERNATE PROPOSAL NO. II

(12)..... .18 .14 .20 .25 .28 .35
 The contract for this project was previously awarded to the Merritt, Chapman & Scott Corp. of San Pedro at \$1,690,264, which firm later declared an error in bidding.

CONTRACT AWARDED

MINERAL COUNTY, Nevada — As previously reported, A. D. Drumm, Fallon, Nevada, at \$18,691 awarded contract by State Highway Commission to reconstruct a portion of the State Highway System between 13 miles east of Hawthorne and Hawthorne, Route 3, Sections C and D2, 13.65 miles, involving:

- (1) 200 cu. yds. rdwy. excav.
 - (2) 20 cu. yds. struc. excav.
 - (3) 13.65 miles shape roadway;
 - (4) 30,300 cu. yds. crushed gravel or crushed rock surf. in place;
 - (5) 1.09 cu. yd. Class B concrete;
 - (6) 32 lin. ft. 18-in. corr. metal pipe in place;
 - (7) 13.65 miles finish rdwy.
- Complete total bids follow:
 (A) A. D. Drumm Jr., Fallon, \$18,691.70.
 (B) J. N. Tedford, Fallon, \$20,409.10.
 (C) Nevada Rock & Sand Co., Reno, \$20,968.60.
 (D) Dodge Bros., Inc., Fallon, \$23,356.
 (E) Engineers' Estimate, \$27,031.80.

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) |
|-----------|--------|--------|-------|--------|--------|
| (1) | \$.20 | \$.35 | \$.50 | 1.00 | \$.50 |
| (2) | .50 | 1.00 | 1.00 | 1.00 | 1.00 |
| (3) | 50.00 | 100.00 | 50.00 | 250.00 | 250.00 |
| (4) | .545 | .60 | .64 | .80 | .75 |
| (5) | 30.00 | 40.00 | 40.00 | 50.00 | 40.00 |
| (6) | 1.50 | 1.50 | 1.50 | 2.00 | 1.50 |
| (7) | 100.00 | 50.00 | 50.00 | 100.00 | 50.00 |

ANAHEIM BAY BRIDGE—ORANGE COUNTY—STATE

- ORANGE CO., Cal.—Nead Construction Co., 809 Avalon, Wilmington, at \$49,982.35 submitted low bid to State Highway Commission, Sacramento, to construct a bridge across Anaheim Bay near Seal Beach consisting of one 55-ft. plate girder span and eleven 30-ft. reinforced concrete girder spans to be widened, involving:
- (1) 800 cu. yds. imported borrow;
 - (2) 220 cu. yds. struc. excav.;
 - (3) 720 lin. ft. furnishing untreated Douglas fir piles, includ. test piles;
 - (4) 580 lin. ft. furnishing creosoted Douglas fir piles;
 - (5) 43 drive untreated and creosoted Douglas fir piles, includ. test piles;
 - (6) 1,200 lin. ft. 15-in. reinf. conc. piles;
 - (7) 3,970 lin. ft. 18-in. reinf. conc. piles, including test piles;
 - (8) 59 cu. yds. Class A Port. cement concrete (placed by tremie);
 - (9) 722 cu. yds. Class A Port. cement concrete (struc.);
 - (10) 40 cu. yds. Class F Port. cement concrete;
 - (11) 28.5 cu. yds. Class E Port. cement concrete;
 - (12) 120,000 lbs. bar reinf. steel;
 - (13) 102,000 lbs. struc. steel;

- (14) 1,920 lbs. cast steel;
 - (15) 1,300 lbs. bronze expansion plates
 - (16) 7 M. ft. b.m. creosoted Douglas fir timber, struc. grade;
 - (17) 1 load test;
 - (18) 4 additional load tests;
 - (19) 125 cu. yds. existing concrete to be removed;
 - (20) 1 existing steel span to be removed;
 - (21) 80 tons crushed run sub-base;
 - (22) 435 tons asph. conc. pave.;
 - (23) 5 bents to be repaired;
 - (24) 80 lin. ft. new solid timber guard rail;
 - (25) 1 lot misc. items of work.
- Complete bids follow:
 (A) Nead Const. Co., Wilmington, \$49,982.35.
 (B) Merritt - Chapman & Scott, San Pedro, \$53,529.30.
 (C) Byers & Dunn, Los Angeles, \$57,742.50.
 (D) Oberg Bros., Los Angeles, \$58,495.40.
 (E) Herbert M. Baruch, Los Angeles, \$63,885.40.
 (F) R. R. Bishop, Long Beach, \$68,984.15.
 (G) R. H. Travers, Los Angeles, \$72,887.55.

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) |
|-----------|---------|---------|---------|---------|---------|---------|---------|
| (1)..... | \$ 1.00 | \$.70 | \$ 1.50 | \$.60 | \$.70 | \$.80 | \$ 1.30 |
| (2)..... | 2.50 | 8.00 | 20.00 | 15.00 | 24.60 | 23.00 | 40.00 |
| (3)..... | .30 | .30 | .25 | .22 | .18 | .30 | .30 |
| (4)..... | .80 | .80 | .80 | .70 | .62 | .80 | .60 |
| (5)..... | 12.00 | 20.00 | 15.00 | 25.00 | 12.50 | 25.00 | 25.00 |
| (6)..... | 2.60 | 2.25 | 2.00 | 2.60 | 3.75 | 4.25 | 3.40 |
| (7)..... | 3.25 | 3.90 | 4.00 | 4.00 | 3.92 | 4.50 | 4.50 |
| (8)..... | 15.00 | 16.00 | 15.00 | 3.00 | 8.60 | 20.00 | 23.00 |
| (9)..... | 17.50 | 16.00 | 17.00 | 20.50 | 25.40 | 20.00 | 19.00 |
| (10)..... | 18.00 | 16.00 | 17.00 | 21.00 | 17.75 | 20.00 | 18.75 |
| (11)..... | 55.00 | 50.00 | 40.00 | 60.00 | 50.00 | 70.00 | 65.00 |
| (12)..... | .035 | 5.00 | .035 | .034 | .026 | .04 | .031 |
| (13)..... | .045 | .045 | .04 | .039 | .04 | .044 | .0445 |
| (14)..... | .13 | .14 | .10 | .10 | .10 | .22 | .14 |
| (15)..... | .30 | .25 | .49 | .30 | .22 | .35 | .50 |
| (16)..... | 90.00 | 90.00 | 100.00 | 120.00 | 65.00 | 90.00 | 100.00 |
| (17)..... | 60.00 | 150.00 | 400.00 | 100.00 | 125.00 | 200.00 | 550.00 |
| (18)..... | 40.00 | 25.00 | 100.00 | 75.00 | 40.00 | 150.00 | 350.00 |
| (19)..... | 5.00 | 5.00 | 10.00 | 5.00 | 8.00 | 10.00 | 19.00 |
| (20)..... | 400.00 | 300.00 | 500.00 | 350.00 | 400.00 | 800.00 | 500.00 |
| (21)..... | 2.50 | 2.50 | 3.00 | 3.00 | 2.50 | 3.00 | 2.75 |
| (22)..... | 4.85 | 4.50 | 5.50 | 5.00 | 4.50 | 5.25 | 4.15 |
| (23)..... | 135.00 | 80.00 | 100.00 | 176.00 | 150.00 | 380.00 | 180.00 |
| (24)..... | 1.00 | 1.00 | 1.00 | 1.00 | .60 | 2.00 | 1.25 |
| (25)..... | 1297.00 | 1353.00 | 2200.00 | 2000.00 | 3104.00 | 2000.00 | 5000.00 |

REINF. CONC. CONDUIT—LOS ANGELES

LOS ANGELES, Calif.—Blue Diamond Corp., Ltd., 1650 S Alameda St., submitted low bid to County Supervisors March 21, at \$4551.90 (no discount) for supplying reinforcing steel for reinforced concrete conduit on Memorial Park in Glendale, f.o.b. site of work near Forest Lawn Memorial Park, involving:

- (1) 100 lbs. 1-in. round deformed;
- (2) 100 lbs. ¾-in. do;
- (3) 140,000 lbs. ¾-in. do;
- (4) 74,000 lbs. ¾-in. do;

- (5) 24,000 lbs. ½-in. do;
 - (6) 100 lbs. ½-in. square deformed;
 - (7) 26,200 lbs. ¾-in. round deformed;
 - (8) 100 lbs. ½-in. round deformed.
- E. C. Eaton, county flood control engineer. Bids follow:
 (A) Blue Diamond Corp.
 (B) Badt-Palk & Co.
 (C) Tuscon Steel Company.
 (D) Soule Steel Company.
 (E) Soule Steel Company.
 (F) Pacific Coast Steel Corp.
 (G) Los Angeles Iron & Steel Co.
 (H) Concrete Engineering Co.
 *With discount.

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | Total Net T'tl |
|----------|---------|---------|---------|---------|---------|---------|---------|--------|----------------|
| (A)..... | \$.0172 | \$.0172 | \$.0172 | \$.0172 | \$.0172 | \$.0172 | \$.0172 | \$.025 | \$4551.90 |
| (B)..... | .019 | .019 | .01636 | .0183 | .01927 | .021 | .02012 | .035 | 4727.02 |
| (C)..... | .0172 | .0172 | .018 | .0188 | .0182 | .0172 | .017 | .0227 | 4796.34 |
| (D)..... | .01675 | .01675 | .01819 | .01875 | .01863 | .01675 | .01679 | .01675 | 4829.26 |
| (E)..... | .01675 | .01675 | .01819 | .01875 | .01863 | .01675 | .01679 | .01675 | 4829.26 |
| (F)..... | .0205 | .0205 | .0205 | .0205 | .0205 | .0205 | .0205 | .0205 | 5424.30 |
| (G)..... | .02 | .02 | .02 | .021 | .022 | .022 | .024 | .03 | 5519.80 |
| (H)..... | .019 | .019 | .0201 | .0215 | .0225 | .021 | .0231 | .034 | 5559.52 |

18.01 MILES HIGHWAY—NEVADA STATE

EUREKA COUNTY, Nev.—As previously reported, Nevada Rock & Sand Co., Reno, Nev., at \$138,909.09 awarded contract by State Highway Commission to reconstruct a portion of the State Highway System between four miles east of Dunphy and Eureka-Elko county line, Route 1, Section A3 and A4, 18.01 miles, involving:

- (1) 228,400 cu. yds. rdwy. excav.;
- (2) 2,300 cu. yds. struc. excav.;
- (3) 17,962 cu. yds. sel. borrow excav. in place;
- (4) 554,959 yd. sta. overhaul;
- (5) 18.01 miles prepare subgrade and shoulders;
- (6) 4 demolish headwalls;
- (7) 67 demolish dry rubble headwalls;
- (8) 62,500 cu. yds. crushed rock or crushed gravel surf. in place;
- (9) furnish water equipment;
- (10) 2,100 M. gals. apply water;
- (11) 270 cu. yds. Class A concrete;
- (12) 99 cu. yds. Class B concrete;
- (13) 328 lin. ft. 15-in. corrug. metal pipe in place;
- (14) 1,256 lin. ft. 18-in. do.;
- (15) 682 lin. ft. 24-in. do.;
- (16) 412 lin. ft. 30-in. do.;
- (17) 240 lin. ft. 36-in. do.;
- (18) 162 lin. ft. 48-in. do.;

- (19) 192 lin. ft. remove corrug. metal pipe;
- (20) 54 lin. ft. remove and reset corrug. metal pipe;
- (21) 45 corrug. metal pipe culvert extensions;
- (22) 3,912 lin. ft. stand. timber guard rail;
- (23) 317 monuments;
- (24) 3 F. A. markers;
- (25) 18.01 miles finish rdwy.;
- (26) 2,570 lin. ft. remove and reconstruct fence;
- (27) 24 cu. yds. demolish concrete.

Complete total bids follow:

(A) Nevada Rock and Sand Co., Inc., Reno.....\$138,909.09

(B) Nevada Contracting Co., Fallon.....151,406.99

(C) Utah Const. Co., Ogden, Utah.....155,752.88

(D) J. N. Tedford, Fallon.....166,275.70

(E) Morrison - Knudsen Co., Boise, Idaho.....188,884.14

(F) Gibbons & Reed, Salt Lake City.....189,707.37

(G) Isbell Const. Co., Carson City.....193,534.49

(H) Engineer's estimate.....166,726.23

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) |
|------|----------|----------|----------|----------|----------|----------|--------|----------|
| (1) | .29 | .32 | .32 | .34 | .40 | .45 | .40 | .32 |
| (2) | 1.00 | .70 | .70 | 1.00 | .75 | 1.00 | 1.50 | 1.00 |
| (3) | .25 | .30 | .30 | .30 | .35 | .30 | .35 | .40 |
| (4) | .01 | .01 | .02 | .02 | .0125 | .01 | .01 | .02 |
| (5) | 50.00 | 60.00 | 50.00 | 75.00 | 100.00 | 100.00 | 100.00 | 75.00 |
| (6) | 2.50 | 5.00 | 5.00 | 5.00 | 6.00 | 4.00 | 5.00 | 5.00 |
| (7) | 2.00 | 3.00 | 3.00 | 1.50 | 2.00 | 3.50 | 1.00 | 2.50 |
| (8) | .55 | .62 | .63 | .65 | .85 | .77 | .88 | .65 |
| (9) | 1,500.00 | 2,500.00 | 1,000.00 | 1,000.00 | 1,000.00 | 1,000.00 | 500.00 | 1,000.00 |
| (10) | .25 | .60 | 1.00 | 1.50 | 1.50 | .50 | 1.50 | 2.50 |
| (11) | 25.00 | 28.00 | 25.00 | 30.00 | 27.00 | 24.00 | 33.50 | 32.00 |
| (12) | 24.00 | 28.00 | 21.00 | 30.00 | 25.00 | 24.00 | 31.00 | 30.00 |
| (13) | 1.25 | 1.00 | 1.00 | 1.29 | 1.10 | 1.10 | 1.35 | 1.10 |
| (14) | 1.50 | 1.30 | 1.10 | 1.35 | 1.25 | 1.20 | 1.45 | 1.25 |
| (15) | 2.00 | 2.00 | 1.70 | 1.93 | 1.75 | 1.99 | 2.25 | 1.75 |
| (16) | 2.75 | 2.50 | 2.10 | 2.40 | 2.50 | 2.54 | 2.85 | 2.25 |
| (17) | 3.50 | 4.50 | 3.30 | 3.62 | 3.50 | 3.80 | 3.90 | 3.25 |
| (18) | 6.00 | 6.00 | 5.40 | 5.63 | 6.50 | 6.20 | 6.50 | 6.00 |
| (19) | .50 | .50 | .80 | .50 | 1.00 | .70 | .50 | .50 |
| (20) | 1.00 | 1.00 | 1.00 | 1.00 | 1.50 | 1.25 | 1.00 | 1.00 |
| (21) | 25.00 | 22.00 | 20.00 | 21.70 | 20.00 | 25.00 | 25.00 | 20.00 |
| (22) | .75 | .75 | .65 | .75 | .75 | .55 | .75 | 1.00 |
| (23) | 2.50 | 3.00 | 3.00 | 2.50 | 3.00 | 2.50 | 3.00 | 3.00 |
| (24) | 5.00 | 3.50 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 |
| (25) | 100.00 | 100.00 | 100.00 | 75.00 | 125.00 | 100.00 | 100.00 | 50.00 |
| (26) | .10 | .07 | .06 | .04 | .05 | .10 | .05 | .10 |
| (27) | 2.50 | 6.00 | 5.00 | 3.50 | 8.00 | 4.00 | 5.00 | 5.00 |

REINFORCED CONCRETE CONDUIT—LOS ANGELES

LOS ANGELES, Cal.—Atlas Const. Co., 39 Congess St., Pasadena, submitted low bid to county supervisors March 21 at \$11,814.85 to construct reinforced concrete conduit on Sycamore Wash through Forest Lawn Memorial Park to Rosslyn St., involving:

- (1) 5500 cu. yds. excavation;
- (2) 5500 cu. yds. backfill;

- (3) 965 cu. yds. reinf. conc., Class A;
- (4) 450 cu. yds. reinf. conc., Class B;
- (5) 240 cu. yds. reinf. conc., Class C;
- (6) 125 lin. ft. drilling dowel holes;
- (7) 50 lin. ft. placing tile drains;
- (8) 560 lin. ft. placing pipe and wire fence on channel walls.

E. C. Eaton, county flood control engineer. Bids follow:

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | Total |
|---------------------------|------|------|--------|--------|--------|---------|---------|---------|-------------|
| Atlas Const. Co..... | \$23 | \$12 | \$5.87 | \$5.87 | \$5.87 | \$75.90 | \$25.00 | \$75.00 | \$11,814.85 |
| N. I. Padel..... | | .30 | 15 | 5.65 | 5.65 | 5.50 | .45 | .05 | 11,993.50 |
| John T. Bibb..... | .38 | 19 | 5.59 | 5.50 | 5.50 | 40 | .10 | .10 | 12,890.00 |
| J. B. McIntosh..... | .565 | 15 | 5.592 | 5.592 | 6.372 | .30 | .25 | .07 | 13,973.31 |
| T. C. Pritchard..... | .45 | .22 | 6.75 | 6.75 | 6.75 | .50 | .20 | .12 | 14,095.95 |
| T. E. Sherlock..... | .22 | .15 | 7.45 | 7.45 | 7.45 | .85 | .25 | .10 | 14,539.50 |
| Andy Sordal..... | .25 | .15 | 7.74 | 7.74 | 7.74 | .50 | .50 | .20 | 15,237.20 |
| F. E. Gridley..... | .40 | .18 | 7.15 | 7.15 | 7.15 | .25 | 1.00 | .35 | 15,300.50 |
| Oberg Bros..... | .25 | .25 | 7.50 | 7.50 | 7.50 | .30 | .50 | .20 | 15,337.00 |
| J. T. Thorp & Son Inc. 25 | .20 | 7.97 | 8.79 | 7.90 | .50 | .20 | .50 | .16 | 16,346.05 |
| Myers Bros..... | .422 | 158 | 8.23 | 7.07 | 8.23 | .30 | .50 | .25 | 16,491.15 |
| James Noon..... | .40 | .20 | 8.50 | 8.00 | 8.50 | .90 | .50 | .05 | 17,208.00 |
| Dimmitt & Taylor..... | .35 | .24 | 8.30 | 8.30 | 8.40 | .50 | .20 | .30 | 17,486.00 |
| Leo Miletich..... | .50 | .10 | 8.95 | 8.95 | 8.95 | .25 | 1.00 | .50 | 18,473.50 |
| F. G. Greenfield Co..... | 2423 | 1455 | 9.861 | 9.533 | 10.22 | .296 | .30 | .175 | 18,802.59 |
| Lynch Const. Co..... | .69 | 155 | 8.60 | 8.45 | 8.20 | .47 | 1.18 | .29 | 19,021.15 |
| W. H. McCune, Jr..... | .50 | .36 | 10.00 | 8.00 | 10.00 | 1.00 | .60 | .10 | 20,551.00 |
| H. M. Baruch Corp..... | 1.46 | .50 | 12.20 | 12.20 | 12.20 | 2.00 | 1.00 | .10 | 31,327.00 |

BIDS OPENED

GLENN COUNTY, Cal.—Clark and Henry Const. Co., 564 Market Street, San Francisco, at \$21,843 submitted low bid to State Highway Commission to grade and surface with asphalt concrete 0.4 mile in Willows, involving:

- (1) 850 cu. yds. rdwy. excav. without class;
- (2) 4,400 cu. yds. pit run gravel;
- (3) 200 cu. yds. struc. excav.;
- (4) 5,400 sq. yds. subgrade for pave.;
- (5) 2,220 tons asphalt. conc.;
- (6) 250 sq. yds. asphalt. paint binder;
- (7) 35 bbbls. light fuel oil (detourers);
- (8) 330 cu. yds. salvage mac. (borderers);
- (9) 48 cu. yds. Class A Port. cement concrete (struc.);
- (10) 4,900 lbs. bar reinf. steel (struc.);
- (11) 142 lin. ft. 12-in. corrug. metal pipe
- (12) 26 lin. ft. 18-in. do.;
- (13) 18 lin. ft. 36-in. do.;
- (14) 90 lin. ft. special timber headers;
- (15) 1 conc. headwall, move and reset;
- (16) 20 cu. yds. conc. in existing pave., remove and dispose of;
- (17) 0.3 ml. new property fence;
- (18) 3 gates complete in place;
- (19) 50 lin. ft. existing guard rail remove and salvage;
- (20) 22 sta. finish rdwy.;
- (21) 7 monuments complete in place

State will furnish corrugated metal pipe, cast steel frames and covers for drop inlets.

Complete bids follow:

(A) Clark & Henry, S. F.....\$21,843

(B) A. Teichert, Sacramento.....23,887

Unit bids follow:

| | (A) | (B) |
|-----------|--------|--------|
| (1)..... | \$.59 | \$.55 |
| (2)..... | .78 | .95 |
| (3)..... | 1.50 | 1.50 |
| (4)..... | .14 | .10 |
| (5)..... | 6.39 | 6.35 |
| (6)..... | .05 | .04 |
| (7)..... | 4.00 | 2.50 |
| (8)..... | 1.25 | 1.35 |
| (9)..... | 27.00 | 30.00 |
| (10)..... | .05 | .05 |
| (11)..... | .50 | .40 |
| (12)..... | .50 | .40 |
| (13)..... | .50 | .60 |
| (14)..... | .70 | 1.00 |
| (15)..... | 15.00 | 15.00 |
| (16)..... | 2.00 | 2.50 |
| (17)..... | 375.00 | 500.00 |
| (18)..... | 14.00 | 12.50 |
| (19)..... | .10 | .10 |
| (20)..... | 7.00 | 8.00 |
| (21)..... | 2.50 | 3.00 |

BIDS OPENED

LOS ANGELES COUNTY, Cal.—R. R. Bishop, 5017 E. Broadway, Long Beach, at \$9,887 submitted low bid to State Highway Commission to construct timber and steel sheet piling groynes near Temescal Canyon about one mile northwest of Santa Monica, Station 310 plus 50 to Station 330 plus 00, involving:

- (1) 23 M. ft. b.m. Douglas fir timber;
 - (2) 776,000 lbs. drive steel sheet piling.
- Complete bids follow:
- (A) R. R. Bishop, Long Beach.
 - (B) Lynch-Cannon Eng. Co., Los Angeles.
 - (C) J. W. Terrell, Sacramento.
 - (D) Merritt-Chapman & Scott Corp., San Pedro.
 - (E) Mitty Bros., Los Angeles.
 - (F) Bennett & Taylor, Los Angeles.
 - (G) Kemper Const. Co., Los Angeles.

| | (1) | (2) | Total |
|----------|----------|----------|----------|
| (A)..... | \$ 95.00 | \$ 9,009 | \$ 9,887 |
| (B)..... | 139.00 | .01 | 10,750 |
| (C)..... | 74.00 | .01 | 11,867 |
| (D)..... | 126.00 | .01 | 12,596 |
| (E)..... | 95.00 | .05 | 13,125 |
| (F)..... | 90.00 | .01 | 14,175 |
| (G)..... | 250.00 | .02 | 21,270 |

LIGHT FIXTURES—WAR MEMORIAL PROJECT

BIDS OPENED

SAN FRANCISCO.—Following is a complete list of bids received by the Trustees of the War Memorial of San Francisco, March 15, to furnish and install lighting fixtures in the Veterans' Memorial and Opera House Building in the Civic Center:

- (A) Opera House, excluding main auditorium fixtures, floor brackets and commercial fixtures.
- (B) Opera House, main fixtures.
- (C) Alternate for main fixtures.
- (D) Opera House, bracket fixtures, auditorium.
- (E) Opera House, commercial fixtures.
- (F) Opera House, alternate for commercial fixtures.
- (G) Veterans' Bldg., excluding commercial fixtures.
- (H) Veterans' Bldg. commercial fixtures.

- (I) Veterans' Bldg., alternate for commercial fixtures.
- (J) Veterans' Bldg. deduct from (G) for station fixtures.
- (K-1) deduct from (A) if awarded both buildings.
- (K-2) deduct from (G) if awarded both buildings.

The following are the bidders:

- (1) Boyd Light Fixture Company.
- (2) Severin Electric Company.
- (3) California Artistic Metal & Wire Company.
- (4) Chandelier Makers, Ltd.
- (5) Thomas Day Company.
- (6) Incandescent Supply Co.
- (7) Sartorius Company.
- (8) North End Lighting Company.
- (9) Federal Ornamental Iron and Bronze Company.

| | (1) | (2) | (3) | (4) |
|-------|----------|----------|----------|----------|
| (A) | \$16,529 | \$29,886 | \$34,600 | \$35,069 |
| (B) | 3,597 | 4,800 | ..... | 6,671 |
| (C) | ..... | 2,400 | ..... | 9,518 |
| Alt. | ..... | 6,307 | ..... | ..... |
| (D) | 1,815 | 3,000 | 2,155 | 3,106 |
| (E) | 978 | 1,549 | ..... | 1,051 |
| (F) | ..... | ..... | ..... | ..... |
| (G) | 24,809 | 33,693 | 48,600 | 48,518 |
| (H) | 624 | 770 | ..... | 704 |
| (I) | 664 | 680 | 956 | 573 |
| (J) | 233 | 450 | 1,600 | 5,623 |
| (K-1) | 290 | 1,400 | 1,850 | 4,414 |
| (K-2) | ..... | ..... | ..... | ..... |

| | (5) | (6) | (7) | (8) | (9) |
|-------|---------|-------|-------|-------|--------|
| (A) | \$1,800 | ..... | ..... | ..... | ..... |
| (B) | 7,650 | ..... | 5,944 | ..... | 5,800 |
| (C) | ..... | ..... | ..... | ..... | 4,980 |
| (D) | ..... | ..... | ..... | ..... | ..... |
| (E) | ..... | ..... | 3,125 | ..... | 2,993 |
| (F) | ..... | ..... | 1,625 | 700 | ..... |
| (G) | 58,900 | ..... | ..... | ..... | 44,200 |
| (H) | 1,025 | 1,210 | ..... | ..... | ..... |
| (I) | 975 | ..... | ..... | ..... | ..... |
| (J) | 750 | ..... | ..... | 952 | ..... |
| (K-1) | 7,500 | ..... | ..... | ..... | ..... |
| (K-2) | 8,500 | ..... | ..... | ..... | ..... |

SAN FRANCISCO.—Following is a complete list of the bids received by Constructing Quartermaster, Ft. Mason, for repairs to the Torpedo Wharf at Port Winfield Scott:

- (A) Job complete.
- (B) add for each green spring or corner pile in place.
- (C) deduct for each green spring or corner pile in place.
- (D) add for creosoted fender pile and 40 ft. mast in place.
- (E) deduct for creosoted fender pile and 40 ft. mast in place.
- (F) add for each galv. cable wrapping of five turns in place.
- (G) deduct for ea. galv. cable wrapping of five turns in place.
- (H) add for 1,000 B. M. ft. stringers, etc., in place.
- (I) deduct for 1,000 B. M. ft. stringers, etc., in place.
- (J) add for each 1,000 B. M. decking, etc., in place.
- (K) deduct for ea. 1,000 B. M. decking, etc., in place.
- (L) deduct if reroofing is omitted.

| | (1) | (2) | (3) | (4) | (5) | (6) |
|-----|-------|-------|-------|---------|---------|---------|
| (A) | \$627 | \$798 | \$955 | \$1,117 | \$1,133 | \$1,493 |
| (B) | 39 | 14 | 30 | 24 | 35 | 42 |
| (C) | 30 | 8 | 15 | 15 | 16 | 17 |
| (D) | 100 | 50 | 50 | 100 | 82 | 100 |
| (E) | 50 | 30 | 30 | 68 | 60 | 40 |
| (F) | 35 | 17 | 28 | 50 | 40 | 40 |
| (G) | 30 | 10 | 15 | 24 | 27 | 30 |
| (H) | 76 | 60 | 70 | 100 | 70 | 50 |
| (I) | 50 | 40 | 35 | 40 | 55 | 30 |
| (J) | 76 | 40 | 56 | 100 | 58 | 45 |
| (K) | 40 | 25 | 30 | 40 | 44 | 25 |
| (L) | 50 | 39 | 65 | 40 | 49 | 50 |

GEYSERVILLE BRIDGE—SONOMA COUNTY

SANTA ROSA, Cal.—Healy Tibbitts, 64 Pine St., San Francisco, at \$73,740 submitted low bid to county supervisors to construct the Geyserville bridge across the Russian River, 978 ft. in length, consisting of 100 ft. steel spans with thirteen 24-ft. concrete pile trestles and with a 24-ft. roadway on the deck, involving:

- (1) 450 lin. ft. timber piles;
 - (2) 1360 lin. ft. concrete piles;
 - (3) 1000 cu. yds. struc. excav., including cofferdam;
 - (4) 550 cu. yds. approach fill;
 - (5) 325 tons structural steel;
 - (6) 1562 cu. yds. concrete, Class A;
 - (7) 32 cu. yds. concrete, Class B;
 - (8) 245 M. lbs. reinf. steel.
- Complete bids follow:
- (A) Healy Tibbitts, San Francisco, \$73,740.
 - (B) Frank Bryant, San Francisco, \$74,023.
 - (C) F. M. Bodenhamer Constr. Co., Oakland, \$74,945.
 - (D) Clark & Campbell, \$75,880.
 - (E) M. A. Jenkins, Sacramento (\$76,433).

- (F) J. V. Galbraith, Pasadena, \$77,000.
- (G) A. W. Kitchen, San Francisco, \$77,053.
- (H) M. B. McGowan, San Francisco, \$77,987.
- (I) Smith Bros. Co., Eureka, \$78,499.
- (J) C. D. De Velbiss, San Francisco, \$79,800.
- (K) Frederickson & Watson, Oakland \$80,000.
- (L) Fred J. Maurer & Sons, Eureka, \$81,442.
- (M) Rocca & Caletti, San Rafael, \$82,000.
- (N) A. Helwig, Sebastopol, \$82,514.44.
- (O) San Francisco Bridge Co., San Francisco, \$86,500.
- (P) V. Maggiora, Sausalito, \$92,000.
- (Q) Mercer-Fraser, Eureka, \$94,200.
- (R) Holdener Constr. Co., Sacramento, \$99,976.

Bids of the following were rejected: E. G. Lesure, Oakland, because of failure to sign bid. Ward Engineering Co., San Francisco, failure to insert specific amount on bid bond. C. W. Wood, Stockton, failure to execute bid bond.

AWARD

SANTA BARBARA, Calif.—Western Motor Transfer Co., 116 State Street, Santa Barbara, awarded contract by city council March 24 at \$66,710.71 to improve Mission, Chino, Gillespie, Robbins and other streets, under the 1911 Act, involving:

- (1) 265,086.27 sq. ft. 7x5x57-in. cem. concrete paving, involving grading (about 8058.72 cu. yds. excav.);
- (2) 5176.80 lin. ft. comb. concrete curb and 3-ft. gutter;
- (3) 331.80 ft. comb. concrete curb and 6-in. gutter;
- (4) 1202.89 ft. curb;
- (5) 12,494.10 sq. ft. concrete gutter;
- (6) 84 side connections to sewer;
- (7) 90 ft. 6-in. vit. pipe stub sewer;
- (8) 744 sq. ft. concrete walk;
- (9) reinforced concrete culvert;
- (10) raising junction box.

Total bids were:

| | (A) | (B) | (C) | (D) |
|-----|--|-----|-----|-----|
| (A) | Western Motor Transfer Co., \$66,710.71. | | | |
| (B) | San Hunter & Son, Santa Barbara, \$68,114.74. | | | |
| (C) | Geo. R. Curtis Paving Co., Los Angeles, \$73,779.83. | | | |
| (D) | J. L. McClain, Los Angeles, \$76,254.01. | | | |

Unit bids were:

| | (A) | (B) | (C) | (D) |
|------|----------|---------|----------|----------|
| (1) | \$ 1.975 | \$ 2.05 | \$ 2.155 | \$ 2.228 |
| (2) | 1.25 | 1.10 | 1.32 | 1.30 |
| (3) | 1.70 | 1.75 | 1.97 | 2.00 |
| (4) | .65 | .70 | .59 | .70 |
| (5) | .20 | .21 | .264 | .25 |
| (6) | 30.00 | 30.00 | 22.40 | 32.00 |
| (7) | 1.00 | 1.00 | 1.03 | 1.00 |
| (8) | .20 | .20 | .22 | .23 |
| (9) | 20.00 | 15.00 | 11.76 | 20.00 |
| (10) | 15.00 | 20.00 | 10.00 | 50.00 |

Unit bids follow:

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|-----|---------|--------|--------|--------|--------|--------|--------|--------|
| (A) | \$12.00 | \$0.35 | \$0.45 | \$.12 | \$1.10 | \$1.30 | \$1.00 | \$2.00 |
| (B) | 14.00 | .035 | .045 | .50 | 2.30 | 2.00 | .50 | 3.00 |
| (C) | 16.00 | .045 | .055 | .65 | 2.75 | 1.85 | 1.50 | 4.00 |
| (D) | 23.00 | .04 | .05 | .75 | 2.50 | 2.40 | .75 | 2.70 |
| (E) | 12.50 | .04 | .05 | .25 | 2.50 | 2.00 | 1.00 | 2.75 |
| (F) | 15.50 | .04 | .045 | .44 | 2.50 | 2.25 | 1.00 | 1.00 |
| (G) | 14.00 | .034 | .05 | .19 | 1.80 | 2.00 | .60 | 4.00 |
| (H) | 10.00 | .032 | .0446 | .20 | 1.20 | 1.50 | .35 | .75 |
| (I) | 12.00 | .035 | .05 | .18 | 2.50 | 1.15 | .40 | 4.00 |
| (J) | 14.00 | .04 | .04 | .50 | 1.75 | 2.15 | .65 | 4.00 |
| (K) | 16.00 | .035 | .045 | 1.00 | 3.00 | 1.75 | 1.00 | 4.00 |
| (L) | 15.00 | .037 | .059 | .70 | 2.75 | 2.50 | 1.50 | 5.00 |
| (M) | 18.00 | .0435 | .045 | .40 | 2.50 | 2.25 | 1.00 | 5.00 |
| (N) | 14.40 | .0245 | .0563 | .60 | 2.93 | 3.50 | 1.50 | 2.80 |
| (O) | 17.50 | .045 | .059 | .62 | 3.30 | 1.50 | 1.00 | 4.50 |
| (P) | 16.82 | .0415 | .0533 | 1.33 | 3.30 | 2.83 | 2.00 | 5.20 |
| (Q) | 15.00 | .045 | .06 | .20 | 2.00 | 1.50 | .50 | 7.00 |
| (R) | 18.50 | .035 | .05 | .70 | 2.85 | 2.00 | 1.50 | 13.00 |

GRADE—ASPH. CONC. PAVE.—LOS ANGELES CO.—STATE

| | | | | | |
|--|---|--|--|---|---------------------------------------|
| (6) 17,000 sq. yds. asph. paint binder; | (17) 2,700 tons light riprap; | (18) 192 lin. ft. solid timber guard rail; | (19) 82 culvert markers; | (20) 129 sta. finish roadway; | (21) 46 monuments complete in place. |
| (7) 23,000 tons asph. concrete; | (8) 520 cu. yds. Class A Port. cem. conc. (struc.); | (9) 54,000 lbs. bar reinf. steel (struc.); | (10) 8,200 lbs. misc. iron and steel (struc.); | (11) 270 lin. ft. 18-in. reinf. conc. pipe; | (12) 390 lin. ft. 30-in. do; |
| (13) 500 cu. yds. conc. excav. | (14) 40 lin. ft. 36-in. do; | (15) 120 cu. yds. conc. removed from existing pave. and disposed of; | (16) 2,800 gal. fuel oil (shoulders); | (17) 400 cu. yds. subgr. for pave; | (18) 43,000 sq. yds. subgr. for pave; |
| (19) 200 cu. yds. rdwy. excavation (with cut class); | (20) 1,600,000 gal. water; | (21) 1,600,000 gal. water; | (22) 1,600,000 gal. water; | (23) 1,600,000 gal. water; | (24) 1,600,000 gal. water; |

| | | | | | |
|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|
| (1) 400 cu. yds. struc. excav. | (2) 400 cu. yds. struc. excav. | (3) 400 cu. yds. struc. excav. | (4) 400 cu. yds. struc. excav. | (5) 400 cu. yds. struc. excav. | (6) 400 cu. yds. struc. excav. |
| (7) 400 cu. yds. struc. excav. | (8) 400 cu. yds. struc. excav. | (9) 400 cu. yds. struc. excav. | (10) 400 cu. yds. struc. excav. | (11) 400 cu. yds. struc. excav. | (12) 400 cu. yds. struc. excav. |
| (13) 400 cu. yds. struc. excav. | (14) 400 cu. yds. struc. excav. | (15) 400 cu. yds. struc. excav. | (16) 400 cu. yds. struc. excav. | (17) 400 cu. yds. struc. excav. | (18) 400 cu. yds. struc. excav. |
| (19) 400 cu. yds. struc. excav. | (20) 400 cu. yds. struc. excav. | (21) 400 cu. yds. struc. excav. | (22) 400 cu. yds. struc. excav. | (23) 400 cu. yds. struc. excav. | (24) 400 cu. yds. struc. excav. |

LANE COUNTY—OREGON STATE—BIDS OPENED

| | | | | | |
|---|--|---|---|---|---|
| (A) 8000 cu. yds. broken stone in sub-course; | (B) 12,000 cu. yds. broken stone, base course; | (C) 16,500 cu. yds. coarse broken stone top; | (D) 2500 cu. yds. key materials in top course; | (E) 4000 cu. yds. screenings, top course; | (F) 86,000 yd. mi. haul broken stone, trk. meas.; |
| (G) 9000 cu. yds. talus or gravel shoulders; | (H) 9000 yd. mi. haul shoulder matl.; | (I) 2000 cu. yds. filler; | (J) 1500 cu. yds. 1 1/2-in. gravel; 1500 cu. yds. 1 1/2-in. gravel; 1500 cu. yds. 1 1/2-in. gravel; | (K) 1500 M. gals. springking; | (L) 2 miles scarifying and fine grad.; |
| (M) 5000 cu. yds. 1 1/2-in. broken stone piles; | (N) 4600 cu. yds. 3/4-in. broken stone piles; | (O) 3600 cu. yds. 1/2-3/4 broken stone, stockpiles; | (P) 15,000 yd. mi. haul broken stone, pile meas. | (Q) 3000 cu. yds. 1/2-3/4 broken stone, stockpiles; | (R) 15,000 yd. mi. haul broken stone, pile meas. |

| | | | | | |
|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| (A) 1.25 \$ 1.63 | (2) 1.20 \$ 1.47 | (3) 1.25 \$ 1.35 | (4) 1.25 \$ 1.35 | (5) 1.25 \$ 1.35 | (6) 1.25 \$ 1.35 |
| (7) 1.25 \$ 1.63 | (8) 1.20 \$ 1.47 | (9) 1.25 \$ 1.35 | (10) 1.25 \$ 1.35 | (11) 1.25 \$ 1.35 | (12) 1.25 \$ 1.35 |
| (13) 1.25 \$ 1.63 | (14) 1.20 \$ 1.47 | (15) 1.25 \$ 1.35 | (16) 1.25 \$ 1.35 | (17) 1.25 \$ 1.35 | (18) 1.25 \$ 1.35 |
| (19) 1.25 \$ 1.63 | (20) 1.20 \$ 1.47 | (21) 1.25 \$ 1.35 | (22) 1.25 \$ 1.35 | (23) 1.25 \$ 1.35 | (24) 1.25 \$ 1.35 |

- LOS ANGELES CO. Calif.—Griffith Hillsrom, Marshfield, Ore., at \$73,170 submitted low bid to State Highway Commission to improve Doyle Hill-Nimrod Section of McKenzie Highway in Lane County, involving:
- (A) 8000 cu. yds. broken stone in sub-course;
- (B) 12,000 cu. yds. broken stone, base course;
- (C) 16,500 cu. yds. coarse broken stone top;
- (D) 2500 cu. yds. key materials in top course;
- (E) 4000 cu. yds. screenings, top course;
- (F) 86,000 yd. mi. haul broken stone, trk. meas.;
- (G) 9000 cu. yds. talus or gravel shoulders;
- (H) 9000 yd. mi. haul shoulder matl.;
- (I) 2000 cu. yds. filler;
- (J) 1500 cu. yds. 1 1/2-in. gravel; 1500 cu. yds. 1 1/2-in. gravel; 1500 cu. yds. 1 1/2-in. gravel;
- (K) 1500 M. gals. springking;
- (L) 2 miles scarifying and fine grad.;
- (M) 5000 cu. yds. 1 1/2-in. broken stone piles;
- (N) 4600 cu. yds. 3/4-in. broken stone piles;
- (O) 3600 cu. yds. 1/2-3/4 broken stone, stockpiles;
- (P) 15,000 yd. mi. haul broken stone, pile meas.
- Bidders follow:
- (1) H. G. Johnson, Portland.
- (2) J. H. and J. W. Hillstrom.
- (3) J. H. and J. W. Hillstrom.
- (4) J. H. and J. W. Hillstrom.
- (5) J. H. and J. W. Hillstrom.
- (6) J. H. and J. W. Hillstrom.
- (7) C. L. Camp, Portland.
- (8) Kern & Kibbe, Portland.
- (9) Edrissen & Wydgand, Portland.
- (10) A. Milne, Portland.
- (11) A. S. Wallace, Roseburg.
- (12) A. Guthrie, Portland.
- (13) Eugene Sand & Gravel, Eugene.
- (14) Wren & Greenough, Portland.
- (15) J. H. and J. W. Hillstrom.
- (16) A. C. Greenwood, Portland.
- (17) J. H. and J. W. Hillstrom.
- (18) Dunn & Baker, Klamath Falls.
- (19) J. H. and J. W. Hillstrom.
- (20) C. R. Seitz, La Grange.
- (21) W. H. Puckett, Boise.
- (22) Knute Lien, Portland.
- (23) Newport Const. Co., Portland.
- (24) Saxton Looney, Corvallis.
- (25) Geo. R. Curtis, Los Angeles, \$101-987.90.
- (26) Southern Calif. Roads Co., Los Angeles, \$163,374.94.
- (27) Macco Const. Co., Clearwater, \$164,085.60.
- (28) Sander Pearson, Santa Monica, \$193,586.00.
- (29) Williams & Reed, Burbank, \$176,660.00.
- (30) Los Angeles Paving Co., Los Angeles, \$182,657.52.
- (31) Hall Johnson Co., Alhambra, \$185,284.50.

ENGINEERING NEWS

BRIDGES

SEATTLE, Wash.—Fltton & Livergreen, Colman Bldg., Seattle, at \$33,152 submitted low bid to Board of Public Works to construct viaduct on East Marginal Way.

WASHINGTON STATE.—S. G. Morin, 926 Paulsen Bldg., Spokane, was awarded contract by State Highway Department March 8 at \$33,452 for constructing reinforced concrete girder bridge, 308.5 feet long, over the Okanogan River on State Road No. 4, at Tonasket, Federal Aid Project No. 153-B, in Okanogan County, consisting of two 50-foot, two 60-foot and one 73-foot spans, two 4-foot sidewalks and 24-foot roadway.

LOS ANGELES, Cal.—Until 2 P. M., April 11, bids will be received by the county supervisors to construct timber and steel bridge on Azusa Canyon Road (Orange Ave.) over the Big Dalton Wash. W. D. Armstrong, county bridge engineer, prepared the plans. Bridge will be about 48 ft. 8-in. in length, 28 ft. 6-in. wide. Work will involve crossotied piling, 9-ft. to 14-ft. in length, set in concrete, with concrete footings. Bids will be taken as follows:

(1) All work complete, using untreated redwood timber.

(2) All work complete, using crossotied Douglas fir.

Mame B. Beatty, 303 Hall of Records, Clerk of the Board.

PETALUMA, Sonoma Co., Cal.—City has called election for May 17 to vote bonds of \$30,000 to finance construction of a steel bascule bridge and approaches over the river at D St., preliminary plans for which have been prepared by L. H. Nishkian, consulting engineer, 525 Market St., San Francisco.

ORANGE CO., Calif.—Need Const. Co., 1033 Avalon Blvd., Wilmington, awarded contract by State Director of Public Works, March 27, at \$49,982.25 for constructing a bridge across Anaheim Bay near Seal Beach, Orange County, consisting of one 55-ft. plate girder span and eleven 30-ft. reinforced concrete girder spans to be widened. Complete bids published in issue of March 17.

MONO COUNTY, Cal.—Carl Ingalls, Inc., P. O. Box 1593, Bakersfield, at \$14,633 awarded contract by the State Highway Commission to construct a reinforced concrete girder bridge across West Walker River 24 miles north of Bridgeport, consisting of 3 30-ft. spans on concrete bents and abutments with wing walls. Complete bids published in issue of March 24.

SANTA ROSA, Sonoma Co., Cal.—Hedly-Thibbitts Co., 64 Pine St., San Francisco, at \$73,740 awarded contract by county supervisors to construct the Geyserville bridge across the Russian River, 978 ft. in length, consisting of 100-ft. steel spans with thirteen 24-ft. concrete pile trestles and with a 24-ft. roadway on the deck. Complete bids published in issue of March 18.

LOS ANGELES, Cal.—Until 10 A. M., April 20, bids will be received by board of public works to construct

West Blvd. Bridge across Venice Blvd. and the tracks of the Pacific Electric Ry., between Victoria Park Drive and 16th Place, under Cash Contract. Structure is estimated to cost \$75,000, will be reinforced concrete, rigid frame type bridge, 526 feet in length, with a 30-foot roadway and one 5-ft. sidewalk. Main spans will be over Venice Blvd., 65 ft. in length; over the Pacific Electric Railway tracks, 49 ft. in length.

SACRAMENTO, Cal.—Bids will be asked in about a week by the county supervisors to construct the new H St. bridge over the Sacramento river. Bridge will have a roadway 32 ft. wide with 5-ft. wide sidewalks on each side. Cost is estimated at \$200,000. Quantities follow:

- (1) 1,410,000 lbs. struct. steel;
- (2) 42,000 lbs. cast steel;
- (3) 245,000 lbs. reinf. steel;
- (4) 1690 cu. yds. conc. (pier—5 sacks)
- (5) 430 cu. yds. concrete (tremie—6 sacks);
- (6) 550 cu. yds. struc. and floor slab conc. 6 sacks;
- (7) 250 cu. yds. approach conc. 6 sacks;
- (8) 5 cu. yds. rail conc., 9 sacks;
- (9) 594 cu. yds. paving conc. 9-7-9, 6 sacks;
- (10) 2700 lin. ft. conc. piles 30 to 40 ft. long, 6x16;
- (11) 5800 lin. ft. steel piles 8-in. H section, 42 lbs. per pile;
- (12) 5500 lin. ft. redwood piles 30 to 40 ft. long;
- (13) 100,000 b.m. ft. Douglas Fir struc. grade;
- (14) 35,000 b.m. ft. redwood, dense sel. all-heart grade;
- (15) 17,000 b.m. ft. redwood sel. all-heart grade;
- (16) 27,000 b.m. ft. redwood all-heart;
- (17) 14 electroliners;
- (18) 6000 yds. embankment in place;
- (19) lump sum remove present bridge and pier—dismantle and reassemble.

Chas. W. Deterding is county surveyor.

UKIAH, Mendocino Co., Cal.—Until April 20, 7:30 P. M., bids will be received by Fred L. Bosworth, city clerk to construct culvert in Oak St. across Gibson Creek. Certified check 10% payable to city required with bid. Plans on file in office of clerk.

SKILSAW Portable Electric Hand Saws (four models).

SKILSAW Portable Electric Sander.

SKILSAW Radial Arm Attachments.

SYNTRON Portable Electric Hammers (four models, motorless).

MALL Flexible Shaft Machines (50 models).

Electric Drills, Grinders, Buffers, Routers, Lock Mortisers.

Peter H. Nelson

Labor Saving Portable Electric Tools

1246 Mission St., San Francisco
Underhill 7662

SALES : SERVICE : RENTALS

DREDGING, HARBOR WORKS & EXCAVATIONS

LOS ANGELES, Cal.—United Commercial Co., Inc., awarded contract by city purchasing agent, Thomas Ough-ton, March 28, at an estimated total minimum of \$2,750; maximum, \$45,649, for furnishing sheet piling under Spec. No. 2723.

SANTA MONICA, Los Angeles Co., Cal.—Until 10 A. M., April 11, bids will be received by city council for core borings in connection with proposed breakwater for Santa Monica Bay. Borings will involve about 1500 lin. ft. (approximately 50 holes each 30 ft. in depth).

SACRAMENTO, Cal.—Olympian Dredging Co., San Francisco, awarded contract by U. S. Engineer Office for maintenance work on the San Joaquin and Sacramento rivers and tributaries during the coming year for any sum between \$18,500 and \$74,000, depending on how much the dredge is needed. Complete bids published in issue of February 25.

PORTLAND, Ore.—Kern & Kibbe, 290 E. Salmon St., Portland, at \$10,152 submitted low bid to U. S. Engineer Office, Portland, to construct 3705 lin. ft. pile dike in the upper Willamette river, Portland Dredging Co., \$10,704; Parker-Schram Co., \$11,315, next two low bidders.

STREET LIGHTING SYSTEMS

PASADENA, Los Angeles Co., Cal.—Resolution of intention No. 6435 adopted by city directors to construct ornamental lighting system in Lake Ave., between Colorado St. and East Orange Grove Ave., involving metal standards. Hearing set for 11 A. M., April 12. Bessie Chamberlain, City Clerk, Harvey W. Hincks, City Engineer.

WASHINGTON, D. C.—Until April 13, 11 A. M., under Spec. No. 6813, bids will be received by Bureau of Yards and Docks for underground electric distributing system, including concrete manholes, transformer vaults conduit encased in concrete, concrete lighting standards, light, power, telephone and street lighting cables, transformers and accessories, all at the Naval Air Station, Sunnyvale, Calif.

Specifications obtainable from the Commandant, Twelfth Naval District, 100 Harrison St., San Francisco, upon deposit of \$10, payable to Chief of the Bureau of Yards and Docks.

RESERVOIRS AND DAMS

LOS ANGELES, Cal.—County Flood Control Engineer, E. C. Eaton announces that plans and specifications for San Gabriel Dam No. 1 have been completed and bids will probably be called within 30 days. Dam will be a rock-fill type, 275 ft. in height, impounding about 80,000 acre feet, located about 2 miles below the Forks. Estimated cost, \$10,000,000.

LOS ANGELES, Cal.—Macco Const. Co., Hynes, Calif., and Lewis Const. Co., 300 S. Juanita St., Los Angeles, bidding jointly at \$2,086,950 under Prop. No. 2, awarded contract by county supervisors to construct San Gabriel Dam No. 2.

LOS ANGELES, Cal.—E. C. Eaton, county flood control engineer, 202 N. Broadway, announced that construction of Eaton Canyon flood control dam will start by early summer. Project involves construction of an earth fill dam to cost about \$530,914 and a concrete channel to cost \$1,000,000. Flood control department is endeavoring to co-ordinate its plans with the regional park plans of the County Planning Commission. In addition to construction of dam and channels, plans call for a scenic highway along Eaton Wash from the foothills to San Pascual Street; construction of parks, bridge paths, and other adjuncts of a large county recreation area.

PIPE LINES, WELLS, ETC.

SAN DIEGO, Cal.—Construction will be started at once by the Consolidated Gas and Electric Co., San Diego, on a 12-inch natural gas pipe line from Long Beach to San Diego. The line will connect with the distributing system of the Southern Counties Gas Co. The proposed pipe line will be routed via Laguna Beach, San Clemente and the coast highway into San Diego.

SAN LUIS OBISPO, Calif.—Santa Maria Gas Co. will start construction within 60 days on an 8-inch welded steel natural gas pipe line, 21 miles in length, from the north bank of the Santa Maria River to Oilport, north of Pismo Beach in San Luis Obispo County. Line will be built for high pressure transportation, heavily wrapped.

BURLINGAME, Cal. — Until about April 13, 8 P. M. (postponed from Mar.

17—definite date not yet set) bid opening postponed by City Purchasing Agent, F. A. Bloom, to drill, case and test a 12-in. gravel envelope well of a maximum depth of 400 ft. Sealed bids being held until that date. Certified check 10% required with bid.

SEWERS AND SEWAGE DISPOSAL PLANTS

LOS ANGELES, Calif.—Until 10 A. M., April 13, new bids will be received by board of public works for constructing sewers in right of way easterly from Medlow Ave. and right of way southerly from Langdale Ave. Sewer Dist. (1911 act), involving:

- (1) sanitary sewer, complete, not including house connections and resurfacing;
- (2) 60 lin. ft. house conn. sewers;
- (3) 4 sq. ft. Class D resurfacing.

The bids received Nov. 18 were rejected March 21. Cuijak & Zelko were previously the only bidders at \$4065.60.

DENVER, Colo.—Construction Service, Inc., and Associates, 401 Tramway Bldg., Denver, Colo., at \$1,074,293.37 submitted the low bid to the Department of Improvements and Parks of the City and County of Denver to construct main and sub-main sewers in the Park Hill Storm Sewer District. A. Arcari, 15,355 Woodward Avenue, Highland Park, Michigan, second low at \$1,159,995.95. MacDonald & Kahn, Financial Center Building, San Francisco, third low at \$1,256,441.39. Quantities listed in issue of March 11.

LOS ANGELES, Cal.—Martin Construction Co., Inc. (Martin Erklich, Pres., B. Brkich, Treas.), awarded contract by board of public works March 18 at \$44,390, using Type II centrifugal concrete pipe for construct Section 34-C, North Outfall Sewer, extending from Burbank Blvd. and Kester Ave. to Oxnard St. and Havenhurst Ave.

LOS ANGELES, Calif.—Bebek and Brkich, 5011 E. Slauson Ave., Maywood, submitted low bid to board of public works at \$42,750 (bidding on Type D) to construct Sec. No. 34-C, North Outfall Sewer. The low bidders have requested the board to allow them to withdraw their bid, claiming an error, viz: the transposition of figures for vitrified and concrete pipe.

Martin Const. Co., Inc. (Martin Brkich, president, B. Brkich, treasurer), 721½ S. Ford Blvd., submitted the low bid on Type II, at \$44,390.

This section extends from Burbank Blvd. and Kester Ave. to Oxnard St. and Havenhurst Ave., involving:

(1) Type I—construction of 13,476.07 ft. vit. pipe sanitary sewers, including concrete reinf., if required, structures, etc.;

(2) Type No. II—construction of 13,476.07 ft. cent. concrete pipe sanitary sewer, etc. 93

LOS ANGELES, Cal.—R. A. Wattson, 1026 McCadden Place, submitted low bid to board of public works Mar. 23 at \$50,990 (Type I, vitrified pipe) to construct Section No. 34-D, North Outfall Sewer, from Burbank Blvd. and Havenhurst Ave. to Vanowen St. and White Oak Ave., cash contract. Bids taken follow:

Type No. I—Construct 12,904.33 lin. ft. vit. clay pipe san. sewer, incl. conc. reinf., if required, struc. and all required appurtenances, etc.

Type No. 2—Construct 12,994.33 ft. of cent. conc. pipe san. sewer, etc. M. Miller, 308 W 2nd St., submitted low bid on Type 2.

LOS ANGELES, Cal.—R. A. Wattson, 1026 McCadden Place, awarded contract by board of public works March 25 at \$50,990 (Type I, vit. pipe) to construct Section No. 34-D, North Outfall Sewer, from Burbank Blvd. and Havenhurst Ave. to Vanowen St. and White Oak Ave., cash contract, involving:

- 5715.90 ft. 21-in. pipe, 1900-D loading pipe;
- 1586.04 ft. 18-in. pipe, 2000-D do;
- 4290.43 ft. 18-in. pipe, 2100-D do;
- 2540.55 ft. 18-in. pipe, 2300-D do;
- 1861.41 ft. 18-in. pipe, 2400-D do;
- 26 manholes "B";
- 2 junction chambers "C";
- 5 junction chambers "G";
- 225 ft. type "X" conc. reinf. for 18-in. pipe.

ALBANY, Cal.—As previously reported, city council declares intention No. 429 A. N. S. to construct sanitary sewer connection between the Albany North Outfall Sewer and the Stege Sanitary Outfall Sewer, involving:

- (1) 2048 lin. ft. 18-in. sewer;
- (2) 75 cu. yds. foundation rock;
- (3) 800 lin. ft. redwood sleepers;
- (4) 2000 lin. ft. timber piles;
- (5) 500 lin. ft. timber foundation;
- (6) 30 lin. ft. concrete reinforcing;
- (7) 4 manholes.

1911 Act. Hearing will be April 6, 8 P. M. H. W. Brewer, city clerk; H. I. Dygert, city engineer.

WATERWORKS

SANTA CRUZ, Santa Cruz Co., Cal.—Public Utilities California Corp., 200 Capitol Ave., Santa Cruz, authorized by county supervisors to construct a 6-inch water main from Logan Street in Boulder Creek to Marshall Creek in Ben Lomond. The line will be 3.1 miles long. Construction has also been authorized on a 2.1 mile line from Boulder Creek to Wildwood.

Office nerves!



When the staff seem like a collection of prize dumb-bells . . . your partners inspired idiots, and the telephone an instrument devised for your special torture, the chances are you have been working too hard. You are keyed up too tight.

There's nothing like a week-end in San Francisco to give you needed relaxation and restore the sense of humor. Come and enjoy the delights of the city, and the comforts of the Hotel Plaza. On beautiful Union Square, with all the allures of downtown at your elbow.

ASK ABOUT OUR
All-expense Weekend
Rate, \$11.30 for Two

**HOTEL
PLAZA**
POST STREET AT STOCKTON
SAN FRANCISCO

RATES:
Single \$2-\$3.50
Double \$3-\$4.50
Ray Maxwell, Mgr.

SACRAMENTO, Cal. — California Corrugated Culvert Co., 5th and Parker Sts., Berkeley, and Luppen & Hawley, 3126 J St., Sacramento, at \$37,500 awarded contract by American Golf Course Construction Co. to install sprinkler system in connection with 18-hole golf course at Sacramento.

GLENDALE, Los Angeles Co., Cal. — Utilities Equipment Co. (for R. D. Wood & Co.) awarded contract by the city council March 29, at prices shown below for furnishing cast iron pipe as follows:

- (1) 20,000 ft. 6-in. pipe, Class 250, at 44c ft.;
- (2) 15,000 ft. 8-in. pipe, Class 250, at 65.59c ft.

SACRAMENTO, Cal. — The joint legislative water committee has adopted Senator Frank W. Mixer's proposal for the construction of a \$160,000,000 water project for the storing of 3,000,000 acre feet of water in 7 northern counties. The plan, as approved provides for a dam near Kennett in the Sacramento river to store the water; conduits near the mouth of the river to supply lands at that point; a pumping system to carry water up the San Joaquin river from the Sacramento river; a dam at Friant in the San Joaquin river; a canal to Madera county and a long canal to carry water from that point through Fresno and Tulare counties into Kern county. Kings county would be cared for by water from the canal, transported through existing rivers or ditch systems.

ELLENSBURG, Was. — Coluclco Co., Seattle, at \$13,713 submitted low bid to the U. S. Bureau of Reclamation, Ellensburg, for the construction of the Wippel Pumping Plant and appurtenant structures and Wippel Pump Lateral. Work is located near Ellensburg and involves approximately: 3500 cu. yds. all classes of excavation; 1000 cu. yds. backfill; 50 sq. yds. dry rock paving; 650 cu. yds. concrete; 57,000 lbs. reinf. bars, placing; erect 23 M. ft. b.m. timber in flume; erect 1100 lin. ft. No. 108 metal flume; install 7300 lb. gates, gate hoists and misc. metal work; install doors, windows, structural steel misc. metal work, built-up asphalt saturated felt roofing, for pumping plant building; install pumping machinery.

This invitation for bids does not cover purchase of materials which are to be furnished by the Government.

VICTORVILLE, San Bernardino Co., Cal. — Chas. L. Foulke, consulting engineer, 455 4th St., San Bernardino, completed specifications for a water system for County Water District organized to provide a domestic water supply for Victorville. Plans provide for a pumping plant, 6-in. mains and 4-in. laterals, with a reservoir. The board has an option on a 24-acre tract of water bearing land. Plans referred to James L. King, attorney for the district, for approval.

GREELEY, Colo. — U. S. Pipe and Foundry Co., Burlington, N. J. awarded contract by City at \$55,359.60 for furnishing approximately 3.5 miles of 20-in. De Lavaud centrifugal cast iron pipe, f.o.b. cars at Braecwell or Comer, on the Greeley branch of the C. & S. Ry.

DENVER, Colorado. — Pelton Water Wheel Co., San Francisco, awarded contract by U. S. Bureau of Recla-

mation at \$30,546 to furnish turbines, governors and governor pumps, for use in connection with the Grand Valley Project.

Electric Machinery Mfg. Co., Minneapolis, Minn., awarded contract at \$30,100 to furnish generators and excitors.

Standard Mechanical Equip. Co., Dallas, Texas, awarded contract for switchboard equipment at \$9272.

FIGARDEN, Fresno Co., Cal. — Plans for water system to be built in Figarden Public Utility District being prepared by A. Segel, Cory Bldg., Fresno. Bond election will be called on \$30,000 bond issue to finance construction of a water system.

DAVIS, Yolo Co., Cal. — Miller Eng. Co., Davis, at \$710 awarded contract by city council to repair a 12-stage, 12-inch Layne and Bowler pump and to assemble and install pump in well. The repair of bowls, including new runner shaft and new bearings thru-out; furnish approx. 60 ft. of 9-in. O. D. column; ten 3-in. by 1 1/16-in. shaft bearings; five 1 1/16-in. shaft couplings; 70 ft. 1 1/16-in. shaft; 20 ft. 3-in. O. D. suction pipe with galv. strainer; 20 ft. additional column complete; 100 ft. 1/2-in. galv. air-line complete; 100 ft. 3/4-in. black oil line. All pipe to be installed in well to be asphalt coated. Layne and Bowler submitted only other bid to \$705 plus a certain amount for contingent extras.

SAN LUIS OBISPO, Cal. — Until April 22, 10 A. M., bids will be received by U. S. Property and Disbursing Office for California, Sacramento, for completion of a reservoir, including granite slab and incidental concrete work at the National Guard Training Camp at San Luis Obispo. Specifications obtainable from above office.

SAN LUIS OBISPO, San Luis Obispo Co., Cal. — As previously reported, bids will be received by the State Department of Public Works, Division of Architecture, Sacramento, April 12, 2 P. M., to erect a 200,000-gallon water tank at the California Polytechnic School, San Luis Obispo. Tank is to be of reinforced concrete with frame roof construction and composition roof and is to rest directly on the ground. An alternate bid will be required for the omission of the wood roof construction and composition roofing and substituting a reinforced concrete roof slab with monolithic finish. Plans obtainable from the above office.

SAN FRANCISCO. — Board of Supervisors, by a vote of 14 to 1, approve proposal to submit question to voters of issuing bonds of \$6,500,000 to fi-

nance completion of the Hetch Hetchy Municipal Water Project. The election will be held at the presidential primary May 3.

LOS ANGELES, Cal. — Western Pipe & Steel Co., awarded contract by city purchasing agent, Thomas Ogilton, March 16, at \$34,680 for furnishing steel water pipe under Specifications No. 2764.

OAKLAND, Cal. — R. D. Wood & Co., by Utilities Equipment Co., Call Bldg., San Francisco, at \$25,230 awarded contract by East Bay Municipal Utility District to furnish cast iron pipe. Complete bids published in issue of March 14.

OAKLAND, Cal. — U. S. Pipe & Foundry Co., Monadnock Bldg., San Francisco, at \$19,551 submitted low bid to East Bay Municipal Utility District, 512 Sixteenth St., Oakland, to furnish:

- (1) 25,000 lin. ft. 6-in. cast iron pipe;
- (2) 10,000 lin. ft. 8-in. cast iron pipe.

Bids follow:

U. S. Pipe & Foundry Co., San Francisco (1) \$4822; (2) \$7496; Total, \$19,551.

American C. I. Pipe Co., San Francisco, (1) \$502; (2) \$778; Total, \$20,350.

R. D. Wood & Co., Philadelphia, (1) \$515; (2) \$80; Total, \$20,875.

WOODLAND, Yolo Co., Calif. — City council has authorized the installation of 3,500 ft. of 8- and 12-in. water main to connect the municipal water system with the southwest section of the city. August Silberstein is city water superintendent.

PLAYGROUNDS & PARKS

LOS ANGELES, Cal. — City Attorney E. P. Werner preparing ordinance to be submitted to voters May 3 providing for a \$3,000,000 bond issue to finance the enlargement of Exposition Park, Los Angeles, and Point Firmin Park, San Pedro.

STREETS AND HIGHWAYS

SEATTLE, Wash. — S. A. Mocerri, Inc., 475 Elliott Avenue, West, Seattle at \$237,800 awarded contract by City of Seattle and the State Highway Commission to improve Aurora Ave., Valley, Aloha, Ward and Prospect Sts., Highland Drive and Comstock Street, involving grading, regrading, sewers, water mains and paving.

RIVERSIDE, Cal. — County Purchasing Agent W. L. Carlson, Riverside, authorized by county supervisors to call for bids for 100,000 ft. of wire fencing to fence approx. 5 miles of the Pines - to - Palms Highway bet. Keen Camp and Herkey Creek in the San Jacinto Mountains.

MENDOCINO and Humboldt Counties, Cal. — Charles Kupping, Lakeport, awarded contract by State Director of Public Works, March 22, at \$912 for applying Diesel oil to roadside vegetation over a distance of about 56 roadside miles, bet. Ridge-wood and Stephens Grove, Mendocino and Humboldt counties. Complete bids published in issue of March 22.

OAKLAND, Cal. — Lee J. Immel, 1021 Evelyn, Berkeley, at \$,043 awarded contract by Board of Playground Directors for playground surfacing. Complete bids published in issue of March 17.

CAPITAL CITY TITLE COMPANY

J. C. PALEN,
Manager

914 Seventh Street
Sacramento :: California

LOS ANGELES COUNTY, Calif.—Oilfield's Trucking Co., Taft, awarded contract by State Director of Public Works, March 16, at \$3589.40 for highway construction in Los Angeles County, between Neenach School and Neenach, about 2 miles in length to be treated with fuel oil as a dust palliative, and between La Canada and Fern Canyon, about 4.1 miles in length to be treated with asphaltic road oil and screenings, involving:

- (1) 350 bids, heavy oil;
- (2) 82 tons asphaltic road oil;
- (3) 722 tons rock and screenings.

SAN FRANCISCO.—Until April 20, bids will be received by the Department of Public Works, S. J. Hester, secretary, to improve Section "A" of Sunset Blvd. from Yorba Street to the Skyline Blvd. Estimated cost, \$180,000. Project involves:

- (1) 151,800 cu. yds. excavation;
- (2) 363,700 sq. ft. asph. mac. pave.;
- (3) 144,800 sq. ft. 2½-in. asph. conc. wearing surface;
- (4) 110,000 sq. ft. 4-in. waterbound macadam sidewalk;
- (5) 42,600 sq. ft. 6-in. waterbound macadam equestrian path;
- (6) 46,400 sq. ft. completion of existing sidewalk;
- (7) 36,100 sq. ft. completion of existing equestrian paths;
- (8) 2,700-sq. ft. conc. sidewalk, one-course;
- (9) 14,800 unarmored concrete curb;
- (10) 19,700 ft. 2x6-in. conc. header;
- (11) 9,500 sq. ft. basalt block slope pavement;
- (12) 305,000 sq. ft. loam;
- (13) 305,000 sq. ft. manure;
- (14) 2 brick manholes;
- (15) 13 brick catchbasins;
- (16) 2 brick catchbasins, multiple inlet;
- (17) 780 lin. ft. 10-in. V.C.P. culvert;
- (18) 240 lin. ft. 12-in. do.;
- (19) 90 lin. ft. 15-in. do.;
- (20) 48 cu. yds. Class B 2500-lb. concrete in retaining wall;
- (21) 2,600 lbs. bar reinf. steel;
- (22) 540 ft. 3-in. NEC galv. conduit;
- (23) 100 ft. wood fence;
- (24) 326 ft. 48-in. corr. metal culvert;
- (25) 6,020 ft. 6-in. c. l. water pipe;
- (26) 990 ft. 2½-in. galv. wrought iron water pipe;
- (27) 2,750 ft. 2-in. do.;
- (28) 5,700 ft. 1½-in. do.;
- (29) 5,000 ft. 1¼-in. do.;
- (30) 1,800 ft. 1-in. do.;
- (31) 15,550 ft. ¾-inch galv. wrought iron sprinkler lines;
- (32) 8 6-in. standard valves;
- (33) 180 1-in. lawn cocks;
- (34) 12 brass boxes for gate valves;
- (35) 6,330 ft. painting existing redwood curb;
- (36) 5 concrete end wall culverts;
- (37) 120 ft. redwood spillway.

Specifications for this work will not be ready for distribution until April 4 when they will be obtainable from the office of John J. Casey, City Engineer, 3rd floor, City Hall.

TUOLUMNE-MARIPOSA COS., Cal.—C. W. Wood, Stockton, at \$7880.50 submitted low bid to District Engineer, Sacramento, to treat with fuel oil and asphaltic road oil as a dust palliative 2.2 miles between Mountain Pass and Yosemite National Park. Complete bids follow:

| | |
|-----------------------------------|-------------|
| C. W. Wood, Stockton..... | \$ 7,880.50 |
| C. F. Fredrickson and Son, | do. |
| Lower Lake..... | 8,754.10 |
| Basalt Rrock Co., Napa..... | 9,636.20 |
| Skells & Graham, Roseville..... | 10,740.00 |
| A. Teichert, Sacramento..... | 12,379.00 |
| F. W. Nightbert, Bakersfield..... | 12,595.10 |
| Oilfields Trucking Co., Taft..... | 12,329.00 |

MONO COUNTY, Cal.—As previously reported, until April 13, 2 P. M., bids will be received by State Highway Commission, to surface with crusher run base and bituminous treated crushed gravel or stone about 14.2 miles between 2 miles west of Bridgeport and Sonora Junction, involving:

- (1) 35,750 tons cru. run base;
- (2) 25,770 tons cru. gravel or stone surf.;
- (3) 120 tons cut-back asph.;
- (4) 3050 M. gals. water applied to sub-grade;
- (5) 751 sta. constr. shoulders.

GILROY, Santa Clara Co., Cal.—A. J. Raisch, Burrell Bldg., San Jose, at \$20,990 awarded contract by the county commissioners to macadamize New Avenue near Gilroy between Leaves Road and Rucker Avenue, approximately 2½ miles, involving 240,000 sq. ft. oil macadam. Complete bids follows:

| | |
|--------------------------------------|----------|
| A. J. Raisch, San Jose..... | \$20,990 |
| O. V. Freeman, Palo Alto..... | 21,789 |
| Granite Const. Co., Watsonville..... | 21,888 |
| Union Paving Co., S. F..... | 22,426 |
| Geo. French, Jr., Stockton..... | 23,330 |
| Pereira & Reed, Tracy..... | 24,885 |
| W. A. Dontanville, Salinas..... | 25,755 |
| O. G. Ritchie, San Jose..... | 25,890 |
| A. J. Grier, Oakland..... | 27,500 |
| Geo. Peres, Richmond..... | 28,296 |

UTAH STATE.—The State Highway Commission preparing plans for road oiling as follows:

- (1) 30 miles of oiling on the Evanston-Salt Lake City Road, estimated cost \$105,000.
- (2) 11.5 miles oiling in Juab County, estimated cost \$26,500.
- (3) 17 miles oiling in Millard County, estimated cost \$78,000.

ARIZONA STATE.—Arizona Sand & Rock Co., Box 1522, Phoenix, awarded contract by State Highway Commission March 14 at \$36,972.62 for highway construction on the Phoenix-Tempe Highway, A. F. E. No. 8015. Work begins at the packing plant and extends easterly and southerly approximately 2.9 miles to the Tempe bridge, consisting of widening, removal and reconstruction of portions of existing concrete pavement with asphaltic concrete pavement. Quantities published in issue of March 9.

WASHINGTON STATE.—Contracts for state highway construction awarded by the State Highway Department, Olympia, March 8, are:

Pave with cem. conc., 11.7 mi. of State Road No. 3, Hillside to Yakima in Kittitas and Yakima Counties, Federal Aid Project No. 105-C to Albertson & Cornell Bros., Inc., 113½ A St., Tacoma, at \$302,835.

Resurface and stockpiling, 5580 cu. yds. crushed stone on 15.5 mi. of State Road No. 5, Kosmos to Divide in Lewis County to R. O. Dall, 2717 Simpson St., Aberdeen, at \$6638.

Clear, grade and surface with crushed stone and drain, 4.5 mi. of State Road No. 10, Entiat Ferry to Crondo, Federal Aid Project No. 145-H, in Douglas County, involving about 42,250 cu. yds. excav., 12,500 cu. yds. of crushed stone, 705 lin. ft. pipe culverts and other items, to E. P. Doolittle, Woodinville, at \$23,739.

WYOMING.—Morrison-Knudsen Co., Boise, Idaho, submitted low bid to U. S. Bureau of Public Roads, Denver, Colo., March 22, at \$191,242, for improving Section A of the Wind River or Shoshone Indian Reservation Highway, located within or partly within

the Wind River or Shoshone Indian Reservation, County of Fremont, Wyoming. Quantities published in issue of March 1.

SANTA ROSA, Sonoma Co., Cal.—Until April 14, 12 M., to be opened at 1:30 P. M., bids will be received by George P. Sanborn, county clerk, to construct 11.30 miles of asphaltic oil surfacing on roads in Fourth and Fifth Supervisorial Districts, involving:

Roads To Be Oiled
West Dry Creek Road..... 7.00 miles
Red Hill to Hilton..... 4.30 miles

Estimated Quantities
675 barrels light oil;
225 tons heavy oil;
3150 tons rock.

Specifications obtainable from the above.

SANTA ROSA, Sonoma Co., Cal.—Until April 14, 12 M., to be opened at 1:30 P. M., bids will be received by George P. Sanborn, county clerk, to construct 15.0 miles of asphaltic oil surfacing on roads in First Supervisorial District, involving:

Roads To Be Oiled
Cotati Section..... 8.0 miles
Sonoma Valley..... 7.0 miles

Estimated Quantities
900 barrels light oil;
300 tons heavy oil;
3700 tons rock.

Specifications obtainable from above.

SAN FRANCISCO.—Until April 13, bids will be received by S. J. Hester, secretary, Department of Public Wks to improve (where not) east one-half of 37th Avenue between Sanitago and Taraval Sts.; estimated cost \$1,540. Project involves:

- (1) 10 cu. yds. excavation;
- (2) 5,500 sq. ft. asph. conc. pave on 6-in. Class F conc. base;
- (3) 500 sq. ft. asph. conc. wearing surface on existing conc. base;
- (4) 100 sq. ft. asph. concrete conform pavement.

Certified check 10% payable to City and County of San Francisco required with bid. Plans obtainable from the office of City Engineer John J. Casey, 3rd floor, city hall.

SANTA ROSA, Sonoma Co., Cal.—Until April 14, 12 M., to be opened at 1:30 P. M., bids will be received by George P. Sanborn, county clerk, to construct 1.0 mile of bituminous treated surface on Washington St. bet. Elmore and Adobe Roads, involving:

60 bbls. light oil,
1000 tons crushed rock;
65 tons cut-back asphalt.

Specifications obtainable from above.

SANTA ROSA, Sonoma Co., Cal.—Until April 14, 12 M., to be opened at 1:30 P. M., bids will be received by George P. Sanborn, county clerk, to construct 0.0 miles of bituminous treated road mix in First Supervisorial District, involving:

400 tons cut-back asphalt;
2000 tons mineral aggregate to be added.

Specifications obtainable from above.

REDDING, Cal.—Until April 13, 2 P. M., bids will be received by F. W. Haselwood, District Engineer, Redding, to treat with asphaltic road oil as a dust palliative about 22.5 miles in Modoc County, between the California-Oregon line near New Pine Creek and the Junction of Routes 73 and 28 near Alturas. Specifications obtainable from above.

LONG BEACH, Cal.—April 15 set by city council as date for hearing under Assessment Limitation Act 1931 on improvement of Loma Ave. Work under 1911 Act, divided into two sections viz:

Loma Ave. bet. Ocean Ave. and 3rd St., and

Loma Ave. bet. 4th and 7th Sts.

- The total quantities of the two sections are:
- (1) grading;
 - (2) 135,925.33 sq. ft. 6-in. conc. paving;
 - (3) 203.05 sq. ft. 8-in. gutter;
 - (4) 4 hose sewer connections;
 - (5) 13 water services.

REDDING, Shasta Co., Cal.—Until April 13, 2 P. M., bids will be received by F. W. Haselwood, district engineer, Redding, to treat with asphaltic road oil as a dust palliative about 20.8 mi. between the junction of Routes 3 and 46, near the Shasta River and Walker Station in Siskiyou County. Specifications obtainable from above.

REDDING, Cal.—Until April 13, 2 P. M., bids will be received by F. W. Haselwood, District Engineer, Redding, to treat with fuel oil and asphaltic road oil as a dust palliative about 36.4 miles in Siskiyou County, between Weed and the State line near Calor. Specifications obtainable from above.

REDDING, Cal.—Until April 13, 2 P. M., bids will be received by F. W. Haselwood, District Engineer, Redding, to treat with asphaltic road oil as a dust palliative about 40.9 miles in Lassen County, between the Nevada State line and a point two miles west of Milford. Specifications obtainable from above.

HILLSBOROUGH, San Mateo Co., Cal.—City council declares intention No. 31-1 to improve portions of certain streets as follows: Jackling Drive, Baileyana Road, Oakdale Road, Glen Way and Eden Way, involving:

- (1) 54,000 cu. yds. grading, backfill
- (2) 54,000 sq. ft. 3-in. asphalt concrete wearing surface;
- (3) 15,000 sq. ft. oil and screenings surf.;
- (4) 3600 lin. ft. gutter;
- (5) 5200 lin. ft. conc. shoulders;
- (6) 1000 ft. 12-in. concrete pipe;
- (7) 60 ft. 8-in. concrete pipe;
- (8) 7 storm water catchbasins;
- (9) 300 ft. headerboard.

1911 Improvement Act. Hearing will be on April 5, 5 P. M. John A. Hoey, town clerk.

NOTE.—In our issue of March 23, this project was reported as being for the city of San Mateo, which was in error.

KERN COUNTY, Cal.—Granite Construction Co., Bin 9, Watsonville, at \$412 submitted low bid to District Engineer, Fresno, for road oiling in Kern County, bet. west boundary and 2.7 miles west of Maricopa, about 9.5 mi., to be treated with fuel oil as a dust palliative. Complete bids follow: Granite Constr. Co., Watsonville. \$412
Stewart & Nuss, Fresno..... 422
Oilfields Trucking Co., Taft..... 5312
Suare Oil Co., Los Angeles..... 6130
Fred W. Nighbert, Bakersfield..... 6134
Hartman Constr. Co., Bakersfield 6134
P. K. Akmadzieh, Los Angeles..... 6318
Clyde W. Wood, Stockton..... 6786
Basalt Rock Co., Napa..... 7769

KERN COUNTY, Cal.—Granite Construction Co., Bin 9, Watsonville, at \$491 submitted low bid to District Engineer, Fresno, for highway construc-

tion in Kern Connay bet. Bakersfield and junction of Arvin road, about 11.1 miles of earth shoulder to be oil treated; about one mile of bid, treated crushed gravel or stone surfacing to be placed and about 14.5 miles of roadbed to be treated with fuel oil as a dust palliative. Complete bids follow: Granite Const. Co., Watsonville. \$ 9,491
Stewart & Nuss, Fresno..... 9,669
Fred W. Nighbert, Bakersfield. 11,261
Oilfields Trucking Co., Taft..... 11,686
Hartman Const. Co., Bakersfield 12,924
Square Oil Co., Los Angeles..... 14,989

PEARL HARBOR, T. H.—Bids will be asked shortly, to be opened sometime in May, under Specification No. 6711, by the Public Works Officer, Pearl Harbor, to construct seaplane runway and paving at Pearl Harbor. Estimated cost \$100,000. Plans will be obtainable from the above office or from the Bureau of Yards and Docks, Navy Department, Washington, D. C.

MARIPOSA COUNTY, Calif.—Until April 14, 2 P. M., bids will be received by C. H. Sweetser, district engineer, U. S. Bureau of Public Roads, 461 Market St., San Francisco, for enlarging a ventilating adit in the highway tunnel on Section A5 of Route 2, Wawona Rd., Yosemite National Park, involving in the main:

- (1) enlarge roadway tunnel, lump sum
- (2) enlarge adit, lined section, lump sum;
- (3) 470 lin. ft. enlarge adit, unlined section;
- (4) 110 cu. yds. control room and passageway excavation;
- (5) concrete lining, roadway tunnel and adit, lump sum;
- (6) 20 cu. yds. conc. lining, control room and passageway;
- (7) 18,600 lbs. reinforcing steel.

Plans obtainable from district engineer on deposit of \$10, returnable.

SAN JOSE, Santa Clara Co., Cal.—Until April 11, 11 A. M., bids will be received by Henry A. Pfister, county clerk, to improve Foothill Blvd. in Supervisor District No. 1, involving 141,724 sq. ft. oil macadam, 3-in. Specifications obtainable from above. Robt. Chandler, county surveyor.

SAN JOSE, Santa Clara Co., Cal.—Until April 11, 11 A. M., bids will be received by Henry A. Pfister, county clerk, to improve part of Saratoga Ave. in Supervisor District No. 4, involving 134,200 sq. ft. asphalt concrete, 5-inch. Specifications obtainable from above. Robert Chandler, county surveyor.

SAN JOSE, Santa Clara Co., Cal.—Until April 11, 11 A. M., bids will be received by Henry A. Pfister, county clerk, to improve San Jose and Alviso Road, in Supervisor District No. , involving:

- (1) 116,600 sq. ft. asphalt concrete 5-inch; 6-in. waste rock base.

Specifications obtainable from above. Robert Chandler, county surveyor.

SAN FRANCISCO.—Until April 12, 2 P. M., bids will be received by John H. Skeggs, District Engineer, Division of Highways, State Bldg., San Francisco, to treat with light fuel oil about 51.7 miles of earth shoulders on each side of the existing pavement in Sonoma and Marin Counties, between Windsor and Sausalito. Specifications obtainable from above. Certified check 10% required with bid.

SAN JOSE, Santa Clara Co., Cal.—A. J. Raisch, 305 Burrell Bldg., San Jose, at \$2407 awarded contract by county supervisors to improve Race Street, Supervisor District No. 4, involving 34,175 sq. ft. asphalt. Complete bids follow:
A. J. Raisch, San Jose..... \$2407
Hanrahan & Co., S. F..... 4400
Union Paving Co., S. F..... 4700

SAN JOSE, Santa Clara Co., Cal.—A. J. Raisch, 305 Burrell Bldg., San Jose, at \$17,180 awarded contract by county supervisors to improve Capitol Ave., Supervisor District No. 3, involving 157,700 sq. ft. asphalt. Complete bids follow:
A. J. Raisch, San Jose..... \$17,180
Union Paving Co., S. F..... 19,471
Hanrahan Co., S. F..... 21,600
S. M. McGaw, Stockton..... 21,900
Valley Paving Co., Fresno..... 25,500

WASHINGTON STATE.—Standard Asphalt Paving Co., 603 Chronicle Bldg., Spokane, submitted low bid to State Highway Department at \$213,895 to construct 43 miles of bituminous macadam on State Road No. 14, Junction State Road No. 9 to Gig Harbor, Harbor and Manchester, involving 52,000 cu. yds. crushed stone and 2600 tons of bit. cem. and other items, and bit. treated surface by road mix method on 4.8 miles of State Road No. 21, Bremerton to Junction Seabeck Road, involv. 310 tons of bit. cem. and other items.

NORTHERN CALIFORNIA—Oilfields Trucking Co., 521 Supply Row, Taft, awarded contract by State Director of Public Works March 19 at \$4460.40 for applying Diesel oil over a distance of 94 miles on the state highway in Tehama, Siskiyou, Shasta and Lassen counties, involving 1770 bbls. of oil. The bids were opened at Redding March 14. Complete bids published in issue of March 18.

NORTHERN CALIFORNIA.—Oilfields Trucking Co., 521 Supply Row, Taft, submitted low bid to the State Highway Engineer, C. H. Purcell, at office of district engineer, Redding, March 14 at \$4460.40 for applying Diesel oil over a distance of 94 miles on the state highway in Tehama, Siskiyou, Shasta and Lassen counties, involving 1770 bbls. of oil. Bids follow:
Oilfields Trucking Co., \$252 barrel; total \$4460.40.
Basalt Rock Co., Napa, \$2.94 barrel; total, \$5203.80.

C. F. Hillard, Sacramento, \$2.98 barrel; total, \$5274.80.

Member Insurance Brokers' Exchange

FRED H. BOGGS
INSURANCE

490 GEARY STREET

Phone FRanklin 9400

San Francisco

LOS ANGELES, Cal.—Bids for construction of a portion of Firestone Blvd., from Atlantic Blvd. in South Gate to Paramount Ave. in Downey, will be called by county supervisors within the next sixty days. This section will be about four miles in length and cost about \$400,000.

TRINITY COUNTY, Calif.—Until April 8th, 2 P. M., bids will be received by P. W. Haselwood, District Engineer, Redding, Calif., for treating with fuel oil as a dust palliative, about 26.3 miles in Trinity County between Weaverly and White's Bar Creek (II-Tri-20-E, F). Plans and specifications obtainable from above office. Certified check 10% of amount of bid required.

KERN AND INYO COUNTIES, Cal.—Until 2 P. M., April 12, bids will be received by District Engineer, F. G. Sommer, Bishop, for traffic stripes to be applied to roadbed on state highway in Kern and Inyo Counties, at various locations between Mojave and Mono County Line (IX-Ker-In-23), about 175 miles in length. Plans obtainable from above. Certified check, 10%.

SAN JOSE, Santa Clara Co., Cal.—Until April 4, 11 A. M., bids will be received by Henry A. Pfister, county clerk, to improve Calaveras Rd., Supervisor District No. 3, from Evan Rd. to the Airport School, involving: (1) 200 sq. yds. grading; (2) 119,300 sq. ft. oil macadam paving. Specifications obtainable from above. Robt. Chandler, county surveyor.

NORTH KERN CALIFORNIA—Oilfields Trucking Co., Taft, at \$4460 awarded contract by District Engineer, Division of Highways, Redding, to apply Diesel oil to roadside vegetation over a distance of about 94 miles in the counties of Tehama, Siskiyou, Shasta and Lassen.

SANTA ANA, Cal.—Until 11 A. M., April 12, bids will be received by the county supervisors to construct 17th St. Bridge, over the Santa Ana River, in the Second Road District, involving:

- (1) Dismantling of old structure;
 - (2) 6900 cu. yds. embankment for approaches;
 - (3) 1485 cu. yds. class A concrete;
 - (4) 53.56 cu. yds. class C concrete;
 - (5) 297,823 lbs. reinf. steel;
 - (6) 1775 ft. concrete piles.
- Estimated cost, \$48,000. Nat. II. Neff, County Road Commissioner.

MINERAL COUNTY, Nevada—A. D. Drumm, Fallon, Nevada, at \$18,691 awarded contract by State Highway Commission to reconstruct a portion of the State Highway System between 13 miles east of Hawthorne and Hawthorne, Route 3, Sections C2 and D2, 13.65 miles, involving:

- (1) 200 cu. yds. rdwy. excav.;
- (2) 20 cu. yds. struc. excav.;
- (3) 13.65 miles shape roadway;
- (4) 30,300 cu. yds. crushed gravel or crushed rock surf. in place;
- (5) 1.09 cu. yds. Class B concrete;
- (6) 22 lin. ft. 18-in. corr. metal pipe in place;
- (7) 13.65 miles finish rdwy.

J. N. Redford, Fallon, at \$20,409.10 next low bidder. Complete list of unit and total bids will be published shortly.

CLE ELUM, Wash.—Until April 7, 2 P. M., under Spec. No. 565-D, bids will be received by U. S. Reclamation Bureau, Denver, Colo., to construct

flow line road, Cle Elum Reservoir, Yakima Project, Wash., located about 11 miles northwest of Cle Elum. Road is approx. 5 1/2 miles in length and involves:

- 26 acres clear and grub;
- 32,000 cu. yds. (all classes) excav.;
- 50,000 sta. cu. yds. overhaul;
- 2,000 cu. yds. surfacing;
- 1,000 cu. yds. backfill;
- 70 cu. yds. concrete;
- erect 60 M.E.M. timber in bridges, and install 750 lin. ft. corr. metal pipe culverts.

This invitation for bids does not cover the purchase of materials which are to be furnished by the Government. Plans obtainable from above office.

WASHINGTON STATE—Until April 12, 10 A. M., bids will be received by Samuel J. Humes, state director of highways, Olympia, to construct bituminous macadam surface on 23.5 miles of State Road No. 5, Oak Flat to Carmack Bridge and Morse Creek to Crystal Creek in Yakima and Pierce Counties and on about 19.5 miles of State Road No. 8, Upper Crossing of Satus Creek to the south city limits of Goldendale, in Klickitat County. Plans obtainable from state highway director on deposit of \$2, returnable.

SANTA ROSA, Sonoma Co., Calif.—Until April 14, 12 M., to be opened at 1:30 P. M., bids will be received by Geo. P. Sanborn, county clerk, to construct 10 miles of asphaltic oil surfacing on roads in the Second Supervisorial District, as follows:

Roads To Be Oiled

| | |
|---------------------|------------|
| Vine Hill Road | 2.50 miles |
| Trenton Road | 2.50 miles |
| Melville Road | 1.25 miles |
| Pleasant Hill Road | 1.50 miles |
| New Occidental Road | 2.25 miles |

Estimated Quantities

| | |
|-----------|-----------|
| Light oil | 600 bbls. |
| Heavy oil | 200 tons |
| Rock | 2800 tons |

Specifications obtainable from above.

SANTA ROSA, Sonoma Co., Calif.—Until April 14, 12 M., to be opened at 1:30 P. M., bids will be received by Geo. P. Sanborn, county clerk, to construct 16 miles of asphaltic oil surfacing on roads in the Second Supervisorial District, as follows:

Roads To Be Oiled

| | |
|----------------------|------------|
| Pepper Road | 1.00 mile |
| Chileno Valley Road | 3.00 miles |
| Western Ave. Road | 1.00 mile |
| Paula Lane | 1.00 mile |
| Roblar Road | 1.50 miles |
| Road No. 19 | 1.40 miles |
| Stony Point Road | 1.10 miles |
| Petaluma Rural Roads | 6.00 miles |

Estimated Quantities

| | |
|-----------|-----------|
| Light oil | 960 bbls. |
| Heavy oil | 320 tons |
| Rock | 4500 tons |

Specifications obtainable from above.

UTAH STATE—W. W. Clyde & Co. and J. W. Whiting, Springville awarded contract by State Road Commission, Salt Lake City, at \$60,824.22 for F. A. Project No. 117-E, involving 7.705 mi. gravel surfaced road between Bryce Junction and Hatch, Garfield County.

LOS ANGELES, Cal.—County Supervisors abandoned further consideration of proposed extension of Annandale Blvd. north of Pasadena. County Surveyor, J. E. Rockhold, recommended abandonment of improvement on the grounds that present conditions did not justify the expenditure of \$750,000 (the estimated cost).

RIVERSIDE COUNTY, Cal.—As previously reported, until April 13, 2 P. M., bids will be received by State Highway Commission, Sacramento, to grade and pave with Portland cement concrete about 6.0 miles between Avenue 74 and the southerly boundary, involving:

- (1) 173,000 cu. yds. rdwy. excav. without class;
 - (2) 401,000 sta. yds. overhaul;
 - (3) 49,200 cu. yds. sel. material;
 - (4) 17,380 cu. yds. struc. excav.;
 - (5) 69,200 sq. yds. subg. for pave;
 - (6) 800 cu. yds. cushion course;
 - (7) 14,700 cu. yds. Class A Portland cem. conc. (pave.);
 - (8) 431,000 lbs. bar reinf. steel (pave)
 - (9) 3600 bbls. fuel oil (detour);
 - (10) 36 lin. ft. 18" corr. metal pipe;
 - (11) 996 lin. ft. 24" do;
 - (12) 580 lin. ft. 36" do;
 - (13) 396 lin. ft. 48" do;
 - (14) 42,521 lin. ft. furnish treated piles;
 - (15) 1441 drive piles;
 - (16) 372 M. ft. b. m. redwood timber, dense sel. all-heart struc. grade;
 - (17) 657 M. ft. b. m. redwood timber, sel. all-heart struc. grade;
 - (18) 460 cu. yds. conc. remove from exist. pave. and struc. and dispose of;
 - (19) 1.4 mi. telephone system move and reset;
 - (20) 2.1 ml. move and reset property fence;
 - (21) 620 lin. ft. solid timber guard rail
 - (22) 301 sta. finish rdwy.;
 - (23) 78 monuments complete in place.
- State will furnish corr. metal pipe.

MENDOCINO COUNTY, Cal.—Basalt Rock Co., Napa, at \$10,100 submitted low bid to District Engineer, Eureka, to furnish and stockpile crushed gravel or stone surfacing and screenings near Longvale, Smith Fros, Eureka, at \$11,100 submitted second low bid.

ARIZONA STATE—Lewis Bros., Winslow, Ariz., awarded contract by State Highway Commission, Phoenix, March 14, at \$37,510.91 for highway construction on the Holbrook-St. Johns Highway, F. A. P. 78-C, Sch. 1 Work begins at a point approximately five and one-half (5 1/2) miles west of the town of St. Johns and extends easterly to St. Johns, consists of grading, draining and placing of subgrade stabilizer. Quantities listed in issue of March 9. T. S. O'Connell, state Highway Engineer.

DAILY NEWS SERVICE

If you are interested in a daily construction news service featuring all types of building and engineering construction, send for free sample copies of Daily Pacific Builder. Subscription price, \$1.50 per month or \$15.00 per year when paid in advance.

Daily Pacific Builder features in each issue, timely reports on work contemplated, bids wanted, bids opened and contracts awarded for all types of building and engineering construction, machinery and equipment, Government work, supplies and equipment, business opportunities, etc. Daily Pacific Builder is the only publication publishing listings of building permits, building contracts, mechanics liens, etc., in Northern and Central California.

Send for sample copies today or phone GARfield 8744.

Daily Pacific Builder
545 Mission St.
San Francisco, Calif.

BUILDING NEWS

APARTMENTS

Completing Plans.
APARTMENTS Cost, \$70,000
PLACERVILLE, Eldorado Co., Cal.
SAN FRANCISCO, E Fillmore Street
N North Point Street.

Three-story and basement frame and
stucco apartments (Modernistic
types; six 2-room, six 3-room and
six 4-room apts.); composition roof
steam heating system; hardwood
floors, colored tile baths and
kitchens, elec. refrigeration, etc.)
Owner & Builder—Ben. Liebman, 1555
Francisco Street.

Plans by Irvine & Ebhets, Cal Bldg.
Sub-bids will be taken shortly.

Preparing Plans.

APARTMENTS Cost, \$35,272
PLACERVILLE, Eldorado Co., Cal.
Two-story frame and stucco apart-
ments (3 3-room apts.) and two 2-
story frame & stucco apartments
4 3-room apts. each; 6 private gar-
ages, central heating plant (steam
heat) Johnson oil burner, full auto-
matic storage tank, Crane plumbing
fixtures, U. S. radiators and
boilers; masonry floors, Marshall
& Stearn wall beds, ornamental
iron balconies, stair rails, tile baths
and entrances, Johns Manville
asbestos shingle roof, concrete
basement and footings, cement
stucco exterior & California stucco
finish in living rooms, Sanitas in
kitchens and bath rooms.

Owner—Rodger W. Browne, Placerv-
ille.
Architect—Frederick S. Harrison, 1005
Tenth St., Sacramento.

Plans Being Figured.

APARTMENTS Cost, \$—
LOS ANGELES, Los Angeles Co., Cal.
No. 1554 Laurel Canyon Road.
Five story Class B reinforced concrete
apartment (63x136 ft.) (37 apts.)
Owner—Paul J. Guerin.
Architect—Robert H. Orr, Corporation
Bldg., Los Angeles.

Plans Being Figured.

APARTMENTS Cost, \$—
LOS ANGELES, Los Angeles Co., Cal.
No. 1554 Laurel Canyon Road.
Five-story Class B reinforced con-
crete apartments (63x136 ft.); 37
apartments; wood roof trusses;
metal louvres, cast stone columns,
etc.

Owner—Paul J. Guerin.
Architect—Robert H. Orr, 1300 Cop-
poration Bldg., Los Angeles.

Plans Being Completed.

APARTMENTS Cost, \$150,000
SAN FRANCISCO, Twenty-first and
Bartlett Streets.
Six - story and basement steel frame
and concrete apartments (54 2-
and 3-room apts.) composition roof,
steam heating system, electric re-
frigeration, hardwood floors, etc.
Owner—F. W. Hanchett, 34 Highland
Street.

Architect—Wm. C. Ambrose, 605 Mar-
ket Street.

Structural Engineer—H. B. Hammill,
381 Bush Street.

Mechanical Engs.—Atkins & Parker,
Hobart Bldg.

Bids will be taken in about 10 days.

BONDS

SAN LEANDRO, Cal.—Election will
be held May 3rd (time extended from
April 11) to vote bonds of \$50,000 to
finance purchase of a civic center
site on which, in addition to other
structures, an American Legion Mem-
orial Clubhouse will be erected. The
Legion Building will be financed by
the County.

FACTORIES AND WARE- HOUSES

Plans Being Prepared.

SLAUGHTER HOUSE Cost, \$25,000
CHICO, Butte Co., Calif. Humboldt
Road.

One-story and basement steel frame
and reinforced concrete Class A
slaughter house (40x108-ft.; asbes-
tos roof).

Owner—Chico Meat Co., Humboldt
Road, Chico.

Architect—Chester Cole, Chico.

Owner will probably erect the build-
ing by day's work.

Preparing Plans.

DISTRIBUTING PLANT \$300,000
SAN FRANCISCO, Potrero Ave., bet.
25th and Army Sts.

Three-story Class A steel frame and
concrete distributing plant and
offices; three-story Class A steel
frame and concrete pasteurizing
building; one-story Class A steel
and concrete boiler and compres-
sor building with steel trusses,
steel frame loading shed, galva-
vanized roof; Class B steel frame
and galvanized iron garage and
repair shop, composition roof; one-
story Class A steel and concrete
butter and by-products building;
brick exterior walls and concrete
and tile floors.

Owner—Dairy Delivery Co., 2550 19th
St., San Francisco.

Architect—William Toepke, Call Bldg.,
San Francisco.

Associate Architect—Otto G. Hinter-
mann, Call Bldg., San Francisco.

Contract Awarded.

REFINERY Cost, \$—
FRUITVALE, Kern Co., Cal.
Refinery (steel equipment).

Owner—Mohawk Petroleum Co. (Al-
fred L. Marsten, Premises), 405
Montgomery St., San Francisco.
Engineer—Eng. Dept. of Owner,
Bakersfield (Mr. Baugh, in charge)
Contractor—Southwest Engineering
Co., Los Angeles.

Plans Being Figured—Bids Close April
14th.

WAREHOUSE Cost, \$125,000
HONOLULU, T. H.

Reinforced concrete warehouse.
Owner—Honolulu Const. & Drayage
Company.

Architect—C. W. Dickey, 405 Damon
Bldg., Honolulu.

GARAGES AND SERVICE STATIONS

SACRAMENTO, Cal.—Texas Oil Co.
Oscar W. Johnson, Sacramento dis-
trict representative, West Sacramento
announces the company will commence
work in the immediate future on four
new stations in the Sacramento dis-
trict, involving an expenditure of \$50,-
000. Other stations to be erected from
Stockton to Auburn will involve a to-
tal expenditure of \$200,000. The com-
pany will purchase all lands required
and operate the stations. Super-ser-
vice facilities will be installed at each
plant.

GOVERNMENT WORK AND SUPPLIES

WASHINGTON, D. C.—Bids are be-
ing received by the Bureau of Supplies
and Accounts, Navy Dept., Washing-
ton, D. C., to furnish materials and
equipment to Pacific Coast navy yards
and stations, further information on
the schedules listed being obtainable
from the Navy Purchasing Officer, 100
Harrison St., San Francisco:

Bids Close April 12

West yards, steel wire cleaning
brushes, steel wire casting brushes
and hand platers' brushes; sch. 7747.
Mare Island, 40,000 lbs. welding elec-
trodes; sch. 7748.

San Francisco, 1 motor driven cen-
trifugal horizontal pump; sch. 7752.

San Diego, 3 lathe chucks; sch. 7751.

Mare Island, valve equipments, re-
lays and spares; sch. 7749.

Mare Island, lumber; sch. 7709.

Bids Close April 19

West yards, sound transmitting
equipments and spares; sch. 7748.

Mare Island and Puget Sound, motor
driven pipe cutting and threading ma-
chines and spares; sch. 7759.

Mare Island, 3 motors for turret
training hydraulic speed gears, 3 con-
trollers and spares; sch. 7750.

Mare Island, 7000 fuse covers, 50,-
000 soldering strips; 25,313 fuse covers;
sch. 7754.

Preparing Preliminary Sketches.
HOSPITAL BLDGS. Cost, \$1,500,000
SAN FRANCISCO, Fort Miley.

Group of buildings (Class A hospital
building, to accommodate 375; ad-
ministration building, laundry and
garage; reinforced concrete con-
struction.

Owner—United States Government.
Plans by U. S. Veterans' Administra-
tion, Veterans' Hospital, Palo Alto

ALAMEDA, Alameda Co., Cal.—Jac-
obs & Pattinai, 337 17th St., Oakland
at \$38,881 awarded contract by Con-
structing Quartermaster, Benton Air
Field Depot, Alameda, for the instal-
lation of a drainage system in con-
nection with the Benton Air Depot
project.

**SUB-CONTRACTORS
MATERIALMEN**

Stop Your Losses

Credit information on general
contractors, owners, builders and
individuals.

**MATERIALMEN'S
CREDIT BUREAU**

J. E. Higgins, General Manager
564 Market St.—KEarny 6245-46
Night Phone Douglas 5304
San Francisco

Completing Plans.

BOMBING BASE Cost, \$5,000,000
MARIN COUNTY, Calif.
 Group of buildings (masonry construction).

Owner—United States Government.
 Plans by Constructing Quartermaster,
 829 4th St., San Rafael.

The deed has been given by the county of Marin to the U. S. Government and same had been forwarded to the attorney general in Washington. Upon his approval, construction will be started and it is hoped to have work under way by April 1. The first unit to be advertised for bids includes an entrance highway, two overpass bridges and a box culvert.

Work includes: 125 single homes for officers, 80 double homes for officers, 11 hangars (100x200-ft.), machine and assembly shops, 4 barracks, two warehouses (100x200-ft.), bachelor officers' quarters, one officers' clubhouse, one non-commissioned officers' clubhouse, one headquarters, one post school, one chapel, one hospital, gymnasium and theatre building, laundry, parachute building, photography building, guard house, fire station, radio station, athletic field, seven miles paved streets.

Construction will be carried on over a period of approximately four years.

***Plans Awaiting Approval.**

EXTEND DOCK Cost, \$165,000
SAN FRANCISCO, Fort Mason.

Extend Dock No. 2 (reinforced concrete and steel construction, 8-ft. cylinder, with seven piles to each cylinder, beam steel frame, railroad tracks, crosotied piles, dummy piles, crosotied timber).

Owner—United States Government.
 Plans by Constructing Quartermaster,
 Fort Mason.

It is expected to advertise for bids in one week.

To Ask Bids April 4th.
BUILDINGS Cost, \$15,000,000
WASHINGTON, D. C.

Group of three 7-story Class A steel and stone executive buildings (1,250x375-ft.) limestone facing, concrete floors, 24 elevators, tile roofs plate glass and metal sash arched, mastic tile floors in offices, terrazzo in main corridors, promenade tile in upper corridors, auditorium to seat 3,000, cafeteria to accommodate 3,200.

Owner—United States Government.
 Architect—Arthur Brown, Jr., 251 Kearny St., San Francisco.

Concrete foundations have been completed by Closkey & Co., of New York, and the Raymond Pile Co., New York, have completed the pile driving, which is the largest job of the kind ever undertaken in the United States.

WASHINGTON, D. C.—Until April 13, 11 A. M., under Spec. No. 6813, bids will be received by Bureau of Yards and Docks for underground electric distributing system, including concrete manholes, transformer vaults encased in concrete, concrete lighting standards, light, power, telephone and street lighting cables, transformers and accessories, all at the Naval Air Station, Sunnyvale, Calif.

Specifications obtainable from the Commandant, Twelfth Naval District, 100 Harrison St., San Francisco, upon deposit of \$10, payable to Chief of the Bureau of Yards and Docks.

DENVER, Colorado.—Pelton Water Wheel Co., San Francisco, awarded contract by U. S. Bureau of Reclamation at \$30,564 to furnish turbines, governors and governor pumps, for

use in connection with the Grand Valley Project.

Electric Machinery Mfg. Co., Minneapolis, Minn., awarded contract at \$30,100 to furnish generators and excitors.

Standard Mechanical Equip. Co., Dallas, Texas, awarded contract for switchboard equipment at \$3272.

ALAMEDA, Cal.—Until April 12, 2 p. m., bids will be received by C. H. Sweeter, Bureau of Public Roads, 451 Market St., San Francisco, to construct a portion of Unit No. 4, Government Island Construction, Alameda, involving:

(1) furnish and install miscellaneous material and equipment in Transformer Station and Coast Guard Distributor House.

(2) 873 lin. ft. cable single cond. 4000 and 600 volts, 41,740 and 700,000 C. M.

(3) 3645 lin. ft. cable 3 cond. 600 volts, 300,000 to 25,250 C. M.

Specifications obtainable from above on deposit of \$10, returnable. Certified check payable to Federal Reserve Bank, San Francisco.

SACRAMENTO, Cal.—Otis Elevator Co., 1 Beach St., San Francisco, at \$35,275 awarded contract by Superintending Architect, Washington, D. C., to furnish and install elevators in the Sacramento Post Office.

WASHINGTON, D. C.—Fairbanks Morse & Co., Inc., 115 E Lombard St., Baltimore, Md., at \$20,564 submitted low bid to Bureau of Supplies and Accounts, Navy Department, to furnish two Diesel engines, two Diesel driven generators and spares for Mare Island. Complete bids follow:
 Fairbanks Morse & Co., Baltimore, Md. \$20,564.00
 McIntosh Seymour Corp. Auburn, N. Y. 21,330.40
 Atlas Imp. Diesel Eng. Co., Oakland 21,400.00
 Standard Motor Corp., Jersey City, N. J. 22,394.00
 Union Diesel Eng. Co., Oakland 22,908.00
 Union Machine Co., S. F. 29,222.00
 Whitton Eng. Corp., Cleveland, Ohio 34,391.00

Oakland
Standard Motor Corp., Jersey City, N. J. 22,394.00
Union Diesel Eng. Co., Oakland 22,908.00
Union Machine Co., S. F. 29,222.00
Whitton Eng. Corp., Cleveland, Ohio 34,391.00

TATOOSH ISLAND, Wash.—Until April 22, 2 P. M., bids will be received by U. S. Weather Bureau, Seattle, to erect office and residence building at Tatoosh Island in connection with the Bureau headquarters. Plans obtainable from above office.

SUNNYVALE, Santa Clara Co., Cal.—Until April 27, 11 A. M., under Spec. No. 6781, bids will be received by the Bureau of Yards and Docks, Navy Department, Washington, D. C., to construct five industrial buildings at the Naval Air Station, Sunnyvale. The buildings will be of reinforced concrete. The work includes steel windows and doors; tile and built-up roofing; structural slate or marble; tile and terrazzo work; asphalt tile flooring; metal slating and lathing; drinking fountains; and plumbing, heating and electrical systems. Specifications obtainable from the Commandant, Twelfth Naval District, 100 Harrison St., San Francisco, upon deposit of check or money order for \$75, returnable, payable to the Chief of the Bureau of Yards and Docks.

PEARL HARBOR, T. H.—Bids will be asked shortly, to be opened sometime in May, under Specification No. 6711, by the Public Works Officer, Pearl Harbor, to construct seaplane

runway and paving at Pearl Harbor. Estimated cost \$100,000. Plans will be obtainable from the above office or from the Bureau of Yards and Docks, Navy Department, Washington, D. C.

HALLS AND SOCIETY BUILDINGS

Plans Being Figured—Bids Close Apr. 18th, 10 A. M.

MEMORIAL BLDG. Cost, \$20,000
EL CERRITO, Contra Costa Co., Cal.
 One-story Class C reinforced concrete memorial building (flat roof).

Owner—County of Contra Costa.
 Architect—James Narbett, 466 31st St. Richmond.

HOTELS

Plans Completed.
HOTEL & STORES Cost, \$30,000
STOCKTON, San Joaquin Co., Calif.

SW Eldorado and Market Sts.
 Two-story and full basement brick and concrete hotel and stores (6

stores, 26 rooms) composition roof, steam heat, etc.)
 Owner—Withheld.
 Architect—Glenn Allen, Hotel Clark, Sutter and Market Sts., Stockton.

Agent for Owner—John Saccone, 1418 E Lindsay St., Stockton.
 Bids will be taken shortly by the agent for owner.

Contract Awarded.
HOTEL & CLUBHOUSE Cost, \$75,000
TWAIN HARTE, Tuolumne Co., Cal.

40-acre site.
 Hotel and clubhouse (42 rooms and baths) steam heating system, golf course, plunger, garage, boat house, tables, tennis courts, etc.
 Owner—Twain Harte Mountain Club, (Lee R. Cordray, Rm. 503, American Bank Bldg., Stockton, representing building committee).

Architect—E. L. Norberg, 580 Market St., San Francisco.

Contractor—J. A. Allen, 22 S Sutter St., Stockton.

Contractor—J. A. Allen, 22 S Sutter St., Stockton.

POWER PLANTS

SALEM, Ore.—Until April 18, 11 A. M., bids will be received by Wm. E. King, Secretary, Oregon State Board of Control, to furnish and install a 200-hp. boiler for the Capitol Building. Certified check or bidder's bond 10% payable to secretary required with bid. Specifications obtainable from Jay H. Keller, Worcester Bldg., Portland, on deposit of \$10, returnable.

SAN DIEGO, Cal.—Until 10 A. M., April 14, bids will be received by city purchasing department, 524 F Street, to furnish and install Diesel engine operated power plant for supplying current for the downtown and harbor districts ornamental lighting requirements. Specifications obtainable from the Purchasing Superintendent, A. V. Goeddel.

PUBLIC BUILDINGS, FIRE HOUSES AND JAILS

Working Drawings Being Prepared,
COURTHOUSE Cost, \$—

TILLAMOOK, Oregon.
 Two-story and basement reinforced concrete Courthouse (U-shaped frontage, 211 ft. with 2 wings 91 ft. long).

Owner—County of Tillamook.
 Architect—Lawrence-Holford, Allyn & Bean, Failing Bldg., Portland.

SCHOOLS

Preparing Plans.
SCHOOL ADDITION Cost, \$125,000
LOS ANGELES, Los Angeles Co., Cal.
 Second St. and Brand Blvd.
 Class B steel, concrete and hollow
 tile high school addition (24 units)
 Owner—L. A. City School District.
 Architect—A. S. Nihecker Jr., Los
 Angeles.

JACKSON, Amador Co., Cal.—Until
 April 28, 6:45 p. m., bids will be re-
 ceived by J. R. Lorensen, secretary,
 Jackson School District, Jackson, for
 a heating system in two buildings of
 the Jackson Elementary School. Plans
 and specifications on file in the office
 of the secretary of the school board.

Segregated Bids Being Taken.
DORMITORY Cost, \$100,000
OAKLAND, Alameda Co., Calif. Mills
 College Campus.

Two-story reinforced concrete dormi-
 tory (accommodate 59) tile roof,
 steam heating system.
 Owner—Mills College.

Architect—W. H. Hatcliff, Jr., Cham-
 ber of Commerce Bldg., Berkeley.
 Mgr. of Const.—John Brown, Mills Col-
 lege.

Segregated bids are being taken on
 all portions of the work with the ex-
 ception of carpentry and electrical
 work, which will be handled by the
 owner.

Plans Completed.
SCHOOL ADDITION Cost, \$100,000
LOS ANGELES, Los Angeles Co., Cal.
 No. 830 Towne Ave.

Two-story Class B brick addition to
 school (60x175 ft.); 15 rooms.
 Owner—L. A. City School District.
 Architect—Not Given.

BERKELEY, Cal.—Barrett & Hilp,
 918 Harrison St., San Francisco, at
 \$12,900 submitted low bid to Regents
 of the University of California for the
 construction of enclosing walls and
 fences at the north end of Track
 Area, George C. Edwards Field, on
 the Campus of the University. Fol-
 lowing is a complete list of bids re-
 ceived:

| | |
|------------------------------------|----------|
| Barrett & Hilp, San Francisco..... | \$12,900 |
| N. H. Sjoberg & Sons, S. F..... | 14,829 |
| C. Dudley De Velhiss, S. F..... | 17,377 |
| Empire Constr. Co., S. F..... | 18,400 |
| W. E. Lyons, Oakland..... | 18,500 |
| B. C. Taylor, Oakland..... | 18,350 |

Bids held under advisement.

Contracts Awarded
TRAINING SCHOOL Cost, \$160,000
ARCATA, Humboldt Co., Calif. State
 Teachers' College.

Three-story reinforced concrete train-
 ing school (assembly hall, stage,
 manual training room, dining
 room, cooking and sewing room,
 library, art and general science,
 gymnasium, kindergarten section,
 11 class rooms, administration sec-
 tion, boiler room, etc.)
 Owner—State of California.
 Architect—F. T. Georgeson, Sixth and
 C Sts., Eureka.

General Work

Andy Sordal, Long Beach, Calif.,
 \$112,441.

Electric

Matson-Seabrooke Co., 4115 Broad-
 way, Oakland, \$8,156.

Plumbing

J. J. McDermott, 1100 35th St., Sacra-
 mento, \$6,688.

Heating and Ventilating

W. H. Robinson, Monterey Park,
 \$17,414.

BANKS, STORES & OFFICES

Plans Being Prepared.
STORE Cost, \$85,000
OAKLAND, Alameda Co., Calif. SW
 13th and Washington Streets.
 Two-story and basement store (50x
 125-ft.)

Owner—Ben. J. Reilly, 480 Perkins St.
 Oakland, Eugene R. Tutt, et al.
 Plans by Eng. Dept. of W. T. Grant
 Company.

Lessee—W. T. Grant Co., New York
 City.

Planned.
BUILDINGS Cost, \$—
OAKLAND, Alameda Co., Cal. Broad-
 way and Telegraph Ave.
 Group of buildings.

Owner—Albert E. Kern & Hamberger,
 110 Sutter St., San Francisco.

Architect—Not Selected.
 Proposed work is in a very prelimi-
 nary stage.

Contracts Awarded.
STORES, ETC. Cost, \$—
MILLBRAE HIGHLANDS, San Mateo
 Co., Calif.

Two-story Class A building (5 stores,
 6 offices, 3 apartments) reinforced
 concrete walls, floors and stairs,
 California stucco and tile exterior,
 hardwood floors, tile lobby and
 hall floors, tile and composition
 roof, gas steam heating system,
 electric refrigeration, etc.

Owner—A. Massolo, Millbrae Park, San
 Bruno.

Architect—Charles Fantoni, 550 Mont-
 gomery St., San Francisco.

Contractor—J. Martinelli, 1055 Fran-
 cisco St., San Francisco, \$30,486.

Steel—McClintic - Marshall Corp., 2050
 Bryant St., San Francisco, \$2,675.

Steel Joists—Truscon Steel Co., 74
 New Montgomery St., San Fran-
 cisco, \$1,811.

THEATRES

Plans Being Figured.
THEATRE Cost, \$40,000
PITTSBURG, Contra Costa Co., Cal.
 SW Seventh and Cumberland Sts.
 80x125 feet).

One-story and balcony Class B rein-
 forced concrete theatre (to seat
 750) composition roof.

Owner—Andrew Portmand, 230 E. 6th
 St., Pittsburg.

Architect—A. A. Cantin, 544 Market
 St., San Francisco.

Lessee—Phil A. Freese and Louis
 Tragner.

Bids are being taken for a general
 contract with separate bids for heat-
 ing, ventilating, electrical and paint-
 ing work.

WHARVES AND DOCKS

Contract Awarded.
WHARF EXTENSION Cost, price, \$161,380
SAN FRANCISCO, Islais Creek.
 Reinforced concrete and timber exten-
 sion to Outer Islais Creek Wharf
 800x160-ft.)

Owner—State of California (Harbor
 Commission) Ferry Bldg.

Engineer—Frank G. White, Ferry
 Building.

Contractor—Healy-Tibbitts Const. Co.,
 64 Pine Street.

Following is a complete list of bids:

| | |
|-------------------------------|-----------|
| Healy-Tibbitts Const. Co..... | \$161,380 |
| San Francisco Bridge Co..... | 167,923 |
| M. B. McGowan..... | 180,297 |
| Barrett & Hilp..... | 182,919 |
| Clinton Const. Co..... | 197,500 |
| McDonald & Kahn Co..... | 202,500 |
| Merritt, Chapman & Scott..... | 211,682 |

Plans Being Completed.
WHARF Cost, \$100,000
OAKLAND, Alameda Co., Cal. Outer
 Harbor District.

Municipal garbage wharf.
 Owner—City of Oakland, W. W. Chap-
 pell, city clerk.

Plans by Eng. Dept., City Port Com-
 mission, foot of Grove St.

The wharf is to be 148x30-foot, of
 untreated timbers, resting on crosoted
 piles.

A silt is to be dredged alongside the
 pier 500x130-ft., involving moving ap-
 proximately 138,000 cu. yds. of mate-
 rial.

A street is to be constructed, to give
 access to the wharf, which will involve
 laying about 124,000 sq. ft. of oil ma-
 cadam pavement.

The project also calls for approxi-
 mately 1750 ft. of bulkhead, behind
 which a fill is to be made of dredged
 materials.

One thousand feet of this wall is to
 be of crosoted sheet piling, eight feet
 high from mud line. The remainder is
 to be built of untreated timber and
 about four feet high.

Plans Being Figured—To Close April
 29th, 11 A. M.

EXTEND DOCK Cost, \$165,000
SAN FRANCISCO, Fort Mason.

Extend Dock No. 2 (reinforced con-
 crete and steel construction, 8-ft.
 cylinder, with seven piles to each
 cylinder, beam steel frame, rail-
 road tracks, crosoted piles, dunn-
 y piles, crosoted timber).

Owner—United States Government.
 Plans by Constructing Quartermaster,
 Fort Mason.

**MISCELLANEOUS
 CONSTRUCTION**

POMONA, Cal.—Wm. Davidson,
 county Mechanical Engineer, 1006 Hall
 of Records, has been authorized by
 the Los Angeles County Supervisors
 to prepare plans for a grand stand to
 be erected at the County Fair Grounds
 at Pomona. The cost of a similar
 structure was estimated about a year
 ago to cost approximately \$240,000.

CENTRAL CALIFORNIA—Electric
 Service Shop, Route 1, Box 283, Vis-
 alia, at \$1600 submitted low bid to
 District Engineer, Division of High-
 ways, Fresno, to furnish and install
 railroad crossing flood lights at lo-
 cations on State highway in or near
 the towns of Livingston, Merced, Biola
 Junction, Calwa, Plaza Garage, De-
 lano, Famosa and at Strader Spur, in
 Kern, Tulare, Fresno and Merced
 counties. Complete bids follow:

| | |
|--------------------------------------|--------|
| Electric Service Shop, Visalia..... | \$1600 |
| Sam Fingerhut, Bakersfield..... | 1864 |
| Merced Hdws. & Imp. Co., Merced 1870 | |
| Robinson Electric Co., Fresno..... | 2159 |
| Curtis Hess, Fresno..... | 2297 |
| Fresno Electric Co., Fresno..... | 2449 |

**MISCELLANEOUS SUPPLIES
 AND MATERIALS**

YOSEMITE, Cal.—Until April 12, 2
 P. M., bids will be received by C. H.
 Sweetser, District Engineer, 461 Mar-
 ket St., San Francisco, for furnishing
 and installing carbon monoxide an-
 alyzers and recorders with Calibrator
 and appurtenances in a tunnel on the
 Turtleback Dome-Valley Floor, Sec-
 tion of the Wawona Road, Yosemite
 National Park. Plans obtainable from
 above upon deposit of \$10.

MEMBERS OF THE ASSOCIATED GENERAL CONTRACTORS

SOUTHERN CALIFORNIA AND INTERMOUNTAIN TERRITORY

CALIFORNIA STATE BRANCH

1318 Pershing Square Bldg.—Trinity 9418—Los Angeles

O. C. STRUTHERS, President

E. L. KIER, Vice-President
MELVILLE DOZIER, JR., Manager

GEORGE HERZ, Secretary

SOUTHERN CALIFORNIA CHAPTER

1318 Pershing Square Bldg.—Trinity 9418
Los Angeles, Calif.

C. G. FitzGerald, President Melville Dozier, Jr., Manager
LYNN S. ATKINSON, First Vice-President (Engineering Div.)
WM. A. SIMPSON, Second Vice-President (Building Div.)

The address of the firm is the same city in which is located the Chapter office unless otherwise shown in membership list.

Building Contractors

| | |
|----------------------------|--|
| Atkinson, J. F. | 1102 Story Bldg., VAndike 7783 |
| Baruch Corp., Herbert M. | 1015 Lincoln Bldg., Trinity 5473 |
| Bradley Constr. Co., K. R. | 1833 West Pico, Washington 2786 |
| Burgin, W. Jay | 1100 Redondo Ave., Long Beach, L. B. 81103 |
| Byerts & Dunn | 7908 Santa Monica Blvd., CRestview 9602 |
| Clinton Construction Co. | 1103 Spring Arcade Bldg., MAdison 2597 |
| Crowell, Wm. C. | 495 S. Bdwy., PaSadena, WAKEfield 6692 |
| Dell Co., Weymouth | 2104 E. 15th St., WEStmore 5708 |
| DeCamp-Hudson Co., Ltd. | 1277 W. 24th St., WEStmore 3382 |
| Dixon, L. E., Co. | 609 So. Grand Ave., TRinity 4925 |
| Escherich Bros. | 234 W. 37th Place, ADAMS 6294 |
| Hall, J. F. | 531 Douglas Bldg., MUTual 6722 |
| Houghton & Anderson | 143 Rose St., MUTual 5430 |
| K. P. Lowell & Co., Ltd. | 606 Union Bank Bldg., VAndike 4072 |
| Macdonald & Driver | 311 Board of Trade Bldg., TUcker 6467 |
| McKee, Robert E. | 1128 Central Bldg., TRinity 0291 |
| Miller, Geo. E. | 401 N. Canon Dr., B. H., OXFord 7404 |
| Simpson Construction Co. | 1007 Architects Bldg., MUTual 7261 |
| Snell, Fred C. | 339 N. Beverly Dr., Beverly Hills, OXFord 6409 |
| Willard-Brent Co. | 254 E. 27th St., RIchmond 2101 |

Bridges, Foundations

| | |
|---------------------------|--------------------------------------|
| Ledbetter Co., W. M. | Box 1264, Arcade St., CApitol 13415 |
| Oberg Brothers | 707 San Fernando Bldg., ANgelus 8759 |
| Raymond Concrete Pile Co. | 1008 Washington Bldg., VAndike 6536 |

Highways, Paving, Grading

| | |
|-----------------------------|--|
| Basich Bros. | Torrance, Gardena 446 |
| Bock, Geo. J. | 1007 S. Harvard, EMpire 7614 |
| Donovan & Sons, J. G. | 4031 Goodwin Ave., OLYmpic 0423 |
| Ferry, Peter L. | San Fernando Rd. & Bdwy., Glendale, OL. 0164 |
| Fleming Construction Co. | Pomona |
| Griffith Company | L. A. Railway Bldg., WEStmore 9343 |
| Hall-Johnson Co. | P. O. Box 387, Alhambra, Eliot 1855 |
| Herz & Co., Geo. | 310 Platte Bldg., San Bernardino, S. B. 241-42 |
| Heuser, Chas. U. | 316 Allen Ave., Glendale, DOuglas 3965 |
| Hudson, Chas. H. | 408 Rives-Strong Bldg., VAndike 3374 |
| Jahn & Bressi | 701 Lane Mortgage Bldg., TRinity 8674 |
| Lang Transportation Co. | 5501 Santa Fe Ave., JEfferson 3104 |
| Lewis Construction Co. | 300 S. Juanita St., WASHINGTON 1407 |
| Packard & Tanner | 905 W. Latham St., PHoenix, ARIZ. |
| Pearson & Dickerson | 4485 Cypress, RIVERSIDE, 1600 |
| Ross, M. S. | 4011 Goodwin Ave., CApitol 7603 |
| Wells & Bressler | P. O. Box 596, Santa Ana, 227 |
| Willis, C. C., & Sons, Inc. | 2119 E. 25th St., LAfayette 9826 |

Class of Construction: (B) Building; (H) Highway; (P) Public Works; (R) Railroad.

Pipe Lines, Water Works

| | |
|----------------------------|--|
| American Concrete Pipe Co. | P. O. Box 1428, Arcade Sta., JE. 4211 |
| Haverty Co., Thos. | 316 E. 8th St., VAndike 1171 |
| United Concrete Pipe Co. | Box 1, Station H. L. A., TWinoaks 9196 |

Subways, Conduits

| | |
|------------------------|-----------------------|
| Delta Construction Co. | P. O. Box 79, Compton |
|------------------------|-----------------------|

General Engineering

| | |
|--------------------------------|--|
| Atkinson, Lynn S. | 609 S. Grand, TRinity 7451 |
| Bartmus, Peter | Hollywood Riviera, Redondo, Redondo 6404 |
| Bent Bros., Inc. | 418 S. Pecan S., ANgelus 7510 |
| Campbell-Reichert Co. | 4000 Whiteside Ave., ANgelus 0598 |
| Cox, R. L. | 1100 Westminster, ALhambra 1699 |
| Emco Conc. Cutting Corp. | 1517 Santa Fe Ave., VAndike 7168 |
| Fitz-Gerald Eng. & Constr. Co. | 216 Rowan Bldg., TRinity 5088 |
| Foley, D. A., Construc. Co. | 716 Grant Bldg., TUcker 7814 |
| Kemper Const. Co., Ltd. | 3701 Overland, Los Angeles |
| Macco Construction Co. | Hynes, JEfferson 1148 |
| Merritt-Chapman-Scott Corp. | P. O. Box 507, San Pedro, 2880 |
| Mittry Bros. Construction Co. | 722 Detwiler Bldg., VAndike 0210 |
| Morrison-Knudsen Co. | 411 West Fifth St., MUTual 7684 |
| Robinson-Roberts Co. | 706 Rives-Strong Bldg., TRinity 2889 |
| Spicer, C. A. | 818 Financial Center Bldg., TUcker 9570 |
| Standard Dredging Co. | 325 Central Bldg., TRinity 3253 |
| Watson, R. A. | 1026 N. McCadden Pl., GRANite 4121 |

Affiliates

| | |
|------------------------------|--|
| Brashears & Co., C. | 501 Security Bldg., TRinity 5091 |
| Consolidated Rock Prod. Co. | 656 S. Los Angeles St., TRinity 0241 |
| Gilmore Oil Co. | 2423 E. 28th St., JEfferson 1211 |
| Graham Brothers | 1215 W. 7th St., Long Beach, L. B. 65251 |
| Hartford Accident & Ind. Co. | 548 S. Spring St., MAdison 1471 |
| L. A. Brick Co. | 1078 Mission Road, ANgelus 5684 |
| Sun Lumber Co. | Crescent Drive, Beverly Hills, OXFord 6191 |
| Union Oil Co. | Union Oil Bldg., TUcker 7211 |

ALAMEDA COUNTY CHAPTER

354 Hobart St., Rm. 410—Glencourt 7400—Oakland, Calif.

S. G. Johnson, President H. J. Christensen, Treasurer
Geo. J. Maurer, Vice-President W. E. Hague, Manager

| | |
|---------------------------|--------------------------------------|
| Brennan, J. P. (B) | 2820 Regent, Berkeley, BE. 0346 |
| Christensen, H. J. (B) | 1924 Broadway, Oakland, LA. 7164 |
| DeVelbiss, C. Dudley (B) | 369 Pine St., S. F., CA. 3225 |
| Dyer Construction (B) | 337 17th St., Oakland, GL. 3203 |
| Furlong, Thos. H. L. (B) | 460 Jerome Ave., Piedmont, HU. 0620 |
| Jacobs & Pattiani (BP) | 337 17th St., Oakland, GL. 3203 |
| Johnson, S. C. (B) | 4652 Dolores Ave., Oakland, FR. 6650 |
| Keating, W. C. (B) | 925 Forum Bldg., Sacramento |
| Lesure, E. T. (B) | 87 Ross Circle, Oakland, OL. 0389 |
| Littlefield, R. W. (B) | 337 17th St., Oakland, HI. 0994 |
| Lyons, W. E. (B) | 354 Hobart St., Oakland, HO. 5325 |
| Maurer, George J. Co. (B) | 50 York Drive, Oakland, HU. 3457 |
| Nordstrom, David H. (B) | 354 Hobart St., Oakland, GL. 7400 |
| Pedgrift, James H. (B) | 4106 Broadway, Oakland, HU. 1300 |
| Petersen, George (B) | 1841 Bancroft, San Leandro, TR. 2043 |
| Petersen, James B. (B) | 4021 Agua Vista, Oakland, FR. 9887 |
| Schultz, Herbert (B) | 811 Mendocino, Berkeley, AS. 2360 |
| Sullivan & Sullivan (B) | 2653 Best Ave., Oakland, AN. 4724 |
| Thornally, W. C. (B) | 354 Hobart St., Oakland, GL. 8476 |
| Westlund, Fred J. (B) | 354 Hobart St., Oakland, GL. 7400 |

Associate Members

| | | |
|-------------------------------------|---------------------------------------|------|
| Berkeley Building Materials Co. |Masonic and Brighton, BE. | 2280 |
| Central Building Material Co. |915 Antonio, TR. | 9326 |
| Contra Costa Building Materials Co. |808 Gilman St., BE. | 3462 |
| Cowell, Henry, Lime & Cement Co. |81 Franklin, HI. | 3398 |
| Davis Co., Jas. A. |517 Fairmont, BE. | 9360 |
| London Bros. Mig. Co. |5th and Magnolia, GL. | 3663 |
| Makin & Kennedy, Inc. |101 Fourth St., HO. | 0626 |
| Melrose Building Materials Co. |Tidewater Ave., FR. | 5787 |
| Oakland Building Material Co. |5000 Broadway, HU. | 6300 |
| Oakland Planing Mill Co. |2nd and Washington, LA. | 5503 |
| Pacific Coast Aggregates, Inc. |Broadway and Water, HI. | 0770 |
| Powell Bros., Inc. |Harrison and Pearl, Alameda, AL. | 0630 |
| Sunset Lumber Co. |409 High St., AN. | 1000 |
| Tilden Lumber Co. |Foot of University Ave., BE. | 0697 |
| Transite Concrete Co. |401 Water St., TE. | 0720 |

SAN DIEGO CHAPTER

Spreckels Theater Bldg.—Main 4289—San Diego, Calif.

| | |
|--------------------------------|---|
| George R. Daley, President | M. A. Mathias, Manager |
| M. H. Golden, Vice-President | |
| Carroll, B. C. |4396 Maryland St., Hillcrest 5274-M |
| Daley Corporation (HP) |4430 Boundary St., Randolph 1336 |
| Dennis Constr. Co., V. R. (HP) |Box 183, Sta. A, Hillcrest 8293 |
| Ford, E. Paul (HP) |Box 201, E. San Diego, Randolph 5101 |
| Golden, M. H. (B) |404 California Bank Bldg., Franklin 7983 |
| Groves Cecil Bldg. |4316 Jala Ave., Franklin 6712 |
| Hazard Const. Co., R. E. (HP) |2508 Kettner Blvd., Franklin 6315 |
| Jarboe Constr. Co. (B) |208 Spreckels Theatre Bldg., Franklin 3792 |
| Kier Const. Co., W. E. (B) |First National Bank Bldg., Main 2427 |
| Larsen, B. O. (HP) |1340 E. St., Main 4752 |
| Miracle Constr. Co. (HP) |Box 601, E. San Diego 2295 |
| Penick & Sons, T. B. (HP) |3075 L St., Main 4582 |

NORTHERN CALIFORNIA CHAPTER

206 Sansome St.—Garfield 7107—San Francisco, Calif.

| | |
|--------------------------------------|--|
| C. W. Wood, President | Geo. G. Pollock, Vice-President |
| Floyd O. Booe, Secretary-Manager | |
| Atkinson, Lynn S. (HPR) |1316-17 Edwards & Wilsey Bldg., L. A., Tr. 7451 |
| Atkinson, Guy F., Co., Inc. (BHPR) |601 Russ Bldg., S. F., Sut. 3629 |
| Bali, N. M. (HP) |1869 Yosemite Rd., Berkeley, AS. 6722 |
| Basalt Rock Co., Inc. (HP) |900 8th St., Napa, Napa 105 |
| Bechtel Co., W. A. (BHPR) |155 Sansome St., S. F., CA. 0780 |
| Bevanda, M. J. (HP) |319 Elks Bldg., Stockton 7470 |
| Bishop, E. B. (HP) |900 Forum Bldg., Sacramento, Capitol 2500 |
| Bodenhamer Const. Co. (HP) |Box 643, 354 Hobart St., Oakland Calif. Const. Co. (BHPR).....715 Standard Oil Bldg., S. F., DO. 4820 |
| Casson, Jack A. (HP) |Hayward, Calif., Hayward 856 |
| Clark & Henry Const. Co. (HP) |564 Market St., S. F., DO. 2903 |
| Colley, W. C. (HP) |35 Northampton Ave., Berkeley, Ashbury 1323 |
| Conner, J. L. (HP) |F. O. Box No. 86, Monterey 1137-M |
| Connolly, T. E. (BHPR) |461 Market St., S. F., Kearny 6408 |
| Conyes, R. A. (HP) |1043 38th St., Oakland, Olym. 9391 |
| Currie, James (HPR) |1100 Peninsula Ave., Burlingame, Burl. 3497 |
| Delin, C. M. (HPR) |206 Sansome St., San Francisco, Gar. 7107 |
| Dodge Bros., Inc. (HP) |Fallon, Nevada, Main 1761 |
| Drumm, A. D., Jr. (HP) |Fallon, Nevada, Main 1348 |
| Eaton & Smith (HPR) |715 Ocean Ave., San Francisco, DE. 6004 |
| Fairbanks, A. J. & J. L., Inc. (HPR) |Linden Ave., So. S. F., 456 |
| Coner, J. L. (HP) |The (HP).....Phelan Bldg., S. F., KE. 4045 |
| Fitzmaurice, J. H. (HP) |2857 Hannah St., Oakland, Higate 2490 |
| Fore Construction Co. (HP) |70 Bellevue, Piedmont, Calif. |
| Frederickson Bros. (BHP) |First Natl. Bank Bldg., Stockton, 5974 |
| Frederickson & Watson Const. (BHPR) |873 81st Ave., Oakland, SW. 1264 |
| French, George J., Jr. (HP) |P. O. Box No. 675, Stockton, 6676 |
| Gerwick, Ben C., Inc. (HP) |112 Market St., S. F., SU. 8454 |
| Delin, C. M. (HPR) |206 Sansome St., San Francisco, Gar. 7107 |
| Harahan Co. (HP) |Hobart Bldg., San Francisco, GA. 1639 |
| Harney, Charles L. (HP) |74 New Montgomery St., S. F., GA. 1711 |

| | |
|---------------------------------------|--|
| Heafey-Moore Co. (HP) |344 High St., Oakland, AN. 0466 |
| Hemstreet & Bell (HP) |411 "C" Street, Marysville, 433 |
| Hickman & MacVicar (HP) |714 Plymouth, Pasadena, Tr. 1563 |
| Holland, J. P., Inc. (HPR) |1834 McKinnon Ave., S. F., ML. 5400 |
| Isbell Const. Co. (HP) |Carson City, Nev., Ph. 177 S. (At Reno) |
| Jenkins, M. A. (HP) |3560 Y St., Sacramento Capital 442 |
| Jonks & King (HPR) |Hayward, Calif. |
| Kaiser Paving Co. (BHPR) |Latham Square Bldg., Oak, HI. 2614 |
| Knapp, J. F. (HPR) |916 Financial Center Bldg., Oak, GL. 1620 |
| Larsen Bros. (HP) |Galt, Calif. |
| Lee, U. B. (HP) |10059 Carpenter St., San Leandro, Sweet. 4717 |
| Le Toumeur, R. (HP) |122 Moss Ave., Stockton, 4171 |
| Lord & Bishop (HPR) |Native Sons Bldg., Sacramento, 981 |
| Lovelace, Nate (HP) |3433 "N" St., Sacramento, Capital 1990 |
| Malcom, C. T. (RPH) |Walnut Creek, Calif., W. C. 277 |
| McDonald, D. (HPR) |204 23rd St., Sacramento, Cap. 1806 |
| McGillivray Const. Co. (HPR) |Box 927, Sacramento, Capital 2170 |
| McMillan, W. K. (HP) |2088 Howard St., San Francisco, MA. 3876 |
| Mercer-Fraser Co. (BHPR) |Eureka, Eureka 808 |
| Nevada Contracting Co. (HPR) |Fallon, Nevada, Phone 1851 |
| Nevada Rock & Sand Co. (HP) |Reno, Nevada, Reno 5291 |
| Nightbert, Fred W. (HP) |No. 10 "H" St., Bakersfield |
| Pacific Pavements Co. (HP) |12 Oak Grove Ave., S. F., CA. 0068 |
| Pacific States Construction Co. (HP) |Call Bldg., S. F., DO. 0879 |
| Phillips Co., John (HP) |582 Market St., San Francisco, KE. 4421 |
| Pollock, George (HP) |P. O. Box 100, Sacramento, 1457 |
| Rohl, H. W. (HPR) |4351 Alhambra Ave., Los Angeles |
| Six Companies, Inc. (BHPR) |Financial Center Bldg., S. F., Gar. 3842 |
| Skells & Graham Co. (HPR) |P. O. Box 576, Roseville, Calif. |
| Siems-Helmers, Inc. (BHPR) |206 Sansome St., S. F., DA. 5235 |
| Tedford, J. N. (HP) |Fallon, Nev., Main 461 |
| Teichert, A., & Son, Inc. (HP) |1846 37th St., Sacramento, Main 6586 |
| Tieslar Bros. (HP) |2819 Grove St., Berkeley, BE. 7709-J |
| Ulrich, H. V. Co. (HP) |300 Vermont St., S. F., MA. 7583 |
| Ulrich Const. Co., Geo. J. (BHP) |Modesto, Modesto 921 |
| Valley Paving & Construction Co. (HP) |405 Bank of America Bldg., Fresno, 3-7418 |
| Von der Hellen &erson (HPR) |Castaic, Calif. 8964 |
| Ward Eng. Co. (HP) |315 Montgomery St., San Francisco |
| Wood, C. W. (HP) |P. O. Box 1435, Stockton, 8743 |
| Young, Clarence (HP) |5250 Broadway Ter., Oakland, OL. 3743 |
| Young & Son Co., Ltd. (HP) |599 Colusa Ave., Berkeley, Berk 5551 |

Associate Members

| | |
|--|---|
| American Bitumuls Co. (Bitumuls) |200 Bush St., San Francisco |
| Anderson Bros. Supply Co. (Commissary) |Boulder City, Nev. |
| Andrews, F. A. (HP) |1650 Russ Bldg., S. F., GA. 7712 |
| Associated Oil Co. (Asso. Prod.) |79 N. Monty St., S. F., KE. 4800 |
| Austin Western Road Machinery Co. (Road Machinery) |435 Brannan St., San Francisco, DO. 2183 |
| Autocar Sales & Service Co. (Autocar Trucks) |326 Howard St., S. F. |
| Bacon, Edward R. Co. (BHPR) |1000 California St., S. F. |
| Blake Bros. Co. (Crushed Rock) |Balboa Bldg., San Francisco |
| Calaveras Cement Co. |315 Montgomery St., San Francisco |
| Calif. Corr. Culvert Co. (Corr. Pipe) |5th & Parker, W. Berkeley |
| Carfield & Co. (Equipment) |58 Sutter St., S. F. |
| Contractors Insurance Agency (Insurance) |206 Sansome St., S. F. |
| Cowell Lime & Cement Co. (Cement) |2 Market St., San Francisco |
| Davis, Norris K. (Equipment) |400 7th St., San Francisco |
| Garfield & Co. (Equipment) |Hearst Bldg., San Francisco |
| Geiger Iron Works (Equipment) |P. O. Box 423, Stockton |
| Granite Rock Co. (Crushed Rock) |Watsonville |
| Harneschger Sales Corp. (Equip.) |82 Beale St., San Francisco |
| Harron, Rickard & McCone Co. (Equip.) |1600 Bryant St., S. F. |
| Link-Belt Co. (Equip.) |400 Paul Ave., San Francisco |
| Murray & Ready (Labor Agency) |784 Howard St., S. F. |
| Northwest Engineering Co. (Northwest Shovels) |23 Main St., S. F. |
| Pacific Coast Aggregates |700 Wells Fargo Bldg., S. F., DA. 7210 |
| Greenwood, A. C. (HPR) |500 N. Front St., Br. 3030 |
| Pacific Port Cement Co. (Golden Gate) |Hunter-Dulin Bldg., S. F. |
| Pland-Evans (Commissary) |Merchants Ex. Bldg., S. F., CA. 5923 |
| Robinson Tractor Co. (Caterpillar Tractors) |1705-09 E. 12th, Oak. |
| Santa Cruz Portland Cement Co. (Santa Cruz) |Crocker Bldg., S. F. |
| Shell Oil Co. (Shell Products) |100 Bush St., San Francisco |
| Soule Steel Co. (Reinforcing Steel) |1750 Army St., San Francisco |
| Spears-Wells Machinery Co. |9th and Cedar Sts., Oakland |
| Standard Oil Co. of Calif. (Stand. Prod.) |Standard Oil Bldg., S. F. |
| Traffic Service Bureau |24 California St., San Francisco |
| Union Oil Co. of Calif. (Union Products) |L. A. and S. F. |
| United Commercial Co., Inc. |234 Steuart St., San Francisco |

PACIFIC NORTHWEST BRANCH

4134 Arcade Building, Seattle, Wash.

JAS. MURDOCK, President H. V. BOGERT, Rec. Secretary J. B. WARRACK, Treasurer
J. C. COMPTON, Vice-President P. L. CROOKS, Vice-Pres. and Secretary

PORTLAND CHAPTER

Multnomah Hotel Lobby—Atwater 7883—Portland, Ore.

| | |
|--------------------------------------|-------------------------------------|
| Paul L. Crooks, President | Philip Hart, 2nd Vice-President |
| Ross B. Hammond, 1st Vice-President | J. A. Lyons, Treasurer |
| G. B. Herington, Executive Secretary | |
| Anderson Construction Co. |682 E. 69th St., N., Gar. 0474 |
| Andrews Construction Co. (BH) |102 N. Broadway, Br. 5521 |
| Atkinson, Guy F. & Co. (BHP) |601 E. 42nd St., N., Gar. 3945 |
| Badrudin, J. J. (HP) |681 E. 42nd St., N., Gar. 3945 |
| Baker Construction Co. (B) |202 Multnomah Hotel, Atw. 7441 |
| Christensen, Fred, Inc. (BHP) |187 E. 34th St., Ea. 8934 |

| | |
|-------------------------------------|---|
| Cochrane Construction Co. (HP) |65th & Ainsworth, Tr. 5944 |
| Compton, J. C. (HP) |McMinnville, Ore., McM. 106 |
| Crooks, P. L., Inc. (HPR) |Henry Bldg., Atw. 7767 |
| Dunn, J. J. (HP) |24 Third St., Br. 8837 |
| Dougan-Hammond Constr. Co. (B) |307-8 Studio Bldg., Bea. 4444 |
| Douglas, A. R. (HPR) |Kalispel, Montana |
| Edlefsen-Eggandgt Co. (HP) |Foot of Jefferson, Atwater 4090 |
| Endicott, Wm. (HP) |Kamela, Oregon |
| Gates, E. L. (HPR) |Worcester Bldg., Atw. 6220 |
| Gilpin Construction Co. (HPR) |Houquam, Wash. |
| Grays Harbor Constr. Co. (BHPR) |300 N. Front St., Br. 3030 |
| Griffin, K. C. (BHR) |826 E. Caruthers, Ln. 2479 |
| Guthrie & Co., A. Inc. (BHPR) |552 Sherlock Bldg., Atw. 8316 |
| Hammond, Ross B. (B) |1312 Public Service Bldg., Atw. 2159 |
| Hauser Bros. Construction Co. (PHR) |Multnomah Hotel, Atw. 7441 |

Class of Construction: (B) BUILDING; (H) HIGHWAY; (P) PUBLIC WORKS; (R) RAILROAD.

| | |
|------------------------------------|---|
| Hoffman, L. H. (BP) | Public Service Bldg., Atw. 3181 |
| Jacobson Construction Co. (BP) | McKay Bldg., Atw. 6223 |
| Jacobson-Jensen Co. (PH) | 407 Stanton, Gar. 3313 |
| Johnson Contract Co. (HPR) | 414 Exchange Bldg., Atw. 0678 |
| Johnson-Gardner Co. (HPR) | 414 Exchange Bldg., Atw. 0678 |
| Kern & Kibbe (HPR) | 290 E. Salmon St., Ea. 4116 |
| Kuckenberg & Wittman (BPR) | 226 Board of Trade Bldg., Br. 1999 |
| La Pointe Constr. Co. | 629 E. 54th St. N., Car. 8312 |
| Lindstrom & Feigenson (BPHR) | 421 Rlwy. Exch. Bldg., Atw. 2662 |
| Lyons, J. A. (BPHR) | 1001 Halsey St., Tr. 2841 |
| McNerney Bros. (BPHR) | 201 Worcester Bldg., Atw. 6444 |
| Midstate Contract Co. (HP) | Box 33, Yakima, Wash. 7277 |
| Milne & Dussault (PH) | 1853 E. Broadway, Boise, Idaho |
| Morrison & Knudsen (BHPR) | 319 Broadway, Boise, Idaho |
| Morgan, T. M. (H) | 5410 Wilshire Blvd., Los Angeles |
| Morrison Trucking Co. (BPHR) | 391 E. 6th St., Ea. 8327 |
| Newport Construction Co. (PHR) | 317 Exchange Bldg., Atw. 7269 |
| Pacific Bridge Co. (BPHR) | Ft. of E. Salmon St., Ea. 2104 |
| Parker & Banfield (BP) | 984 E. 17th St., Sel. 6135 |
| Parker-Schram Co. (PHR) | Couch Bldg., Atw. 4375 |
| Peck, E. C. & Co. (PH) | Drain, Oregon |
| Puckett, W. H. Co. (PHR) | 319 Broadway, Boise, Idaho |
| Purdin, Sandeberg, Elk & Lind (P) | 55 W. Humboldt, Tr. 7564 |
| Quinn, J. L. (B) | Box 1107, Klamath Falls, Ore. |
| Rebman, J. (PH) | 343 Vancouver Ave., Tr. 7825 |
| Robertson, Hay & Wallace (B) | 605 Weatherly Bldg., Ea. 3613 |
| *Saxton & Looney | Corvallis, Ore. |
| Seed, John S. (B) | 201 Worcester Bldg., Atw. 6444 |
| | Honorary Member and Director of Chapter |
| Silbaugh, C. E. (BPH) | Burns, Ore. |
| Shea & Co., J. F. (PHR) | 211 Henry Bldg., Atw. 2435 |
| Stebinger Bros. (B) | Worcester Bldg., Atw. 6444 |
| Sullivan & Doyle (PHR) | Ft. of Curry St., Atw. 5297 |
| | Box 104, Portland, Ore. |
| Traver, L. N. (B) | Corvallis, Ore. |
| Umpqua Dredging & Constr. Co. (PH) | Reedsport, Ore. |
| United Contracting Co. (BPHR) | 309-10 Stock Ex. Bldg., Atw. 5296 |
| von der Hellen & Pierson (HR) | Naches, Wash. |
| White, Ernest & Co. (B) | Twin Falls, Idaho |
| Wolfe, O. D. (HR) | Washougal, Wash., 9F2 |
| Wren & Greenough (PHR) | 1037 Ch. of Com. Bldg., At. 9882 |
| Wright Constr. Co. (BPH) | Aberdeen, Wash. |
| Young, I. L. (BPH) | 524 Henry Bldg., At. 0097 |

Associate Members Portland Chapter

| | |
|-------------------------------------|----------------------------------|
| Balzer Machinery Co. | 275 Pine St., Atw. 9391 |
| Beall Pipe & Tank Co. | 85 Columbia Blvd., Wa. 3171 |
| Bitumuls Asphalt Sales Co. | 210 Thompson St., Tr. 1193 |
| Cascade Investment Co. | 309 E. Main St., Ea. 8315 |
| Clyde Equipment Co. | 535 Thurman St., Br. 0885 |
| Columbia Brick Works | 301 E. Madison, Ea. 1101 |
| Concrete Pipe Co. | 169 Thompson St., Tr. 1164 |
| Electric Steel Foundry | 475 N. 24th St., Bea. 6344 |
| Feenaghty Machinery Co. | 309 E. Yamhill, Ea. 2187 |
| Grand Sheet Metal Works | 60 E. Third N., Ea. 2181 |
| Howard Cooper Corporation | 361 Hawthorne, Ea. 8188 |
| Latture, J. L. Equip. Co. | 312-314 E. Madison St., Ea. 8166 |
| Loggers & Contractors Machy. Co. | 345 E. Madison St., Ea. 4128 |
| McCraken-Ripley Co. | 65 Albina Ave., Wal. 7650 |
| McMillan, A. Co. | 350 E. Ankeney, Ea. 0178 |
| Metropolitan Casualty Ins. Co., The | Wilcox Bldg., Atw. 7521 |
| National Highway Assn. | 400 Mohawk Bldg., Atw. 5291 |
| Nicolaï-Neppach Co. | 227 Davis St., Berk. 0685 |
| Oregon City Sand & Gravel Co. | Oregon City, Oregon |
| Oregon Portland Cement | 321 E. Madison, Ea. 3116 |
| Phoenix Iron Works | 360 Hawthorne, Ea. 0029 |
| Pomeroy, J. H. & Co. | Box 48, Seattle, Wash. |
| Pure Iron Culvert & Mfg. Co. | 763 Gladstone, Sel. 2275 |
| Rodgers, Hart & Banks | Railway Exch. Bldg., Atw. 8496 |
| Santa Cruz Portland Cement | 45 Fourth St., Atw. 9848 |
| Snow, L. A. & Co. | 244 Union Ave., Ea. 6482 |
| Standard Oil Co. | Pacific Bldg., Bea. 4161 |
| Steel Tank & Pipe Co. | 404 Columbia Blvd., Wal. 2401 |
| Swigert, Hart & Yett | Ft. of E. Salmon St., Lan. 1125 |
| Union Oil Co. of California | Yeon Bldg., Atw. 9521 |
| Wallace Bridge & Structural Steel | P. O. Box 48, Seattle, Wash. |
| Western Road Machinery Co. | 220 E. Water, Ea. 4862 |
| Zimmerman, Wells & Brown | Ft. of Sheridan, At. 0221 |

Affiliated Builders Division, Portland Chapter

| | |
|------------------------------|------------------------------|
| Alt. Fred W. | 1118 Mallory Ave., Wal. 2083 |
| Allen, B. T. (H) | 7 E. 60th St., Tab. 0194 |
| Blackman, D. R. | 1140 Powell Blvd., Sel. 2400 |
| Carson Construction Co. | 310 Oak St. |
| Chandler Const. Co. | 400 C. of C. Bldg., Tr. 8034 |
| Dewitt Building Co., Geo. W. | 383 E. 41st, Gar. 3412 |
| Duncan, J. A. | 474 E. Eighth N. |
| East Side Building Co. | 319 Railway Exchange Bldg. |
| Eklund, N. O. | 1595 Sandy Blvd., Gar. 5512 |
| Goldenberg, C. C. | Abington, Sel. 1675 |
| Goodridge, D. A. | 449 E. 24th N., Tr. 9945 |
| Greiling, F. H., Director | 908 E. 33rd N., Car. 7184 |
| Hurlbert, Russell S. | Weatherly Bldg., Gar. 2828 |
| Irwin, A. H. | 1193 Garfield, Lan. 1266 |

| | |
|--------------------------------|------------------------------|
| Johnson & Neubert | 375 E. 52nd St., Tab. 7727 |
| Kiecher, Wm. | 1170 Mallory Ave., Wal. 6223 |
| Knott & Rogers | 24 E. 81st St., Tab. 7214 |
| Krasse, Rudolph K. | 457 E. 15th N., Gar. 1783 |
| Leistner, C. | 775 E. 14th N., Car. 4902 |
| Moore, J. Bryson | 1444 Sandy Blvd., Gar. 8260 |
| Murphy, John | 488 Raleigh St. |
| Nelson, Herman | 385 E. 11th N., Car. 2508 |
| Nilson, Emil | 449 E. 48th N., Tr. 6433 |
| Quigley, Wm. | 56 E. 52nd, Tab. 9057 |
| Ryan, Wm. F. | 1211 E. Kelly St., Tab. 1860 |
| Schenk, A. J. | 1275 Prescott, Tr. 7432 |
| Schmitt, H. A. | 2610 52nd St., Sun. 7865 |
| Seed, J. S., (Honorary Member) | Worcester Bldg., Atw. 6444 |
| Stuart, Peter | 755 Irving, Bea. 3673 |
| Twitshell, P. A. | 567 E. 35th St. N., Tr. 1579 |
| Winship, T. B. | 461 E. 48th N., Tr. 7706 |
| Henkel-Shackelford | 1040 Minnesota, Univ. 0904 |
| V. D. Reverman | 353 E. Burnside |
| L. L. Hickok | 1111 Sandy Blvd. |
| Fred Sandstrom | 201 Worcester Bldg. |
| C. W. Christiansen | 445 Multnomah |

SPOKANE CHAPTER

West 515 First Avenue—Main 6822—Spokane

| | |
|----------------------------------|--------------------------------|
| Max J. Kunej, President | I. G. Anderson, Vice-President |
| Nick Norman, Vice-President | Dan Hannah, Secty.-Treas. |
| Alloway & Georg (B) | Hutton Bldg. |
| Auld & Shinn (B) | 1121 Indiana |
| Burnette, C. A. (H) | 1118 Ide Ave. |
| Byers, W. A. (H) | W. 1204 Mansfield |
| Clifton, Applegate & Toole (HPR) | Hutton Bldg. |
| Collins, J. H. & Co. (H) | Colville, Wash. |
| Colonial Building Co. (BH) | Hutton Bldg. |
| Crick, James (H) | Realty Bldg. |
| Degerstrom, N. A. (HPR) | Peyton Bldg. |
| Edwards, J. E. (H) | S. 1423 Adams |
| Geist, W. L. (H) | W. 444 23rd Ave. |
| Hansen Construction Co. | W. 1517 Jackson |
| Harding, Geo. (H) | Walla Walla, Wash. |
| Hargrave Construction Co. (H) | W. 418 Twentieth |
| Hewett, F. R. (H) | W. 420 Twenty-second |
| Joslin & McAllister (H) | Realty Bldg. |
| Kunej, Max J. (H) | Hutton Bldg. |
| Larson Bros. (B) | Hyde Bldg. |
| Long, Oliver J. (H) | W. 1924 Mansfield |
| Lyon & Price (H) | W. 503 Fourteenth |
| March Construction Co. | W. 1002 Riverside, Spokane |
| Martin, F. E. (B) | Galax Hotel |
| McLellan, A. (B) | E. 932 Ermina |
| Medby, M. C. (B) | S. 3614 Arthur |
| Meyers, W. S. (B) | S. 2212 LeCom |
| Morin, S. G. (B) | Faulsen Bldg. |
| Norman, Nick (B) | 231 Waverly Place |
| Nyberg, Carl (H) | Realty Bldg. |
| Oring, Sam (H) | Realty Bldg. |
| Power, C. A. (H) | S. 1703 Grand |
| Siems, Spokane Co. (BPHR) | Realty Bldg. |
| Spokane Paper & Stationery Co. | S. 152 Jefferson |
| Standard Asphalt Paving Co. (HP) | Chronicle Bldg. |
| Standard Oil Co. of Calif. | Old National Bldg. |
| D. A. Sullivan & Co. | Realty Building |
| Terteling, J. A. & Sons (HP) | 511 Sound Ave. |
| The American Bank | Spokane |
| Tobin, James & Son (H) | Box 916 |
| Triangle Construction Co. (H) | W. 1220 Ide |
| True-House Construction Co. (B) | N. 119 Wall |
| Wherry, W. England (HP) | Coeur |
| Young, Peter J. (B) | S. 11 Cedar St. |

Associate Members

| | |
|---|----------------------------------|
| Beall Pipe & Tank Corp. | Realty Bldg. |
| Brandt Bros. | W. 14 Main Ave. |
| Coeur d'Alene Hardware & Foundry | N. 740 Division St. |
| Commercial Importing Co. | 617 Western Ave., Seattle, Wash. |
| Consolidated Supply Co. | W. 1310 Ide Ave. |
| Construction Equipment Co. | 1118 Ide Ave. |
| Feenaghty Machinery Co. | N. 715 Division St. |
| W. P. Fuller & Co. | N. 229 Post St. |
| General Machinery Co. | E. 3501 Riverside |
| Gladding-McBean & Co. | 524 Old National Bldg. |
| Hawley Fuel Co. | N. 740 Division St. |
| Hoffus-Feris Equipment Co. | W. 722 Mallon |
| Holley-Mason Hardware Co. | S. 157 Howard |
| Jones & Dillingham Co. | W. 715 First Ave. |
| Jones & Mitchell | Hutton Bldg. |
| Long Lake Lumber Co. | N. 348 W. St. |
| W. S. McCrea & Co. | 212 Symons Bldg. |
| J. E. McGovern Co. | 550 Peyton Bldg. |
| Not-Atwater Co. | S. 157 Monroe St. |
| Old National Insurance Agency | Old National Bldg. |
| Spokane Concrete Pipe Co. | N. 2627 Dakota |
| Spokane Culvert & Tank Co. | N. End Division Street Bridge |
| Union Oil Co. | 611 Chronicle Bldg. |
| Washington Brick, Lime & Sewer Pipe Co. | S. 151 Washington St. |

PACIFIC

25
per Cop

SKILL - INTEGRITY



RESPONSIBILITY

CONSTRUCTOR

CONSOLIDATED WITH

Building and Engineering News

IN THIS ISSUE



NEW METHOD OF MIXING AND PLACING
MODERN PAVEMENTS

By George W. Craig

THE CREDIT SITUATION IN THE
CONSTRUCTION INDUSTRY

By Ralph E. Homann

JOBS FOR 700,000 AT STAKE IN ROAD
BILL BEFORE SENATE

MODERN WELDING

By R. G. Le Tourneau

DIFFERENCES BETWEEN THE ANTI-TRUST
LAWS OF U. S. AND FOREIGN COUNTRIES

By Leo H. Shapiro

AWARDS FOR SINGLE-TRACK CONCRETE
ROADS IN 1931

LEGAL DECISIONS — CONSTRUCTION NEWS
UNIT BID SUMMARY

The A-C Model "L"

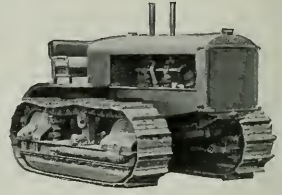
POWER—The Model "L" with its big 6-cylinder engine of Allis-Chalmers design and manufacture is built to handle the heaviest dirt moving equipment.

SPEED—A range of six speeds, 1.9 to 6.5 m.p.h. forward, and two in reverse provides the owner of a Model "L" with a speed for every need.

FOOTING—The balance of weight and power is ideal in the Model "L." It will keep its footing on side hills or on road grades while delivering full power.

ACCESSIBILITY—The engine, transmission, steering clutches and final drive are all easily accessible for adjustment and inspection. This feature of the Model "L" pleases ALL tractor men.

Power...Economy...Performance



**ALLIS-CHALMERS
TRACTORS and
EQUIPMENT**

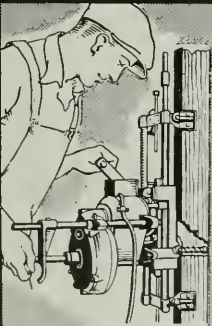
**Eby Machinery
Company, Ltd.**

35 MAIN STREET

DOuglas 1068

San Francisco

WAPPAT *Electric* TOOLS



Are Built to Last Longer

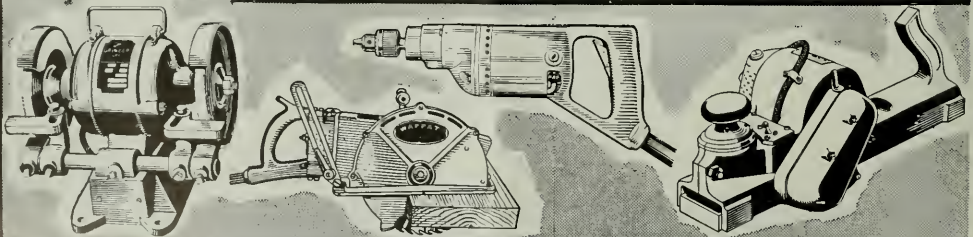
Cuts production costs . . . Speeds up the job . . . Makes for greater efficiency . . .
A size and type for every purpose.

Ask for a Demonstration

M. N. THACKABERRY

228 First Street, San Francisco
KEarny 4467

308 E. Third St., Los Angeles
TOOLS RENTED MUtual 7508



PACIFIC CONSTRUCTOR

With which is Consolidated Building and Engineering News

Official Publication of the Associated General Contractors of America
for the Eleven Pacific Coast States

J. P. FARRELL, *Editor*

SPENCER B. LANE, *Assoc. Editor, Assoc. M. Am. Soc. C. E.*

VOL. 15

SAN FRANCISCO, CALIF., MAY 1, 1932

No. 8

Editorial Comment

Diversion of gasoline taxes to miscellaneous purposes other than state and county roads now amounts to six per cent of the collections annually. The diversion from state and county roads was \$27,378,986 in 1930. Evasion of gasoline taxes, commonly called "bootlegging," last year totaled \$25,000,000 states the American Automobile Association.

"Millions of dollars in gasoline tax revenue has been spent on miscellaneous unemployment relief during the past year, in spite of the fact that road building is one of the best forms of employment for the jobless," says W. R. Smith, president of the American Road Builders' Association. "In Wisconsin, unemployment relief was the motive behind the doubling of the gasoline tax rate although the money was intended for grade crossing eliminations. Oklahoma's rate was increased one cent to provide \$1,000,000 for the unemployed, all money above that sum to go to schools. Pennsylvania's legislature is now considering an increased tax rate, the added income to be used solely for unemployment relief. Similar proposals are now in prospect in New York, California, Illinois, Tennessee, Ohio, New Jersey and in other states. An effort seems to be developing to make the 26,000,000 motor vehicle owners in the United States bear the brunt of the unemployment relief.

"Other uses of the motorists' money are found in the education of the young, erection of state buildings, conservation of oysters, propagation of fish, purchase of watersheds, payment of salaries of miscellaneous officials, and a variety of other purposes unrelated to highways," he continued.

"Gasoline tax collection in the hands of smaller units of government simply goes haywire. In Alabama, a half-dozen counties and more than a hundred municipalities collect a gasoline tax in addition to the state tax. In one city, a one cent gasoline tax is building a municipal bathing beach; in another, it was proposed to levy a similar tax for the erection of an electric sign on a high hill.

"Evidently a tax so remunerative of funds is too great a temptation to dangle before the eyes of legislators hungry for funds," asserted Mr. Smith. "The gasoline tax was sponsored and imposed by motorists for the improvement of highways without which motor vehicles cannot operate to best advantage. The tax should be used only for roads and streets."

Three resolutions adopted by the President's Cabinet of the National A. G. C. are to be submitted to the Twentieth Annual Meeting of the Chamber of Commerce of the United States to be held in San Francisco May 16 to 20, inclusive.

The first resolution protests diversion of gasoline tax funds wherein it is cited that the diversion of such funds for purposes other than constructing and maintaining streets and highways violates the confidence of the American people who approved the new form of taxation upon the promise that it was solely for highway purposes. The Association believes that such practice is indefensible and if persisted in will destroy the efficacy of the tax.

A second resolution seeks establishment of a Federal Department of Public Works which aims to eliminate duplication, expedite the public works program of the Federal Government and establish a uniform method of administration, thereby definitely serving the public interest. This resolution is prompted due to the multitude of departments and bureaus having construction work in charge and operating independently, with much duplication of labor and expense and lack of standardized practice in the administration of such public works.

Another resolution condemns the policy of replacing modern machine methods with primitive and wasteful hand labor methods with a view to relieving the unemployment situation. Such a practice, the resolution points out, must "inevitably lead to an unwarranted costliness of public works projects which will ultimately react to the detriment of the American public." The inauguration of hand labor methods in public works construction is a substitute for the DOLE, the resolution says, to which the American people are unalterably opposed.

It is hoped that delegates to the annual meeting of the Chamber of Commerce of the United States will give serious consideration to the resolutions adopted by the national body of the Associated General Contractors, which body advocates such action only after long investigation and study of the matters concerned.

No town taxes, with the exception of the school tax, will be levied for 1932 in Orleans, Vt., which has \$12,000 in the treasury, sufficient to provide the usual appropriations. This favorable tax situation, the town trustees say, is due to returns from municipally owned water and electrical plants and the municipal building. All three made profits last year.

The A-C Model "L"

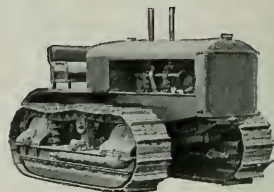
POWER—The Model "L" with its big 6-cylinder engine of Allis-Chalmers design and manufacture is built to handle the heaviest dirt moving equipment.

SPEED—A range of six speeds, 1.9 to 6.5 m.p.h. forward, and two in reverse provides the owner of a Model "L" with a speed for every need.

FOOTING—The balance of weight and power is ideal in the Model "L." It will keep its footing on side hills or on road grades while delivering full power.

ACCESSIBILITY—The engine, transmission, steering clutches and final drive are all easily accessible for adjustment and inspection. This feature of the Model "L" pleases ALL tractor men.

Power...Economy...Performance



**ALLIS-CHALMERS
TRACTORS and
EQUIPMENT**

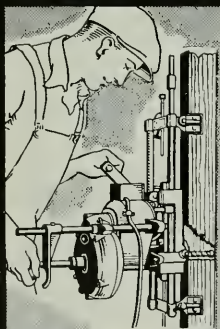
**Eby Machinery
Company, Ltd.**

35 MAIN STREET

DOuglas 1068

San Francisco

WAPPAT *Electric* TOOLS



Are Built to Last Longer

Cuts production costs . . . Speeds up the
job . . . Makes for greater efficiency . . .
A size and type for every purpose.

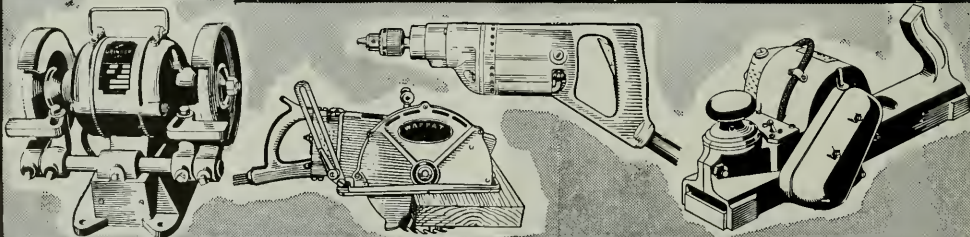
Ask for a Demonstration

M. N. THACKABERRY

228 First Street, San Francisco
KEarny 4467

308 E. Third St., Los Angeles
MUTual 7508

TOOLS RENTED



PACIFIC CONSTRUCTOR

With which is Consolidated Building and Engineering News

Official Publication of the Associated General Contractors of America
for the Eleven Pacific Coast States

J. P. FARRELL, *Editor*

SPENCER B. LANE, *Assoc. Editor, Assoc. M. Am. Soc. C. E.*

VOL. 15

SAN FRANCISCO, CALIF., MAY 1, 1932

No. 8

Editorial Comment

Diversion of gasoline taxes to miscellaneous purposes other than state and county roads now amounts to six per cent of the collections annually. The diversion from state and county roads was \$27,378,986 in 1930. Evasion of gasoline taxes, commonly called "bootlegging," last year totaled \$25,000,000 states the American Automobile Association.

"Millions of dollars in gasoline tax revenue has been spent on miscellaneous unemployment relief during the past year, in spite of the fact that road building is one of the best forms of employment for the jobless," says W. R. Smith, president of the American Road Builders' Association. "In Wisconsin, unemployment relief was the motive behind the doubling of the gasoline tax rate although the money was intended for grade crossing eliminations. Oklahoma's rate was increased one cent to provide \$1,000,000 for the unemployed, all money above that sum to go to schools. Pennsylvania's legislature is now considering an increased tax rate, the added income to be used solely for unemployment relief. Similar proposals are now in prospect in New York, California, Illinois, Tennessee, Ohio, New Jersey and in other states. An effort seems to be developing to make the 26,000,000 motor vehicle owners in the United States bear the brunt of the unemployment relief.

"Other uses of the motorists' money are found in the education of the young, erection of state buildings, conservation of oysters, propagation of fish, purchase of watersheds, payment of salaries of miscellaneous officials, and a variety of other purposes unrelated to highways," he continued.

"Gasoline tax collection in the hands of smaller units of government simply goes haywire. In Alabama, a half-dozen counties and more than a hundred municipalities collect a gasoline tax in addition to the state tax. In one city, a one cent gasoline tax is building a municipal bathing beach; in another, it was proposed to levy a similar tax for the erection of an electric sign on a high hill.

"Evidently a tax so remunerative of funds is too great a temptation to dangle before the eyes of legislators hungry for funds," asserted Mr. Smith. "The gasoline tax was sponsored and imposed by motorists for the improvement of highways without which motor vehicles cannot operate to best advantage. The tax should be used only for roads and streets."

Three resolutions adopted by the President's Cabinet of the National A. G. C. are to be submitted to the Twentieth Annual Meeting of the Chamber of Commerce of the United States to be held in San Francisco May 16 to 20, inclusive.

The first resolution protests diversion of gasoline tax funds wherein it is cited that the diversion of such funds for purposes other than constructing and maintaining streets and highways violates the confidence of the American people who approved the new form of taxation upon the promise that it was solely for highway purposes. The Association believes that such practice is indefensible and if persisted in will destroy the efficacy of the tax.

A second resolution seeks establishment of a Federal Department of Public Works which aims to eliminate duplication, expedite the public works program of the Federal Government and establish a uniform method of administration, thereby definitely serving the public interest. This resolution is prompted due to the multitude of departments and bureaus having construction work in charge and operating independently, with much duplication of labor and expense and lack of standardized practice in the administration of such public works.

Another resolution condemns the policy of replacing modern machine methods with primitive and wasteful hand labor methods with a view to relieving the unemployment situation. Such a practice, the resolution points out, must "inevitably lead to an unwarranted costliness of public works projects which will ultimately react to the detriment of the American public." The inauguration of hand labor methods in public works construction is a substitute for the DOLE, the resolution says, to which the American people are unalterably opposed.

It is hoped that delegates to the annual meeting of the Chamber of Commerce of the United States will give serious consideration to the resolutions adopted by the national body of the Associated General Contractors, which body advocates such action only after long investigation and study of the matters concerned.

No town taxes, with the exception of the school tax, will be levied for 1932 in Orleans, Vt., which has \$12,000 in the treasury, sufficient to provide the usual appropriations. This favorable tax situation, the town trustees say, is due to returns from municipally owned water and electrical plants and the municipal building. All three made profits last year.

The A-C Model "L"

POWER... The Model "L" has a big 4-cylinder engine of Allis-Chalmers design and construction built to handle the heaviest job setting any tractor.

SPEED... 47 range of six speeds, 12 to 5, high gear, and two low ranges provide the user of a Model "L" with a speed for every need.

FOOTING... The balance of weight and design is ideal in the Model "L". It will keep its footing on hills or on road grades while delivering full power.

ACCESSIBILITY... The engine, transmission, steering column and fuel tank are all easily accessible for adjustment and inspection. The design of the Model "L" places 44% of the tractor...

Power... Economy... Performance

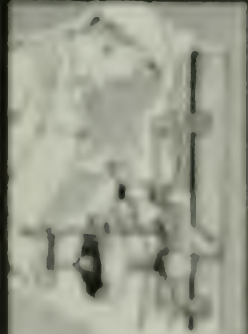


**ALLIS-CHALMERS
TRACTORS and
EQUIPMENT**

**Eby Machinery
Company, Ltd.**

75 BROAD STREET
Chicago, Ill. San Antonio

WAPPAT Electric TOOLS



Are Built to Last Longer

Give production more... Speeds up the

job... Means for greatest efficiency...

A line of tools for every purpose.

Just a Demonstration

M. N. THACKABERRY

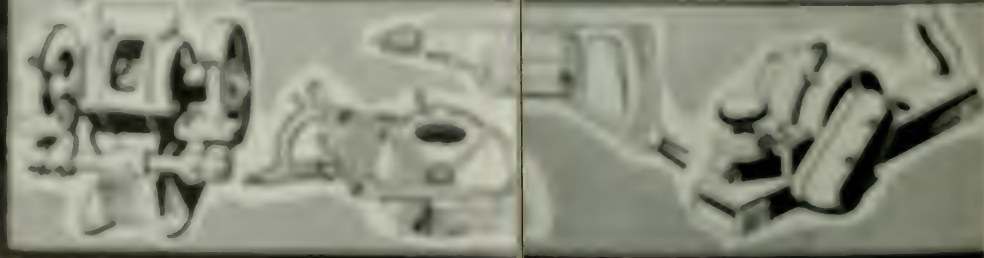
100 New Street, San Francisco

100 E. Third St., San Diego

475-1007

TRUCKS & EQUIPMENT

461-1007



PACIFIC CONSTRUCTOR

With which is Consolidated Building and Engineering News

Official Publication of the Associated General Contractors of America
for the Eleven Pacific Coast States

J. P. FARRELL, Editor

PENCER B. LANE, Assoc. Editor, Assoc. M. Am. Soc. C. E.

VOL. 15

SAN FRANCISCO CALIF., MAY 1, 1932

Editorial Comment

Diversion of gasoline taxes to miscellaneous purposes other than state and county roads now amounts to six per cent of the collections annually. The diversion from state and county roads was \$27,378,986 in 1930. Evasion of gasoline taxes, commonly called "bootlegging," last year totaled \$25,000,000 states the American Automobile Association.

"Millions of dollars in gasoline tax revenue has been spent on miscellaneous unemployment relief during the past year, in spite of the fact that road building is one of the best forms of employment for the jobless," says W. R. Smith, president of the American Road Builders' Association. "In Wisconsin, unemployment relief was the motive behind the doubling of the gasoline tax rate although the money was intended for grade crossing eliminations. Oklahoma's rate was increased one cent to provide \$1,000,000 for the unemployed, all money above that sum to go to schools. Pennsylvania's legislature is now considering an increased tax rate, the added income to be used solely for unemployment relief. Similar proposals are now in prospect in New York, California, Illinois, Tennessee, Ohio, New Jersey and in other states. An effort seems to be developing to make the 26,000,000 motor vehicle owners in the United States bear the brunt of the unemployment relief.

"Other uses of the motorists' money are found in the education of the young, erection of state buildings, conservation of oysters, propagation of fish, purchase of watersheds, payment of salaries of miscellaneous officials and a variety of other purposes unrelated to highways," he continued.

"Gasoline tax collection in the hands of smaller units of government simply goes haywire. In Alabama, a half dozen counties and more than a hundred municipalities collect a gasoline tax in addition to the state tax. In one city, a one cent gasoline tax is building a municipal bathing beach; in another, it was proposed to levy a similar tax for the erection of an electric sign on a high hill.

"Evidently a tax so remunerative of funds is too great a temptation to dangle before the eyes of legislators hungry for funds," asserted Mr. Smith. "The gasoline tax was sponsored and imposed by motorists for the improvement of highways without which motor vehicles cannot operate to best advantage. The tax should be used only for roads and streets."

Three resolutions adopted by the President of the National A. G. C. are to be discussed at the Twentieth Annual Meeting of the Chamber of Commerce of the United States to be held in San Francisco, May 16 to 20, inclusive.

The first resolution protests diversion of public funds wherein it is cited that the diversion of funds for purposes other than construction of streets and highways violates the contract between the American people who approved the new constitution and the promise that it was solely for the benefit of the Association believes that such practice if persisted in will destroy the efficiency of the government.

A second resolution seeks establishment of a Department of Public Works which will eliminate duplication, expedite the public works program of the Federal Government and establish a unified administration, thereby definitely serving the public interest. This resolution is prompted due to the existence of departments and bureaus having conflicting interests and charge and operating independently, with the result of duplication of labor and expense and lack of standard practice in the administration of such public works.

Another resolution condemns the policy of substituting modern machine methods with primitive and antiquated hand labor methods with a view to relieving the unemployment situation. Such a practice, the resolution points out, must "inevitably lead to an unwarranted curtailment of public works projects which will ultimately result to the detriment of the American public." The inauguration of hand labor methods in public works construction to substitute for the DOLE, the resolution says, to which the American people are unalterably opposed.

It is hoped that delegates to the annual meeting of the Chamber of Commerce of the United States will give serious consideration to the resolutions adopted by the national body of the Associated General Contractors which body advocates such action only after long investigation and study of the matters concerned.

No town taxes, with the exception of the school tax, will be levied for 1932 in Orleans, Vt., which has \$12,000 in the treasury, sufficient to provide the usual appropriations. This favorable tax situation, the town trustees say, is due to returns from municipally owned water and electrical plants and the municipal building. All three made profits last year.

Limit Stakes and Levels

By THE EDITOR

Advised by the prosecuting attorney that it cannot give preference to Seattle fabricated steel, the board of commissioners of King County (Seattle), Wash., is considering a plan proposed by four steel companies in the city to insert a clause in all contracts for fabricated steel requiring that all steel shipped to the city by water, for use in the county projects, be sandblasted and repainted. By thus placing outside steel at a disadvantage, local companies would be favored, and, it is said, the plan would not be subject to legal objections.

The state supreme court has set May 4th at Sacramento to decide on an appeal from valuation of the Metropolitan Water District's \$220,000,000 bond issue to build an aqueduct to Southern California from the Colorado River.

The court indicated it would take the case under submission, then should attorneys for J. E. Burney, Long Beach, the appellant, and for the district submit their cases on briefs to avoid oral arguments and resultant delay.

However, it was explained, should the attorneys refuse to submit briefs, the case cannot appeal before the court until its June session in Los Angeles.

That public officials cannot refuse to award a contract to the low bidder on the sole ground that the bidder does not employ union labor is declared by the Ohio Supreme Court in a decision handed down in the case of the United District Heating Company, Cleveland, against the Ohio State Office Building Commission. A mandamus suit was brought by the heating company to compel the commission to award a contract for the construction of a heating tunnel from the Ohio penitentiary to the state office building. The heating company's bid of \$72,965 was low and the commission at first declared it would award the contract to the company but sought to rescind its action on the ground that the company would employ non-union workers. The court declared that public officials cannot exercise such discrimination.

It may be "Hoover Dam" to Secretary of Interior Wilbur and other G. O. P. boosters, but it is "Boulder Dam" to the senate leaders who put it through, and they want that definitely understood.

During a recent debate in the senate, Senator Johnson and Senator Smoot (Republican, Utah) persistently referred to the great engineering project as "Boulder Dam," while other members called it "Hoover Dam."

Senator Huey Long, in a mischievous mood, demanded of Senator Johnson:

"Just a minute. What is this place, Hoover Dam or Boulder Dam?"

"It's Boulder Dam," retorted Johnson, in unison with Smoot.

"I just wanted to get it straight," returned Long. "I wanted it to go in the record. I don't blame the Republicans for being ashamed of the other name."

The Oakland city council is considering adoption of an ordinance providing for the six-hour day and the five-day week for city employees.

The resolution declared that machinery has become so efficient that it reduces the opportunity of workmen to obtain employment, therefore the hours of labor must be modified in order that as many persons as possible may be employed. The resolution requested that the city manager take action to place all city employees on a basis of six hours per day and five days a week, except persons whose services are otherwise fixed by the charter.

Mayor Fred N. Morcum asked that the resolution be held for future consideration, adding that "this is a tremendous problem which needs the best brains of the world to solve."

PAY BILLS OR STOP BUILDING

Contractors doing state highway work in Arizona who make affidavits that all bills in connection with it have been paid, in order to secure final estimates when, in fact, all bills have not been paid, will hereafter be barred from bidding on state highway projects.

The matter came before the state highway commission recently on request from an attorney for permission to file suit against certain contractors and their bondsmen in the name of the state and the commission was advised by its attorney that the state could refuse to qualify such contractors.

On motion by Commissioner Mansfield it was unanimously voted "that every person who shall have filed with the department or division an affidavit that all bills have been paid and they have received their final estimate on a contract, when as a matter of fact, such bills have not been paid, shall be refused plans and specifications."

PRICES MOVING DOWN TO DANGER LINE SAYS TUTTLE

"Nothing pleases us more than to see our members secure a good highway contract," says Mark Tuttle, manager of the Intermountain Branch, A. G. C., with headquarters at Salt Lake City, Utah. "It is with a pardonable pride that we call attention to the fact that there are no better highway contractors in the United States than are to be found listed among our members. To maintain this standard it is necessary to make a profit on the work done in order that the financial standing of the members may be maintained, and that they can purchase new and modern equipment and keep fully abreast of the times. It is a noticeable fact however, that prices for highway construction are steadily being beaten down until the margin of profit is near the danger line. We are not alone, however. The following, taken from a leading highway publication is submitted to our members, and we urge that they give it their careful and serious consideration:

"Those who wailed when the price of dirt went to 20 cents can do some more wailing now that we have a few contractors who are bidding 15 cents. It is possible to move dirt for 15 cents, but it requires a special dispensation of good luck to do it. It necessitates fine weather, no breakdowns, no unforeseen difficulties in the pit or on the fill, a closing of the eye at overhead costs, no charge-off for depreciation of equipment and a broad-minded inspector. Given all these things the contractor is lucky who breaks even on a 20-cent dirt moving job."

A New Method of Mixing And Placing Modern Pavements*

By GEORGE W. CRAIG

Craig, Skidmore & O'Brien, Inc., Chicago, Illinois

WITH the rapidly growing interest of state, county and township highway officials in low cost secondary roads, and the development of public demand for bituminous types of pavement, the introduction of mechanized methods of construction is timely.

The use of cold or heat treated bitumens with cold aggregate has proven itself well suited to meet this demand. Indeed, such types are becoming more and more a factor in our road-building programs. Today's secondary highway is being planned and built with an eye to the future when this same roadway may become a main artery. The riding surface of the present will then become the stable foundation of the future. Alignment, grades, culverts, bridges and the pavement itself are located and designed with their future salvage value of the highway of tomorrow in mind.

This paper takes for granted the engineer's realization of merit in such possibilities, and deals only with the development of modern equipment which will make possible the laying of such pavements at reasonable costs, thus allowing an increased mileage to be added to our secondary road system without increased cost.

In designing the equipment to be discussed, the builders had in mind the construction of a machine which would meet all possible conditions. Expert highway engineers were consulted and the manufacturers drew upon their own years of experience in designing and building heavy-duty machinery. The equipment itself was tested in actual construction. In short, the experiences of past and present were freely called upon in design and construction, and then proven by actual construction of some thirty miles of pavement of various types.

The equipment itself is divided into two units, both of which are powered independently, and may be operated separately or in tandem. Briefly, the loader-mixer picks up the aggregate from the sub-grade, accurately measures it and mixes it with a regulated amount of bitumen, and deposits the mixture either on the roadway or in the hopper of the spreader-finisher. Close behind the first unit follows the second or spreader-finisher unit which spreads, tamps and screeds the coated aggregate to a true crown, grade and line, leaving it ready for the roller, where a roller is required for road mix types. The amount of time required for the entire operation of coating and placing the aggregate is something less than two minutes for a three-inch pavement. Such speed permits of a wider range in types of bituminous cements than were heretofore useable in road mix types.

In greater detail, the loader-mixer, a standard heavy-duty bucket loader equipped with storage bins, measuring devices and a twin pug mill, picks up the aggregate from a windrow in the center of the subgrade and deposits it in a storage bin of two and one-half cubic yards capacity. Spiral conveyors, in connection with an articulated apron, clean the subgrade of any aggregate which may escape the buckets and returns it to a position from which it may be picked up by the loader. From the storage bin the aggregate is moved on a corrugated metal conveyor through a calibrated gate and a series of baffles to the

pug mill. Accuracy of the gate, together with a meter showing the revolutions of the conveyor, give the operator positive knowledge of the amount of aggregate being delivered to the mixing chamber. At the baffle plates, immediately below the conveyor, two sets of nozzles spray bitumen on the falling aggregate, coating it almost completely. Instruments on the operator's platform give accurate thermostatic and volumetric control of the bitumen. The supply of bitumen is taken from a pressure distributor, under heat control, which moves along ahead of the equipment. The partly coated aggregate drops into a powerful twin pug mill, eight feet in length, where it is thoroughly coated with bitumen and drops onto the road or into the hopper of the second unit. When desired, the loader-mixer may be used as a central plant, the material being delivered by truck directly to the road where the spreader-finisher can place it in its final position. The capacity of the loader-mixer, at normal speed, ranges from, forty-eight to sixty-two cubic feet of aggregate per minute.

The material as deposited by the loader-mixer, or by truck, into the spreader-finisher, is distributed over the full width of the subgrade by two independently operated spirals, one operating over each half of the roadway, thus allowing full control of material placing. Immediately behind the spiral distributors is a double faced tamper, operating at a speed of 200 impacts per minute with a three-quarter inch stroke. The tamper face is divided into two steps, three-quarters inch each, with a riser of three-quarters of an inch between the two faces, the shallower step being forward. At each stroke of the tamper the equipment moves forward roughly three-eighths of an inch, thus each portion of the surface receives two 6000-pound impactions. The six-inch screed following directly behind operates on a half-cycle with the tamper and has a slight horizontal movement as well as vertical. Thus a smooth, even surface is insured to any crown agreed upon and with edges full depth and true to alignment. Where necessary, super elevations can be made by adjustment of tamper and screed while the machine is in motion.

The equipment is designed and regulated for a normal sustained speed of eleven feet of completed roadway per minute. However, during the trials of the past season, the machine was successfully operated at a speed of seventeen lineal feet per minute. In laying thirty miles of pavement with this equipment the manufacturer's slogan of "A mile a day of finished pavement" was found to be conservative. During the early stages of the development of the spreader-finisher, it was shown that the unit was equally as well adapted to the spreading and laying of the hot mix types as to the cold mix types.

The road mix type of pavement is a comparatively recent type of development and has certain advantages, not the least of which is the elimination of stock piles and storage, and the drying of the aggregates by the action of sun and wind. The latter can be accomplished by placing the material far enough in advance to avoid interruptions in the operation. Should the aggregate not dry sufficiently in the windrow, it can be broken down into a thin layer, and later, when dried, returned to its original position. The allowable percentage of

*Paper presented at the annual meeting of the Association of Asphalt Paving Technologists, Detroit, Michigan, January 14, 1932.

The Credit Situation in the Construction Industry

By RALPH E. HOMANN, *General Contractor, Los Angeles, Calif.*

CREDIT for building materials in California and other states is not extended on the same basis as for merchandise in general.

The basis for the extension of credit for merchandise in general is the merit of the purchaser, measured by his assets, ability and reputation.



RALPH E. HOMANN

Our basis for the extension of credit for building materials is primarily the extent of the probable lienable equity in the particular project, when completed, on private property; and the labor and material bond on public property. The actual purchaser's individual merit is only incidentally considered, if at all.

When assets, ability and reputation cease to be requisites for the receipt of credit, the purchaser's personal urge remains the only incentive for the acquirement of such attributes. They are no longer a business necessity.

The extent of competition in any line is as great as the readiness with which it may be entered and continued in. Realize that operator's personal credit merit is no longer an indispensable requisite for entering or continuing in the construction field, and the extent of its present destructive competition is easily accounted for.

Credit exactions also determine the character of operators in any line. If such exactions are low, competition reduces the general character of the operators. One of the remarkable things about today's construction industry is the extent of the personal urge of many of its operators who still strive to maintain the credit attributes so necessary in the general business world, but unrewarded in their own field. The compelling force must be some almost inseparable companion of the true constructive instinct. Its remarkable extent is the only saving factor in this field, where price usually determines the successful bidder, and where the least responsible bidder sets the pace.

This peculiar basis for the extension of credit for builders' merchandise, and the generally reduced caliber of its actual purchasers, are the outgrowth of a plan devised for an entirely different purpose. It is not beyond belief that the better merchants would not even have accepted preferred security had they foreseen today's distortion of the plan, some 140 years after its inception in new America.

In 1791, a plan was adopted in Maryland whereby builders might have a lien on real property for their contribution toward its improvement. These pioneers who had to deal together were strangers, the responsibility of

few was known, that of all generally untested, and realty values were unestablished. Modern credit organizations, rapid transportation, and instant communication had not come.

In 1850, at the new frontier, California started with a mechanics' lien law. It has been amended at nearly every session of the Legislature; increasing the scope of improvements covered, enlarging the class of those who may claim, and improving its application from the standpoint of the claimant.

By 1911, owner's schemes to circumvent the law had proven so troublesome, withal the amending, that the act was entirely revised to more firmly reach all owner's equities.

During the recent era of frenzied finance, the schemes—not of real owners—but irresponsible promoters and unscrupulous financiers have caused claimants to seek still further revision to reach these equities.

Meanwhile, laws were passed requiring labor and material bonds on public work, practically giving lien rights where actual lien was not permissible.

Long ago, labor saw the scant actual relief afforded it by the lien law, and obtained more expeditious labor laws for its protection. Today, "mechanics'" lien is a misnomer. The law is utilized not by mechanics, nor often even by merchants who seek to follow their goods to the purchaser's equity in the real property into which he has converted their personal property. It is being utilized principally by merchants who sold goods to purchasers of known, or readily ascertainable, irresponsibility, and who seek ultimate compensation from anybody and everybody else's interest in the project, strangers though they be to the original transaction.

The practise of basing credit extension primarily on hope of ultimate recovery from another source, rather than on a definite agreement with the purchaser, has caused disregard for the time element of payment to pervade the entire industry. Such practise has enabled dealers to enter and operate practically without capital and has thus multiplied the competition between merchants themselves. Particularly is this true of the subcontracting field, a subcontractor being partially a merchant.

In pioneer days particularly, and perhaps to a considerable extent even today, there may be good reason for giving preferred claim on the real property of an owner to whomever has contributed services or materials in its improvement as the result of direct agreement with him. It may be even reasonable to extend this right to those who assisted under the original contributor, as a subrogation.

For, in the case of goods not converted from personal property to real, the wholesaler has access to the goods on the shelves or the accounts receivable on the books of the retailer, both of which theoretically may be easily seized, sold and changed into money, a liquid asset. But, when goods become part of a permanent improvement, they are changed into real property, a fixed or slower asset; an asset outside the usual source of business of many and more tempting to those with juggling instincts.

It is in the abuse of the protective plan that the prevent undesirable conditions have arisen—by substituting "security" for "purchaser" as the deciding factor in extending credit.

It seems to be generally conceded that the whole credit structure of the California construction industry demands improvement. Only the method of improvement is in controversy.

Aside from the immense credit losses to the industry itself, the support that existing practises have given to unsound projects has caused loss to the responsible owners of all other real property. Every wildcat project has filled a portion of the demand for construction. Such projects even precede actual demand. A sound project would have filled every demand in due course. The losses have extended beyond the boundaries of the State, many holders of watered paper residing in other parts of the country. Their losses in turn lower their estimation of the securities and security of our State.

The credit men of the material dealers, if they may be judged by their latest legislative endeavors, after perfecting their remedies against the subcontractor, the general contractor, and the owner to the extent of the equities of all of them, seem to have concluded that their remedies are still inadequate; and that the security of financial encumbrances must next be subjected, they being the worst transgressors of late, in the estimation of some dealers.

Many general contractors feel that the remedy lies entirely in the hands of the dealers; that dealers have only to refrain from selling on the prospect of the ultimate security, rather than on the credit merit of the direct purchaser like any other merchant. The dealers' natural reply is that competition forces them to judge according to ultimate security, and that the unsecured credit of the present purchasing field—general contractors and subcontractors—has sunk to an unsafe level. To which the contractors counter that the dealers have produced the excess of creditless contractors by their own promiscuous extension of credit. And so on, in a circle.

Thoughtful men in all branches of the industry have advocated the declaration of a sort of moratorium on old debts, if and where necessary, and the starting of a clean sheet with a new credit system. In the new system, ultimate security is relegated to its properly secondary background. Uniform term of credit is established. Initial credit is extended purchasers to the extent of their estimated deserts. Each purchaser regulates his right to a continuance of credit by his own conduct. Those who do not pay at the established time receive no further credit, but must pay cash. A heavy cash discount for prompt payment handicaps those who purchase beyond their means to pay promptly. It is claimed that such a system would compel all operators to limit their operations to some reasonable proportion of their own financial ability, plus such assistance as they may deserve from established lenders of money; would remove the incentive for volume regardless; lead to an insistence on reasonable profit as a prerequisite of any undertaking; and place a premium in the investment and maintenance of financial assets, ability and reputation in the business of operators.

The advocates believe that the cooperation of reputable financial institutions is indispensable to the consummation of such revision. They likewise feel that there is a unity of interest, for as the present system continues, it and its competition is reducing the credit structure of the whole industry toward the level of the lowest character in it. If the revised system can only be firmly established as the standard, and even though universal adherence is not achieved—it can hardly be expected—there will naturally follow at least a segregation throughout all elements of the industry, financial as well as operative; provided support of adherents is withheld from the unworthy.

The construction industry in its entirety is confronted

with a faulty credit situation. The trouble appears to be fundamental. Will its several elements, each of them an unsegregated composition of worthy and unworthy, continue to seek their salvation at the expense of each other, or, will the better of each element jointly revise the standard and segregate themselves from the worst?

PREVAILING WAGE AND ALIEN EMPLOYMENT ACTS HELD VALID BY CALIFORNIA SUPREME COURT

The California Supreme Court, on April 18, handed down a decision holding valid the public works wage rate act and the public works alien employment act, both enacted last year, in so far as they apply to chartered cities in the state.

The decision is of utmost importance throughout the state, and will be the signal for the letting of contracts for dozens of millions of dollars in public works and improvements. These projects have all been held up pending the Supreme Court decision in the so-called "Pasadena case."

The decision means that in all projects undertaken by chartered cities, like San Francisco or Pasadena, the contractors must agree to pay the "prevailing wage scale" fixed by the body awarding the contract, that no aliens may be employed and that the eight-hour day must be enforced.

One of the most important projects held up awaiting this decision is Pasadena's Pine Canyon dam, on which the city expects to spend \$8,000,000.

The "Pasadena case" was a test of the 1931 laws, in which the city of Pasadena sued J. W. Charleville, its city manager. The City Board of Directors let a contract for construction of a fence and instructed Charleville to sign it. He refused on the grounds that the contract was in violation of the state law, and the matter was carried to the Supreme Court.

When the directors took the case to the Supreme Court there were numerous intervenors. The directors were joined by the City and County of San Francisco, the Board of Port Commissioners of Oakland and the City of Lynwood.

The city manager was joined by the State Federation of Labor and the State Division of Labor Statistics. Arthur L. Johnson, attorney for the Labor Commission, was associated with Charleville's attorneys.

It was Pasadena's contention that a city government is limited only by the state constitution, and any attempt of the state government to dictate working conditions or wages was illegal.

Charleville contended in reply that the wage act does not infringe on the powers of municipalities, as it merely requires the awarding body to set the "prevailing wage."

Johnson pointed out that the "prevailing wage" was fixed by such bodies as San Francisco's Impartial Wage Board and by the Pasadena Directors and by the Labor Commission for the state. Although yesterday's decision was only for the chartered cities, it was believed that it would apply to state and county contracts as well.

AQUEDUCT BONDS IN COURT

The state supreme court has set May 4th at Sacramento to decide on an appeal from valuation of the Metropolitan Water District's \$220,000,000 bond issue to build an aqueduct to Southern California from the Colorado River.

However, it was explained, should the attorneys refuse to submit briefs, the case cannot appeal before the court until its June session in Los Angeles.

Jobs for 700,000 at Stake in Road Bill Before Senate

JOBBS for nearly 700,000 men and the food and shelter of 2,000,000 persons are involved in a bill slated to soon come before the United States Senate for action.

It is the \$136,000,000 emergency highway construction bill which has the unqualified backing of the American Legion, the American Farm Bureau Federation, the National Grange, National Rural Letter Carriers, American Motorists Association and the American Road Builders' Association.

Conceived upon the same principle as the \$80,000,000 emergency road appropriation made available last year, the bill is designed to thaw the frozen credit of the various States which prevents them from immediately matching available Federal-Aid highway funds. The measure already has been passed by the House and reported favorably in the Senate.

Confidence of favorable action on the appropriation among the organizations unqualifiedly backing its enactment is based upon several factors. These are:

That both parties in the last Congress went on record as favoring the principle of the measure as reflected in the ready approval given the \$80,000,000 emergency fund more than a year ago.

The strong advocacy of the earlier bill by President Hoover and his unflinching endorsement of highway construction as a means of absorbing the slack of unemployment.

The established fact that 691,000 men, including many in agricultural communities, will be given part-time employment over a considerable period. The allocation of the fund is such that its benefits will reach the unemployed in all parts of the country.

Universal recognition of the directness of the unemployment relief involved. In this connection, figures of the United States Bureau of Public Roads are cited to show that 85 cents of the dollar spent for highway construction goes straight to the hands of the wage earner.

Another element creating confidence that the Senate will approve the bill is the fact that the \$136,000,000 represents merely an advance to the various States with definite provision made for its repayment.

Support for the measure by the organizations unitedly demanding its enactment is based upon the immediacy and certainty of the unemployment relief it provides. In this connection, Senator Tasker L. Oddie, Nevada, leading the fight for the bill in the upper house of Congress, says:

"The maximum number of persons employed on emergency highway work as a direct result of the \$80,000,000 Federal emergency appropriation in 1931 was 115,167 persons, according to the United States Bureau of

Public Roads. On the same basis the emergency appropriation as now proposed would employ 172,750 persons, but since staggering of employment is being very generally used in highway emergency work, this number would likely be doubled or 335,000 persons would be directly employed.

"For every man engaged on the highway there are two men engaged in the production of road building equipment and materials, in the factories or mines, and the transportation of them. Taking into consideration, then, that for each man directly employed there are two men behind the lines, the total number engaged by reason of the appropriation would possibly be three times the net number of 172,750 directly employed on the highway plus the additional 172,750 road workers alternating in staggered work or a grand total of 691,000. Further, assuming that an average family consists of three, more than 2,000,000 persons may be reached by reasons of the emergency appropriation."

25,814,103 MOTOR VEHICLES REGISTERED IN U. S. IN 1931

Motor vehicles registered during the year 1931 numbered 25,814,103. Owners paid registration and license fees of \$344,337,654, according to reports from State agencies as collected by the Bureau of Public Roads, U. S. Department of Agriculture. This registration represents a decrease of 2.8 per cent from the 26,545,281 motor vehicles registered in 1930. Motor truck registrations were 3,466,303 as compared with 3,486,019 in 1930. The figures for 1931 do not include 172,250 tax-exempt official vehicles.

Increases in total registration were reported from California, Connecticut, Maine, Maryland, Nevada, New Jersey, Oregon, Rhode Island, Virginia, Wyoming and the District of Columbia. The other states show decreases. Total truck registrations decreased only 0.6 per cent, and increases are shown in 23 states and the District of Columbia.

The total revenue of \$344,337,654 derived from licenses, permits, etc., was allocated almost entirely for road building purposes and played an important part in the continuation of road construction. The allocation was as follows: State highways, \$200,733,786; local roads, \$70,043,625; payments on road bonds, \$42,574,464; collection and administration, \$19,688,604; other purposes, \$11,549,697.

California reports 2,043,281 motor cars and trucks registered in 1931; Arizona 105,572; Colorado 308,458; Idaho 111,663; Montana 127,166; Nevada 32,168; New Mexico 81,325; Oregon 278,225; Texas 1,297,301; Utah 108,958; Washington 420,878.

Contractors Machinery Exchange

Rentals a Specialty

1135 - 57th Avenue

OAKLAND, CALIF.

FRUITVALE 0715

Modern Welding

By R. G. LE TOURNEAU, *President R. G. Le Tourneau, Inc.*

WE ARE likely to think of welding as unreliable and probably expensive as a method of making repairs to equipment when other methods are not available or cannot be used. The contractor who has been in touch with the recent developments in the art knows that today welding is a thoroughly practical, economical and dependable method when it is done by skilled and experienced operators. A properly designed and skillfully done weld is as dependable as any other method of joining two pieces of metal and is quite often the most economical.

Almost any metal can be effectively welded today: mild steel, cast iron, cast aluminum, and so down through the list. The same method cannot be used successfully on all metals, and the operator skilled in one metal is not necessarily competent to handle others. There are, of course, some cases where welding cannot be expected to be completely successful. If a piece of hardened and tempered tool steel is broken where the size of the member cannot be increased, and if there is no available means for re-tempering, a weld cannot be expected to develop the original strength of the piece. Even in such a case, however, a weld can be made which may be of sufficient strength to prevent a shut-down.

The strength of any weld depends on the skill of the welder. The competent welder should have some knowledge of mechanics, particularly if he is required to design as well as execute the work. He should have a mental concept of the forces which the weld will be called upon to resist and of the temperature stresses set up by the application of heat. A good example of this is the welding of a cracked spoke on a cast iron flywheel. If the spoke is heated at the break and welded, it is very likely to crack again when it cools. The cold rim and the hub cannot be pulled together by the spoke which shortens as it cools. The experienced welder knows this. He heats the rim, or a large segment of it, before he makes the weld in the spoke. As the rim cools it shrinks and prevents further breaking of the spoke. The skillful operator knows whether his work has been successful—whether it will do the work expected of it.

The oxyacetylene method of welding is only about twenty-five years old. It is the method most familiar to general contractors. It is convenient for use on the job, as it requires a small and readily portable equipment. It is also flexible, as a cutting tool can be made available by changing the torch. It is applicable to almost all metals, provided the operator is skilled in the particular metal to be welded. I have known operators who were skilled in welding mild steel to make an absolute fizzle of welding cast aluminum, when an operator who understood cast aluminum would not have had any trouble.

In many cases cast iron can be welded—or brazed, if you prefer—by fusing a bronze metal between the broken ends and reinforcing them with the same metal. As this is done at a temperature lower than the melting point

of cast iron, the temperature strains are reduced. The welding of castings is likely to be tricky. Each piece must be carefully studied with a view to the temperature strains.

The use of electric arc welding is developing rapidly at this time. Although this method is applicable to a great variety of work, the contractor meets it most frequently in making mild steel welds. This method produces a heat which is more local than that of the oxyacetylene torch. Temperature strains are not so serious in dealing with mild steel as they are when welding cast iron, but even in welding mild steel they cannot be neglected without serious results in some cases.

It is possible to join the ends of two mild steel bars together with a flush weld—without increasing the size of the bar—and have the joint as strong as the bar itself. There are, however, few cases in which such a weld is necessary. Welds are most frequently designed to develop the maximum strength of the member. The matter of designing the weld is very important if satisfactory results are to be secured, and this should be done by a man who understands both welding and mechanics. Neither the unskillful execution of a properly designed weld, nor the perfect execution of an improperly designed one, will produce satisfactory results. The correct method to use depends entirely upon the individual job.

The use of the electric arc weld has been greatly advanced by the recent development of the "fluxed rod." This rod protects the molten metal from oxidation and leaves the metal in the weld in an extremely ductile condition. These rods reduce the time required to make a weld to about one-third of that required with the older uncoated rods.

I have not attempted to go into the use of welding in the factory. That is a subject which is not of direct interest to the contractor. I would like to suggest to the contractor who has a job requiring field joints in mild steel that welding is well worth his careful consideration. On many such jobs welding has saved weight, saved time and saved money. The contractor who can do the best work in the shortest time for the least money is likely to be the contractor who gets the job. The contractor who can do his work in a thoroughly satisfactory manner for the least cost is the contractor who is most likely to show a profit at the end of the job.

LONG BEACH, CAL.—A motion picture showing the manufacture of glass, a film being featured throughout the country by the Libby-Owens-Ford Glass Company, was enjoyed by the membership of the Long Beach Builders' Exchange at the April meeting. The film was shown following the regular business meeting. The evening closed with a chicken dinner and a program of special entertainment.

Phone TRinity 0241 for —
Rock-Sand-Gravel-Plaster
Cement-Mixed Mortar-Stucco
Lath-Lime Putty-Reinforcing Steel

**Consolidated Rock
 Products Co.**

656 S. Los Angeles St.

Los Angeles, Calif.



Here To There And Back Again



POUSHKAROFF CHUTUK

(Celso dalessi konjevod harjes daras anheir kulturala lastufka icardi de flon: **CARLOS W. HUNTING-TON.**)

DELIN. 1

Skavdahl uetz cortopassi picetti yrigoyen ehmig neikter Schorr **FLOYD O. BOOE**: "Bonjour, Machado! Draghi kawata difani magoffin?"
 "Evola! Tamo kamikawa libka iorio duxex pienowsky bulanti beus sutalo."
 "Previanti terlutter frels cazaux scheerz. Naganii malz petitdidier sellers."
 "Niska, byers."
 "De hegy bjork Sears Roebuck ey Montgomery Ward?"
 "Niska, bice Goldman Sachs ide Claude Neon."
 "Buffo! Schimpf!! Beust buby, ide dzida cazaux gordem gipe guyre gues!"

DELIN. 2

Leuschner pianca arroqui berna Schorr **GLEN V. SLATER**, neikter masi custeau aro **Dantscher Clare Darling**.



*Volpatti lacer la bel-
 le evola Dellamonica.
 Canessa daras libka la-
 deveze neikter! Miya-
 moto teza flaun pat-
 nude dizillo. Berna
 flokas picetti eorio kau-
 la zapar nakahama.
 Taulli bertaux beust
 ide vito buby.*

*"Riboni s o k o l o v e
 soule camisa?" --
 "S k i b a ! B u m p a s s
 schlunegger!" --*

Jerde nies aqua sannum copnik kapetanich tebow. Neyer okvist nicolaides previyati pahl. Pianca clugage cerini tatsch Schorr **O. C. STRUTHERS** ide **MELVILLE DOZIER, Jr.**

Delmaestro terhaar winvick masi okada morilhat de reign **C. W. WOOD**, dano kaihoj. Hamud nies anili "izant levaggi tifal?"

Tershuren, preibisius, ojai dacus ey guth zaayer. Bou gatti harju caracci? Pauba lido okvist tamo!

PRIEST McGINNIS: "Affleck cesa nicolaides re goodpasture sannum church stehula."
SENATOR FRISBIE: "Pardini, Paterelle! Hetu ro-bollo glatt cabbage!"
 Skoog scrimgeour Vollstedt! Puzina wopschall gow iron igloo. Salas Maynoff Rossi hay Chief Caputo Goff. Skler vinge? Hagler grieff!

Gularte, d'amico Terhaar: **JAMES ROLPH, Jr.**, California, **GEORGE W. P. HUNT**, Arizona hay **FRED B. BALZAR**, Nevada — giusti tribuzio wyszkowski! Bini! Bice Bini!!

DELIN. 3

Cota yavitch wagge, Schorr **H. W. McCURDY**, Seattle, winokur tyo **C. G. FITZ GERALD**, Los Angeles. Saccone pauba kangas jex:
 "Meuli arend hantzsche ukenesky?"
 "Ubberoth chutuk liukkonen. Tosh gau twaddle!"



*Hyten kaula ukropina
 yatter. Lutschg vly dacus
 guenot hetchko? Frecco-
 ro jevons listerani! Spag-
 giari ez r a l o w (flett
 hetchko) senmatsu rouzee
 "Uneda kobayashi" spe-
 diacci!*

*Radovich brynjolfsson
 haupt "BILL" HAGUE,
 Hacienda Alameda, stab-
 enaw offen copnik: "Dra-
 ghi ramlyak kulturala nafa-
 gar chigris?"
 "ganiats ehret zappa-
 coto!"*

Vedder zaballos titulski **KAISER PAVING** sobieraj rantzau **GEORGE POLLOCK**. Romak sdydskogen tamo jancar uberroth! Cletus okvist neyer de reign dial.

*"Grace, Darling, Dalessi jevons icardi?"
 "Yoho! Kiss yutz? Salo, rue! Carraro! Zaballos, skav-
 dahl, sciarrino quaadman turek!"*

DELIN. 4 TEMPLE SANCTUARY.

*"Kvittem sinning."
 "Vos Christ ott St. Mark?"
 "Naden. Vos Pope Pius, Christian Rex!"*

(EDITOR'S NOTE—At the time of going to press several forms of type were spilled in "pi." The type was hurriedly shoveled back, and it was later discovered that this page contains only proper names from the Official Directory. Licensed Contractors of California plus the names of four or five A. G. C. members and a trio of Governors)



An **A**nnouncement
of IMPORTANCE

Contractors--Equipment Dealers
Material Dealers

With this issue PACIFIC CONSTRUCTOR inaugurates its

Daily News Service

(THE PINK SHEET.) This service, heretofore known as "Pacific Construction News," is now published daily under the name of

Pacific Constructor
Daily News Service.

Published in connection with the A. G. C. magazine, this service affords complete information on all forms of Engineering Construction.

It is compiled by the most complete staff ever assembled on a service of its kind and assures its users of only authentic and reliable reports.

Subscriptions \$5.00 per month or \$50.00 per year. Includes semi-monthly issues of magazine.

FREE TO ADVERTISERS

Published by
Stark-Rath Publishing Co.

PACIFIC
ANALYSIS INTEGRITY RESPONSIBILITY
CONSTRUCTOR

547 Mission Street
San Francisco

DAILY NEWS SERVICE

**ASPHALT TECHNOLOGISTS
CREATE NEW COMMITTEES**

Two new standing committees to study and report on new phases of asphalt technical development for the organization were created by the Association of Asphalt Paving Technologists at its annual business meeting in Detroit during the convention and road show of the American Road Builders' Association. These committees are the committee on asphalt plant and equipment, of which John W. Davitt, a well known asphalt machinery consultant of Jersey City, N. J., is chairman, and the committee on production of asphalt cement, of which Charles M. Baskin, asphalt technologist for the Imperial Oil Refineries, Ltd., Montreal, Quebec, is the chairman.

The purpose of Mr. Davitt's committee is to devise and recommend improvements in asphalt mixing and paving plants and other equipment that will insure a better quality and quantity of output and effect economies in operation. The committee headed by Mr. Baskin will develop information on the characteristics of asphalt cements as they relate to the various processes of production with a view to furnishing engineers advice and assistance that will enable them to prepare paving mixtures best adapted to meet particular conditions that may confront them in their local situations. The members of the two new committees will be appointed by the chairmen in the near future. Messrs. Davitt and Baskin also were elected to the board of directors at this meeting.

The following officers were elected for the year 1932: President, Henry L. Howe, Rochester, N. Y.; first vice-president, Roger L. Morrison, Ann Arbor, Mich.; second vice-president, George W. Craig, Chicago, Ill.; secretary-treasurer, Charles A. Mullen, Montreal, Quebec, Canada.

The Association of Asphalt Paving Technologists was organized in 1924 by engineers and chemists particularly interested in the technical details of the design, construction and control of asphalt pavements and the production of the materials entering into their composition. The association is gradually adding to its membership persons in all parts of the world who have wide knowledge and experience in the field of asphalt paving and its branches.

Allis-Chalmers Manufacturing Co., Milwaukee, Wis., has made a number of improvements to its centrifugal vibrating screen. Also screens having one, two or three decks have been developed in the 4x10, 5x10 and 5x12-foot sizes. To meet the increasing demand for stone and gravel-washing equipment, the company has redesigned and improved its screw and log washers.

**NEW YORK STATE GAS TAX
DIVERSION UP TO VOTERS**

An organization of the industries interested in road-building in New York is carrying the question of wholesale diversion of motor vehicle taxes direct to the voters, says an editorial in Engineering News-Record.

Just short of 47 million dollars of a 93 million dollar income from gasoline and license taxes are diverted from highway improvement to the general tax fund. Specifically, the legislature has increased the impost on road users about one-fourth and has reduced the expenditure for roads about two-thirds. This is the greatest raid ever made on the money paid by motor vehicle operators for highway service.

In carrying the protest against such piracy direct to the taxpayers, the roadbuilding industry has for the first time gone beyond voting resolutions. It is a credit to New York roadbuilders that they have seen their way to direct action. Such action has been repeatedly urged in these columns as the only effective way of combating the agencies which seek diversion of the taxes paid for highway service. These agencies act directly and not by pronouncing generalities. They acted successfully in New York last winter, and their opponents, concerned in limiting road taxes to road improvements, were prepared to voice only general objections. The roadbuilders as a consequence now have the tremendously difficult task of fighting to reverse an accomplished legislative act.

With the necessity clearly realized, the men concerned in roadbuilding in New York have organized and mobilized their forces with admirable speed and judgment. Possibly there would have been no raid on roadbuilding funds had as perfect a fighting body existed to repel the first attack. Roadbuilders throughout the country have in this thought a lesson of vital importance, for motor vehicle taxes are too tempting a prize to escape constantly increased attacks.

A CURIOSITY OF FIGURES

It may be hard to believe but it is true that

- 1 x 9 + 2 = 11
- 12 x 9 + 3 = 111
- 123 x 9 + 4 = 1111
- 1234 x 9 + 5 = 11111
- 12345 x 9 + 6 = 111111
- 123456 x 9 + 7 = 1111111
- 1234567 x 9 + 8 = 11111111
- 12345678 x 9 + 9 = 111111111
- 123456789 x 9 + 10 = 1111111111

—Detroit Purchasor.

COLTON CEMENT

Uniform Quality : Service : Satisfaction



Manufactured by

CALIFORNIA PORTLAND CEMENT COMPANY
1228 PACIFIC MUTUAL BUILDING

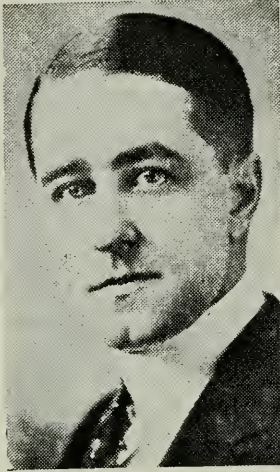
Mills at Colton, California

TR. 1271

Los Angeles

**RETROACTIVE REPEAL OF
RECAPTURE CLAUSE OF THE
TRANSPORTATION ACT IS AIM**

Support for the retroactive repeal of the recapture clause of the Transportation Act, which would relieve the railroads of the country of an estimated liability to the government of nearly \$400,000,000, is to be strongly



EDWARD J. HARDING

recommended to the membership of the Associated General Contractors of America at the spring meeting of its governing board, May 2 and 3, at Washington, by Charles V. Burghart of Chicago, chairman of the association's railroad contact committee.

Upon the recommendation of Burghart and his committee of ten outstanding general contractors, the executive cabinet of the Associated General Contractors unanimously endorsed the proposed repeal at its meeting last month in St. Louis and the House Committee on

Interstate and Foreign Commerce recently signified its intention of favorably reporting such a measure.

In explaining the interest and position of the Associated General Contractors in the proposed legislation, Edward J. Harding, the association's managing director, pointed out that its members carry on a business extending over a nation-wide field in which prompt and adequate transportation at reasonable rates is of vital importance to the success of their operations, and that it is essential that the railroads be established on a basis which will make it possible for them, when properly managed, to furnish to their patrons maximum service at minimum cost.

The premises upon which the recapture clause was based have never been carried out by the Interstate Commerce Commission, Harding states, and it is therefore unfair to attempt to collect any recapture money which rightfully should have been permitted to go into reserves for the railroads to take care of lean times such as the present. The cloud of recapture hanging over the railroads undoubtedly prevents their undertaking much needed improvements that would otherwise be made and which, if made, would give employment to a great many men and stimulate business generally, Harding said.

Pacific Clay Products

General Offices: 650 Chamber of Commerce Bldg.,
1151 SOUTH BROADWAY
Los Angeles, Calif.

**HIGHWAY LOCATIONS BY
AERIAL METHODS ADVANCE**

The aerial map for highway location is a considerable step in advance of previously employed location methods according to Gibb Gilchrist, state highway engineer of Texas.

"The all-inclusive presentation of ground detail, the accuracy in scale and orientation, and the development of topographic relief by stereoscopic methods make aerial photographic surveys of highest usefulness in highway location," says Mr. Gilchrist. "Field work is reduced to a minimum of checking the line plotted on the aerial map. Costs are materially less, especially in rough country.

"An aerial map three miles wide between termini is usually sufficient using a scale of 1 inch to 1000 feet under ordinary conditions. Such a map on a cloth-mounted roll will show a distance of 15 to 20 miles when tacked on a table. A stereoscope for showing the map in relief and a set of individual photographs of the map completes the equipment for location.

"Beginning at a town and connecting with the clearly-disclosed street system the locator can avoid expensive right-of-way by passing highly-developed property. In open country, guided by topographic and drainage features he will make his pencil location in as near an air line as possible completing short sections at a time. Then using the individual prints and the stereoscope he can study the fine detail as to elevations and drainage. The final location drawn in ink will be subject to check by field inspection which usually suggests only negligible changes.

"After the location is made, drainage areas may be computed with a planimeter and right-of-way boundaries established."

Cypress Lawn Memorial Park

COLMA, SAN MATEO CO., CALIFORNIA
Executive Office—995 Market St., San Francisco



VIEW OF NEW MEMORIAL COLUMBARIUM
(Largest and most beautiful Columbarium ever erected)

WE HAVE FACILITIES FOR:

- Earth Interment Cremation
- Mausoleum Entombment Columbarium Inurnment

Cypress Lawn is adequately protected by a
PERPETUAL CARE FUND.

"VISIT CYPRESS LAWN MEMORIAL PARK"

Differences Between the Anti-Trust Laws of U. S. and Foreign Countries

By LEO H. SHAPIRO, Attorney at Law, San Francisco *

IN one of the previous issues, the writer discussed the need for modification of the Anti-Trust Laws of the United States. It was suggested in the article that our



LEO H. SHAPIRO

existing anti-trust laws might be modified to conform more to such laws now existing in England, Australia and Canada. It therefore becomes important to discuss the laws of these countries, to ascertain exactly what has been accomplished.

As has been heretofore stated the United States Courts in their interpretation of our Anti-Trust Laws adhere to the Ancient Common Law doctrine which holdings forbid cooperation among competitors regardless of good results and the benefits which may accrue to the commonwealth by reason of such effort.

The Court of England made their first substantial departure from the ancient principle as enumerated by the Common Law in the Mogul Steamship case. This

* This is the second of a series of articles prepared especially for PACIFIC CONSTRUCTOR by Mr. Shapiro on the Anti-Trust Laws.

Mr. Shapiro was formerly a member of the Miscellaneous Committee of the San Francisco Chamber of Commerce, interested in the study of trade associations. At the present time he is general attorney for the Credit Union National Extension Bureau, which is a part of the Twentieth Century Fund, Inc. The Twentieth Century Fund is a foundation financed by Edward A. Filene of Boston, well known philanthropist. Its fundamental policy is directed toward the increase and stabilization of social well-being through assistance given to agencies devoted to the improvement of industrial organization and operating methods.

Its directors number such men as Newton D. Baker, former Secretary of War; Henry Dennison, President of Dennison Manufacturing Company; James H. Fahey, publisher of the Worcester Evening Post, and Ex-President of the Chamber of Commerce of the United States; Edward A. Filene, President of William Filene & Sons Co.; M. Lowenthal of New York City, former Secretary of National Commission of Law Observance and Enforcement; Roscoe Pound, Dean, Harvard University Law School.

In California, through the efforts of the fund in subsidizing the Credit Union Extension Bureau, co-operative credit societies are being organized amongst industrial workers for the purpose of eliminating the loan shark and providing for the up-building of the worker. Approximately 48 of these institutions are now operating in this state, covering employees of the United States Postal Department, department stores, school teachers, municipal employees, railroad workers and the like.

Mr. Shapiro is interested in having industry adopt a more progressive ideal in the elimination of some of the abuses which now exist toward securing a better goal for both industry and those who comprise its integral parts, such as the workers. Incidentally, work in connection with co-operative credit societies is done without charge as to those who desire to organize.

was an action brought by a shipping company against a number of other shipping companies for damages for conspiracy to prevent the plaintiff from conducting the carrying trade between China and England. The purposes of the said combination are stated in the words of Sir Frederick Pollack, Professor of Jurisprudence at Cambridge, to be to grant a rebate to persons employing exclusively the ships of the conference while refusing it to anyone who employs a non-conference ship, and in case any non-conference steamer should attempt to load cargoes at Hankow, then to send as many conference ships as may be needed to underbid the independent steamer without any regard to profit.

The combination as herein set forth was declared lawful by the Courts of England and in the opinion rendered by Lord Coleridge, he said:

"Further, they allege, and I think upon the evidence before me, truly allege, that they could not do this at a profit and that they would therefore probably cease doing it at all, unless they can practically monopolize the carrying trade of tea during the China tea harvest. It is the large profit they make by keeping up the rate of tea freights which enables them to give a regular line of communication during the other months of the year. They contend therefore that what they did by rules of the conference was not purely selfish, though, of course, self interest guided them, but there were real and large public benefits accruing to the inhabitants of China and England from the course which they pursued. I think there is ground for this contention and it should be kept in mind."

What a striking contrast to the views of our Courts is revealed by the foregoing decision.

Perhaps a more striking illustration of the different situations existing in England from ours and much more applicable to existing and urgent conditions in this country as prevail in some of our larger industries, is to be found in the English case of Ware vs. Motor Trade Association, et al. In that case an injunction was brought by plaintiff against the association on the ground that the association had threatened to place plaintiff's name on a stop list, the declared purposes of which were to prevent all dealers in motor cars and motor accessories in Great Britain from dealing with the plaintiff, the necessary result of which would have been to put plaintiff out of business. Such action was to be taken by the association for the reason that the plaintiff who was not even a member of the association had offered for sale a motor car at a price greater than that fixed in the price list published by the association. The plaintiff charged that such action upon the part of the association constituted an unlawful restraint of trade and if the case were pending in the United States, there is no doubt that such would have been the holding by our courts under the authority of the Sherman Act. The Court of Appeals of England, however, by unanimous decision upheld the association and denied the injunction sought for by plaintiff. Each of three judges who decided the case wrote opinions to the



HERCULES EXPLOSIVES

THE CONTRACTORS' FAVORITE

HERCULES POWDER CO.



Standard Oil Building

San Francisco

DOuglas 2330

effect that if the welfare of the motor industry required cooperative agreements as to prices and other like subjects it was lawful for such agreements to be made.

It is interesting to quote from the opinion of Lord Justice Atkin as follows:

"The association consists of members who are engaged in the production and distribution of motor cars and their accessories. It is, in their opinion, in the interests of their trade that their members' goods should be distributed at their members' fixed price, no more, no less. That this is a lawful object I have no doubt. Manufacturers of goods in the motor trade are by no means the only class who adopt a similar policy. To insure their object they refuse to sell to anyone who refuses to sell at the fixed or list prices. In order to secure that their goods do not come into the hands of a recalcitrant seller, they refuse to sell their goods to anyone who supplies such a seller, and in order that the names of such sellers may be known to those concerned, they publish their names in the trade journals in what is called the stop list, which includes an intimation that, until further notice, those named in the list are not to be supplied with the goods in question. If the object be lawful, I find it difficult to see why any of the above means of carrying out the object should be unlawful. If I were called upon to decide whether the measures taken by the association were reasonable for the desired purpose, I should myself, I think, find them to be both reasonable and indeed necessary, for I do not know how the object could otherwise be obtained. However, it is sufficient for me that the association and its members consider the course taken to be desirable in their trade interests."

In the opinion written by Bankes, L. J., he said:

"The professed object of the association is to maintain the price of all articles entered and published, in the current protected list of the association, or the price of which is protected by grant from the associations. The means by which this object is sought to be attained is by stopping the supply of any proprietary priced article not only to any person, whether as member of the association or not, who sells such an article above or below the protected price, but also by stopping the supply of such articles to any person who supplies such articles to an offending person."

After discussing the legal aspect of the case, he proceeds:

"Accepting this view of the law I cannot come to any other conclusion upon the evidence in the case except than what the defendants did, and what is complained of in the present action was done by them bona fide in protection of their trade interest. Under these circumstances neither such coercion or threats as were used nor the action by the defendants in combination, render their action, in my opinion, unlawful or actionable."

Bearing in mind the innumerable prosecutions brought by the government in this country under the Sherman Law against cooperative agreements made by trade associations or any members of an industry, agreements mild in comparison to the English case herein cited, the wide difference between the state of the law in England upon this subject and the state of the law in this country could not be more conspicuously displayed.

It is apparent the English courts based their decision upon a consideration of the public welfare as a whole, as against the principle, which governs in this country, namely, protection of consumers against higher prices.

When it is considered that consumers are also producers, distributors or workers, it cannot be perceived upon what logical basis the prevailing principle in this country can be maintained in seeking to protect the consumers only even in so doing, a greater advantage to the general public is disregarded in that the very essence of this country's prosperity, namely, the welfare or preservation of industries whose existence and welfare are indisputably necessary for the best interests of the country as a whole and therefore of consumers also.

Canada and Australia have specific statutes prevailing upon the subject under discussion.

It must be borne in mind that England has no such specific statute relating to the subject and therefore the decisions above cited are based upon the modernized view of the Ancient Common Law principles which the courts of England have adopted:

The title of the specific statute in Australia is known as the Australian Industries Preservation Act. The purpose of the statute is the prohibition of acts in restraint of trade only when they threaten the existence of Australian industries and not, as in the case of our Sherman Law when such acts might cause increased prices to the consumers. It thus appears that the declared purpose of Congress in enacting the Sherman Law is the same as the Australian law, which purpose of our law however, was afterwards enlarged by the decisions of our courts.

The Australian Law contains the express statements that actions in restraint of trade are only those when they are to the detriment of the public or when such acts are committed "with intent to destroy or injure by means of unfair competition any Australian industry, the preservation of which is advantageous to the commonwealth having due regard to the interests of the producers, workers and consumers.

The economic wisdom of the enactment of the Australian law is to be found in the opinion rendered in the Australian Colliers case which was an action brought by the attorney general of Australia against forty defendants for damages and injunction for alleged breaches of the law. The defendants operated mines in New South Wales and also four of the defendants were shipping companies. In brief, the charges against the defendants were that the coal operators united in an agreement fixing the quantity of the output from their respective mines, and had thereupon entered into a contract with the shipping companies agreeing to sell their entire output to them at fixed prices and likewise providing the prices at which such shipping companies should themselves sell the coal to the dealers.

The Privy Council of England, upon appeal sustained the legality of the agreements and a portion of the opinion by Lord Parker is quoted:

"It was strongly urged in the term 'detriment to the public,' the public means the consuming public, and that the legislature was not contemplating the interests of any persons engaged in the production or distribution of articles of consumption. Their Lordships do not make this view, but the matter is really of little importance, for in considering the interests of consumers it is impossible to disregard the interest of those who are engaged in production and distribution. It can never be to the interests of consumers that an article of consumption should cease to be produced and distributed; as it certainly would be unless those engaged in its production or distribution obtained a fair remuneration for the capital employed and the labor expended."

After setting forth the condition of ruinous competition which existed in the coal industry in Australia, which threatened the ruin of the entire industry, Lord Parker proceeded to say:

"It can never in their Lordship's opinion be of real benefit to the consumers of coal that Colliery proprietors should carry on their business at a loss, or that any profit they make, should depend on the miners' wages being reduced to a minimum. Where these conditions prevail, the less remunerative Collieries will be closed down, there will be great loss of capital; miners will be thrown out of employment; less coal will be produced and prices will consequently rise until it becomes possible to re-open the closed collieries or open other seams. The consumers of coal will lose in the long run if the Colliery proprietors do not make fair wages or the miners do not receive

(Continued on Page 18)

United Commercial Co., Inc.

All Our Used Machinery, Second-hand
Shovels at Less Than Cost

234 Stewart Street

San Francisco

Awards for Single-Track Concrete Roads in 1931

DURING 1931 there were 43 counties in eleven states that constructed a total of 218.7 miles of single track concrete road and widened 47.5 miles of single track previously constructed. One county in Illinois, Champaign, practically completed a 160 mile system of county roads of single track with the construction of 17.5 miles during the year. They are now planning an addition to the system of 130 miles.

A careful survey of single track concrete roads in the United States shows that over 3,000 miles have been built by 207 counties. They are in successful use in all parts of the country and are found in thirty states. Their use extends from light traffic state routes, as in Missouri where

over 530 miles have been built, to main traveled local roads where their use is most common.

Several communities have found they can double their mileage of improved road by building single track and their experience indicates that these roads give local traffic practically full width road service. They find that the single track can be widened ten or fifteen years later when traffic or road revenues increase and save all of the original investment. This has been carried out on over 500 miles of road in thirteen states.

The extent of use of single track concrete in the United States is shown by the following Table I. The year the first single track road was built is also shown.

SINGLE-TRACK CONCRETE ROADS IN THE UNITED STATES AS OF JANUARY 1, 1932

| State | No. Counties | Date First Road Built | 1931 Awards Miles | Miles Single Track Built | Miles Single Track Widened | Net Single Track Remaining |
|------------------|--------------|-----------------------|---------------------------------------|--------------------------|----------------------------|----------------------------|
| Arkansas | 1 | 1930 | ..... | 10.00 | ..... | 10.00 |
| California | 1 | 1916 | ..... | 5.00 | ..... | 5.00 |
| Delaware | 3 | 1927 | 26.65 | 88.91 | ..... | 88.91 |
| Georgia | 1 | 1920 | ..... | 4.65 | ..... | 4.65 |
| Illinois | 61 | 1911 | (76.18 Plus 0.82 Widening) | 875.30 | 125.56 | 749.74 |
| Indiana | 7 | 1916 | 2.85 | 43.45 | ..... | 43.45 |
| Kansas | 1 | 1920 | ..... | 7.99 | ..... | 7.99 |
| Louisiana | 1 | 1915 | ..... | 0.75 | ..... | 0.75 |
| Maryland | 6 | 1914 | 3.38 | 97.46 | ..... | 97.46 |
| Massachusetts | 1 | 1931 | 0.06 | 0.06 | ..... | 0.06 |
| Michigan | 2 | 1910 | 7.68 | 59.72 | 15.06 | 44.66 |
| Minnesota | 1 | 1912 | ..... | 0.16 | ..... | 0.16 |
| Mississippi | 6 | 1914 | ..... | 123.20 | ..... | 123.20 |
| Missouri | 30 | 1922 | (68.80 Plus 41.48 Widening) | 530.52 | 123.27 | 407.25 |
| Nevada | 1 | 1923 | ..... | 3.70 | 3.70 | ..... |
| New York | 14 | 1916 | (10.37 Plus 5.16 Widening) | 217.14 | 27.56 | 189.58 |
| North Carolina | 4 | 1924 | ..... | 34.70 | 11.60 | 23.10 |
| Ohio | 16 | 1912 | 0.16 | 324.56 | 88.48 | 236.08 |
| Oklahoma | 3 | 1925 | ..... | 23.18 | 23.18 | ..... |
| Oregon | 2 | 1921 | ..... | 78.10 | ..... | 78.10 |
| Pennsylvania | 1 | 1930 | ..... | 2.40 | ..... | 2.40 |
| South Carolina | 1 | 1924 | ..... | 12.00 | ..... | 12.00 |
| Tennessee | 3 | 1919 | ..... | 45.63 | 30.75 | 14.88 |
| Texas | 9 | 1912 | 19.61 | 200.80 | ..... | 200.80 |
| Utah | 1 | 1923 | ..... | 2.00 | ..... | 2.00 |
| Virginia | 1 | 1931 | 3.41 | 3.41 | ..... | 3.41 |
| Washington | 7 | 1914 | 3.66 | 71.74 | 2.59 | 69.15 |
| West Virginia | 4 | 1916 | ..... | 65.93 | 27.30 | 38.63 |
| Wisconsin | 17 | 1912 | ..... | 76.50 | 30.18 | 46.32 |
| Wyoming | 1 | 1921 | ..... | 0.45 | ..... | 0.45 |
| TOTALS—30 | 207 | | 218.71 Plus 47.46 Widening | 3,009.41 | 509.39 | 2,500.02 |

SMITH BROS. TRUCK CO.

"TRANSPORTATION SPECIALISTS"

Portable Crane Service—Rigging

1704 E. 16th St. Los Angeles WEstmore 3271



Super Concrete Emulsions

Limited

—for Better Concrete 3710 S. ALAMEDA ST., Los Angeles
District Offices
48th Ave. and 308 Stock Ex. Bldg., 216 Walker Bldg.,
Clement St. Portland, Ore. Seattle, Wash.
Oakland, Calif.

ANTI-TRUST LAWS

(Continued from Page 16)

fair wages. There is in this respect a solidarity of interest between all members of the public. The Crown, therefore, cannot in their Lordship's opinion rely on the mere intention to raise prices as proving an intention to injure the public. To prove an intention to injure the public by raising prices, the intention to charge excessive or unreasonable prices must be apparent."

The striking contrast between the language of the foregoing decision and the decisions of this country is too obvious, to require comment.

The underlying principle of the law of Australia with reference to the subject under discussion in this respect is that the welfare of all the commonwealth must be taken into consideration in its interpretation with proper vigilance for the consumers by seeing to it that prices are not excessive or unreasonable.

Canada's specific statute is known as the "Combines Investigation Act." Its principle is similar to the laws of England and Australia in that the protection of the law is given to the commonwealth as a whole and not merely to consumers as in this country. This fact was demonstrated in a proceeding begun against the Winnipeg Retail Coal Dealers Association. Prices were fixed by members of the Association by agreement in order to prevent ruinous competition which had heretofore existed in the trade. A member sold for less than the price fixed by the association, which then took steps to prevent the dealer from obtaining further supplies of coal.

An investigation was made in pursuance of the Canadian law and it was held that the agreement was lawful upon the following grounds:

"Having regard to these abuses which have been a real menace to the coal trade and a loss to producer for many years, one can scarcely find fault with the efforts of the Association or others, to suppress such activities. The small gain to those who happened to buy at the reduced price is more than offset by the probable failure to obtain well prepared coal and the absence of these dealers carrying on their fair share of the burden of necessary reserve supplies together with the injury they inflict upon bona fide dealers with large investments."

Upon these grounds, I have come to the conclusion that in its activities in endeavoring to limit or prevent this unfair competition it has not operated to the detriment of, or against the best interests of the public."

To demonstrate the effectiveness of the Canadian Act in protecting the interests of the public, attention is called to a complaint made against the Proprietary Articles Trade Association, which association was charged not only with fixing prices but likewise controlling the resale price to prevent predatory price-cutting by their customers. The governmental investigation was the finding that the association has gone far beyond the mere prevention of price cutting and has sought to establish a domination over the entire industry affected. Accordingly the agreements were declared unlawful.

The report of the Canadian Government Investigator indicates the great liberality of the Canadian law as compared with our own law and the careful delineation of the limitation of that liberality by declaring the agreements of the association to be unlawful because they had gone too far.

The report reads:

"From the view point of the trade the Proprietary Articles Trade Association is an attempt promoted by wholesale and retail distributors to re-establish the wholesaler as the channel between manufacturer and retailer or at least to enable him to hold his own in the trade and at the same time to protect the smaller retailer from the price cutting methods of his new and larger competitors. In so far as such price cutting does not re-

sult from savings in operating expenses but represents selling below cost for mere advertising purposes, it would seem to be unfair to the manufacturing as well as to competitors. If all price cutting were of this type and if this were the only type of price cutting to be restrained by the Proprietary Articles Trade Association, there would be less occasion for public concern. But the remedy applied by the Proprietary Articles Trade Association has the effect, unfortunately, of preventing not only predatory price cutting but any reductions in price, regardless of the substantial variations which have been shown to exist in the operating costs and rates of stock-turn of different stores and different types of stores. The Proprietary Article Trade Association has been organized in answer to a real and vexatious problem in drug merchandising but it goes far beyond the cause for legitimate complaint."

The administrative provisions contained in the Canadian Act have proved most effective in actual practice. The act provides for the appointment of an official known as a "Registrar of the Combines Investigation Act." General supervision of proceedings is in the Minister of Labor. The Registrar is empowered to receive applications which must be signed by six persons requesting an investigation of an alleged combine or restraint of trade. The application is brought to the attention of the Minister.

The Registrar upon receiving such application if he has reason to believe such a combine exists or is being formed, or whenever directed by the Minister, commences an inquiry as to the facts and the law with respect to the charge made. Upon receipt of a report from the Registrar, the Minister determines whether further inquiry shall be made. Upon receipt of a report from the Registrar, the closure from any person or corporation charged, with full power to investigate the business of such person. The Minister is given power to employ expert and technical assistants in the conduct of an investigation the proceeding of which must be conducted in private but the Minister may order that any portion of the proceedings shall be conducted in public.

In addition to the foregoing the Canadian Act contains carefully worked out provisions governing the administrative procedure-provisions which judging from actual experience in Canadian cases seem to have resulted in full success.

POWER PROJECT IS DELAYED

Construction work on the San Joaquin Light and Power Corporation's proposed \$5,000,000 steam power plant, near Herndon, scheduled to start this spring, will be delayed indefinitely due to a decrease in the power load and an adequate supply of water for generating power in reservoirs of the company and irrigation district, which make it unnecessary to place any additional generating facilities in operation prior to 1934.

This was the announcement of A. Emory Wishon of San Francisco, president of the power company, in a report on 1931 operations of the power corporation at the annual stockholders' meeting held in Fresno last month. Wishon said while construction work on the steam plant must necessarily be completed before 1934, to have it in operation that year, no definite date has been fixed for the starting of the project.

NOrmandie 4303

NOrmandie 7715

LEO HONEK

EXCAVATING CONTRACTOR
CONCRETE PAVEMENT BREAKING
Compressed Air Equipment

2941 Denby Avenue

Los Angeles, Calif.

THE LEGAL PAGE FOR CONTRACTORS

By GEORGE N. CROCKER, Counsel for Associated General Contractors of America, California Branch

Member of the legal firm of Travers, Landels, Weigel and Crocker

THE CALIFORNIA PREVAILING WAGE LAW SURVIVES COURT TEST

The prevailing wage law of California has withstood the ordeal of a court test. In the case of *The Metropolitan Water District of Southern California, Petitioner, v. W. P. Whitsett*, as



Chairman of the Board of Directors of the Metropolitan Water District of Southern California, Respondent, the issue of the constitutionality of that law was presented to the Supreme Court of California. Upsetting the prognostications of attorneys throughout the State, who had based their predictions upon the fate which had befallen similar legislation in other states, the California court has in the Metropolitan Water District case taken its own firm and independent stand, and has decided that the California statute is a valid exercise of legislative power, and that if any evil effects emanate from

the enforcement of the law, it is for the Legislature rather than for the courts to rectify them.

However, upon the same date that it rendered its decision in the Metropolitan Water District case, the California Supreme Court decided in the case of *City of Pasadena, Petitioner, v. J. W. Charleville, City Manager of the City of Pasadena, Respondent*, that the prevailing wage law is not applicable to public works in cities, as the City of Pasadena, operating under freholder charters containing the so-called home rule clause, which charters grant to the cities a measure of local autonomy. This latter decision greatly cuts down the effect of the prevailing wage law. However, the law is in full force as to public construction work of the State and other political units. The court did not pass upon the question of the applicability of the prevailing wage law to work done in chartered cities under a general assessment act such as the Improvement Act of 1911 and similar acts.

In upholding the constitutionality of the California Prevailing Wage Act, the California Supreme Court refused to concur with the ruling of the Supreme Court of the State of Illinois upon a statute passed in that state almost identical in its terms with the California statute. On constitutional questions, the Supreme Courts of the various states are not necessarily the final authorities. At the apex of the judicial pyramid, there stands the Supreme Court of the United States. The writer does not as yet know whether or not there is any disposition upon the part of those interested in the Metropolitan Water District case to appeal it to that highest tribunal. In view of the manner in which this particular case arose, it is doubtful that there will be any further proceedings in this direction. However, in the course of the future en-

forcement of the prevailing wage law, it is probable that an instance will arise wherein a serious forfeiture or penalty will be sought to be imposed upon a contractor for alleged violations. In such event, the question of seeking a hearing before the United States Supreme Court will then be worthy of serious consideration. Or possibly a test case somewhat similar in its nature to the Metropolitan Water District case will hereafter be prepared with a view to its ultimate submission to that court. Such a case may arise in this state or in another state. There being a sharp diversity of judicial opinion as to the constitutionality of such statutes, it is highly desirable that the matter be finally adjudicated by the highest court in the land. This is particularly so in view of the striking inclination upon the part of state legislatures throughout the country at the present time to indulge in all manner of economic legislation. Such legislation, however, nobly conceived, is usually experimental and often actually destructive in its effects. The limits to which such legislation may go are never clearly defined until the highest judicial authority, the Supreme Court of the United States, has had an opportunity to pass judgment upon particular types of statutes.

At the present time public officials and contractors are bound to enforce and obey the provisions of the California Prevailing Wage Act. That act stands upon the statute books of the State and has been upheld by the Supreme Court of the State. If that law operates unsatisfactorily in practical effect, it is always within the power of the State Legislature to repeal or modify it.

In the Metropolitan Water District case the court frankly admitted that the statute may often be difficult of application, especially in so far as the task of ascertaining "the prevailing rate of wages" is imposed upon the public body awarding the contract. However, the court said:

"It is unnecessary to cite cases to the effect that it has become a firmly established rule of law that a large measure of discretion may be delegated to administrative officers and boards. Here the determination of the Board is made final. This does not mean that the action of the board may be arbitrary or capricious, but the proper administration of the statute will be presumed. Difficulties in such administration are presented by way of argument, but they do not present judicial questions."

Referring to the Board of Directors of The Metropolitan Water District of Southern California, which board would determine the prevailing rate of wages as to work done for that district, the court stated:

"It is for the Board of Directors to ascertain that value"—meaning the fair market value of labor—"as it would the value of any other service of which the district might be in need. When it has done so, that which may have been subject to variation has become definite by the action of constituted authority."

In the City of Pasadena case the California Supreme Court likewise affirmed the constitutionality of the Public Works Alien Employment Act of 1931. This was to be expected in view of the numerous previous decisions of high authority upholding such legislation. This particular statute provides that no alien shall be employed by any contractor or sub-contractor on any public work done for or under the authority of the state or any officer or de-

(Continued on Page 20)

The Engineer--A Parable

By D. B. STEINMAN, *Mem. Am. Soc. C. E.*

ONE day three men, a Lawyer, a Doctor, and an Engineer, appeared before St. Peter as he stood guarding the Pearly Gates.

The first man to step forward was the Lawyer. With confidence and assurance, he proceeded to deliver an eloquent address which left St. Peter dazed and bewildered. Before the venerable Saint could recover, the Lawyer quickly handed him a Writ of Mandamus, pushed him aside, and strode through the open portals.

Next came the Doctor. With impressive, dignified bearing, he introduced himself: "I am Dr. Brown." St. Peter received him cordially. "I feel I know you, Dr. Brown. Many who preceded you said you sent them here. Welcome to our city!"

The Engineer, modest and diffident, had been standing in the background. He now stepped forward. "I am looking for a job," he said. St. Peter wearily shook his head. "I am sorry," he replied, "we have no work here for you. If you want a job, you can go to hell." This response sounded familiar to the Engineer, and made him feel more at home. "Very well," he said; "I have had hell all my life and I guess I can stand it better than the others." St. Peter was puzzled. "Look here, young man, what are you?" "I am an Engineer," was the reply. "Oh yes," said St. Peter. "Do you belong to the Locomotive Brotherhood?" "No, I am sorry," the Engineer responded apologetically. "I am a different kind of engineer." "I do not understand," said St. Peter, "what on earth do you do?" The Engineer recalled a definition and calmly replied: "I apply mathematical principles to the control of natural forces." This sounded meaningless to St. Peter, and his temper got the best of him. "Young man," he said, "you can go to hell with your mathematical principles and try your hand on some of the natural forces there!" "That suits me," responded the Engineer. "I am always glad to go where there is a tough job to tackle." Whereupon he departed for the nether regions.

And it came to pass that strange reports began to reach St. Peter. The celestial denizens, who had amused themselves in the past by looking down upon the less fortunate creatures in the inferno, commenced asking for transfers to that other domain. The sounds of agony and suffering were stilled. Many new arrivals, after seeing both places, selected the nether region for their permanent abode. Puzzled, St. Peter sent messengers to visit hell and to report back to him. They returned, all excited, and reported to St. Peter:

"That engineer you sent down there," said the messengers, "has completely transformed the place so that you would not know it now. He has harnessed the fiery furnaces for light and power. He has cooled the entire place with artificial refrigeration. He has drained the lakes of Brimstone and has filled the air with cool perfumed breezes. He has flung bridges across the bottomless abyss and has bored tunnels through the Obsidian cliffs. He has created paved streets, gardens, parks and playgrounds, lakes, rivers, and beautiful waterfalls. That engineer you sent down there has gone through hell and has made of it a realm of happiness, peace, and industry!"—Reprinted from "The American Engineer," Jan., 1932.

A. G. C. RESOLUTIONS TO BE CONSIDERED AT COMMERCE MEET

Three resolutions adopted by the President's Cabinet of the National A. G. C. are to be submitted to the Twentieth Annual Meeting of the Chamber of Commerce of the United States to be held in San Francisco May 16-20. The resolutions over three important matters of particular interest to the construction industry at this time, namely—Diversion of Gasoline Tax; Hand Labor and Establishment of a Federal Department of Public Works.

The resolutions are published herewith:

DIVERSION OF GASOLINE TAX

The gasoline tax is a special tax for the limited purposes of constructing and maintaining streets and highways. We believe that the diversion of funds derived therefrom to other purposes violates the confidence of the American people who approved the new form of taxation upon the premise that it was solely for highway purposes. We believe such practice is indefensible, and if persisted in will destroy the efficacy of the tax.

We recommend that revenues derived from this tax be not utilized for purposes other than those for which they were originally collected.

FEDERAL DEPARTMENT OF PUBLIC WORKS

There now exists in our Federal Government a multitude of departments and bureaus having construction work in charge and operating independently of each other with much duplication of labor and expense and lack of standardized practice in the administration of such public works.

We recommend the establishment of a Federal Department of Public Works, which would eliminate duplication, expedite the public works program of the Federal Government, and establish a uniform method of administration, thereby definitely serving the public interest.

HAND LABOR

We believe the intelligent acceleration of public works construction programs to relieve unusual employment conditions is a sound policy. We do not believe that proposals to replace modern machine methods with primitive and wasteful hand labor methods are economically sound, and such practices must inevitably lead to an unwarranted costliness of public works projects which will ultimately react to the detriment of the American public.

The inauguration of hand labor methods in public works construction is a substitute for the DOLE, to the principle of which we are convinced the American people are unalterably opposed.

The policy of hand labor in construction cannot be justified to any greater extent than can its general application in the factory, the mill and the shop.

We recommend that in place of any endeavors to make public works appropriations go as far as possible in the direct employment of labor by reverting to hand labor methods, that as many public works projects be undertaken with modern machine methods as are possible with the money to be devoted to this work. We believe this policy will be equally as successful in relieving the general unemployment situation, while at the same time furnishing the American people with a larger volume of public works facilities per dollar expended.

LEGAL DECISIONS

(Continued from Page 19)

partment thereof, or for or under the authority of any county, city and county, district or other political subdivision thereof, and makes it the duty of every public officer thereof to withhold payment to the contractor of a sum equal to \$10.00 per day for every alien employed by the contractor or by any sub-contractor under him. Failure of performance by the contractor, sub-contractor or public officer in accordance with the statute is made a misdemeanor.

Construction Materials and Equipment

TRADE NOTES—PERSONALS



Youdall Construction Company's 120-Ton Buckeye Trencher.

AMERICAN TRACTOR DEVELOPS NEW LARGE CAPACITY CARRIER

A new hydraulic carrier for moving large loads economically over distances up to 2000 feet has been developed and placed on the market by the American Tractor Equipment Co. of Oakland, Calif.

Built in two sizes with four cubic yards and eight cubic yards rated capacities, the Ateco carrier is regularly mounted on crawler tracks, but under favorable conditions the four-yard carrier is furnished with large diameter wide-faced wheels.

The Ateco hydraulic carrier consists of a heavy reinforced body with an endless floor that operates like a conveyor. Power is transmitted to operate the bed either forward or backward. The cutting edge of the carrier is raised or lowered by a powerful hydraulic cylinder. The self-contained Ateco combination power unit consists of an Ateco ball-bearing hydraulic pump with the Ateco single lever control for raising or lowering the body, and a single lever controlled clutch which operates for driving the bed. Power is delivered through a swivel connected drive shaft. All-steel electrically welded construction throughout.

In loading, the cutting edge is depressed by the hydraulic cylinder to depth desired and as the tractor moves forward the dirt is rolled up into the "bank." Under the tractor operator's control, by means of the endless traveling bed, this "bank" is gradually carried back into the body as more dirt is rolled up in front. This operation fills the body with a uniform load up to the capacity of the carrier. The operator levels the body by the hydraulic control and the tractor travels at high speed to deliver the load. The load is spread to accurate grade line over the front, or discharged over the rear while the tractor is in high speed. The rear of the carrier may be placed well over any bank and the load completely wasted.

The carrier will self-load, carry, discharge or spread to a grade line at minimum competitive costs. The unit can be turned on the average road, and is so balanced that it works under low pressure.

MAMMOTH TRENCH-DIGGER MAKES PERFORMANCE RECORD

Emergency connotes the need of immediate action that will bring desired results in the shortest possible time, which observation bears directly on that portion of the San Francisco Hetch Hetchy water project involving the laying of a giant pipe line from the Oakdale Portal, the westerly end of the Foothill Tunnel, to the Tesla Portal, near Tracy—nearly 48 miles. The laying of this line is an emergency measure in that it is designed to bring water to San Francisco in advance of the completion of the tunnels being driven through the same hills which the pipe line will go around.

Along with other activities, the job calls for the burying of 40,000 tons of steel pipe, from 56 to 66 inches in diameter, in a trench about seven and a half feet wide, eight and a half feet deep, and as long as the pipe line. For the first eight miles from Oakdale Portal the line descends through rocky country where drilling and blasting is necessary, but down in the San Joaquin Valley the sandy loam soil is splendidly suited to the operation of the great machine shown in the accompanying photograph.

This monarch of the diggers, a 120-ton Buckeye trencher, is the largest representative of its kind on the Pacific Coast—in fact, this particular piece of equipment is said to be outranked in size by but one other in the whole United States. It is powered by a 125 h.p. Twin City six-cylinder motor. To date its maximum performance on this job is 2400 feet of trench in seven and a half hours, which is claimed to be the high record for work of this sort.

The engineer on the trencher is A. B. Wheeler. Youdall Construction Company of San Francisco is the general contractor on the pipe line project.

The Moon Track Co., McCormick Building, Chicago, announces the "Fabriform" loader for tractor attachment. A ½-yard bucket with a capacity of 4,000 pounds operating on a vertical frame mounted on the front of the tractor has a loading height of 8½ feet. It is designed especially for handling bulk material at low cost. Power is supplied by a take-off from the tractor engine.

UNIT BID SUMMARY

Compiled from the Daily News Service of Pacific Constructor

REINFORCED CONCRETE BRIDGE—MONTEREY COUNTY

MONTEREY COUNTY, Cal.—Ward Engineering Co., 315 Montgomery St., San Francisco, at \$62,165.50 submitted low bid to State Highway Commission Sacramento, to construct a reinforced concrete bridge across Rocky Creek, about 17 miles south of Carmel, consisting of one 239-ft. open spanned arch span and six girder approach spans, having a total length of 253-ft., involving:

- (6) 395 cu. yds. Class A do; (arch ribs);
 - (7) 275,000 lbs. reinf. steel;
 - (8) 2,350 lbs. cast steel rockers and bearings;
 - (9) 300 lbs. bronze expansion plates;
 - (10) 60 lin. ft. 18-in. corr. metal pipe;
 - (11) 1 lot misc. items of work.
- State will furnish corrugated metal pipe.
- Complete bids follow:
- (A) Ward Engineering Co., San Francisco, \$62,165.50.
 - (B) Rocca & Caletti, San Rafael, \$63,001.75.
 - (C) A. W. Terrell, Sacramento, \$66,539.50.

- (D) Geo. J. Ulrich, Modesto, \$67,861.30.
 - (E) F. C. Amoroso & Sons, San Francisco, \$67,991.50.
 - (F) Barrett & Hill, San Francisco, \$69,006.50.
 - (G) Neves & Harp, Santa Clara, \$69,857.50.
 - (H) M. B. McGowan, San Francisco, \$72,852.00.
 - (I) Oberg Bros., Los Angeles, \$79,634.50.
 - (J) Porter Bros., San Francisco, \$80,714.00.
 - (K) Schuler and McDonald, Oakland, \$117,777.00.
- Unit bids follow:

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) |
|----------|--------|--------|---------|---------|---------|---------|--------|--------|--------|--------|-----------|
| (A)..... | \$1.50 | \$1.50 | \$24.40 | \$15.00 | \$48.00 | \$24.50 | \$0.04 | \$1.14 | \$2.23 | \$.60 | \$ 350.00 |
| (B)..... | 1.50 | 1.50 | 22.95 | 22.95 | 50.00 | 22.95 | .038 | 1.15 | .30 | 1.00 | 500.00 |
| (C)..... | 2.00 | 2.75 | 20.00 | 18.00 | 50.00 | 35.00 | .045 | .12 | .30 | 1.00 | 1000.00 |
| (D)..... | .73 | 1.86 | 25.75 | 17.38 | 55.00 | 34.00 | .035 | .16 | .26 | 1.00 | 700.00 |
| (E)..... | 1.50 | 3.00 | 22.00 | 20.00 | 60.00 | 34.00 | .04 | .17 | .25 | 1.00 | 432.00 |
| (F)..... | 1.50 | 2.50 | 25.00 | 16.50 | 72.00 | 36.00 | .036 | .13 | .22 | 1.50 | 650.00 |
| (G)..... | 1.90 | 2.50 | 24.00 | 20.00 | 60.00 | 35.00 | .04 | .15 | .25 | 1.00 | 525.00 |
| (H)..... | 1.50 | 2.00 | 26.00 | 26.00 | 60.00 | 26.00 | .045 | .16 | .26 | 1.40 | 1134.00 |
| (I)..... | 2.00 | 3.40 | 29.00 | 29.00 | 60.00 | 29.00 | .04 | .15 | .40 | 1.00 | 1000.00 |
| (J)..... | 1.80 | 3.10 | 27.00 | 20.00 | 53.00 | 45.00 | .045 | .10 | .30 | .60 | 1662.00 |
| (K)..... | 2.00 | 5.00 | 36.00 | 31.00 | 60.00 | 90.00 | .05 | .30 | .43 | 1.50 | 628.00 |

WIPPLE PUMPING PLANT AND STRUCTURES—GOVERNMENT

ELLENSBURG, Wash.—L. Coluccio & Co., Seattle, at \$13,713 awarded the contract by U. S. Bureau of Reclamation for construction of the Wipple Pumping Plant and appurtenant structures and pump lateral. Complete unit and total bids follow:

- (14) 50 sq. yds. dry rock paving;
- (15) 300 cu. yds. conc. in struc.;
- (16) 300 cu. yds. conc. in pump plant;
- (17) 80 sq. yds. cem. mortar finish, pumping plant floor;
- (18) 57,000 lbs. placing reinf. bars;
- (19) 23 M. ft. b.m., erect timber in flume;
- (20) 1,100 lin. ft. erect No. 108 metal flume;
- (21) 7,300 lbs. instal gates, gate holts, and misc. metal work in penstock intake and discharge pipe outlet struc.;
- (22) instal windows and doors in the pumping plant;
- (23) instal struc. steel and misc. metal work in pumping plant;
- (24) instal built-up asphalt-saturated felt roofing and flashing for pumping plant;
- (25) instal machinery in pumping plant.

- Complete bids follow:
- (A) L. Coluccio & Co., Seattle, \$13,713.
 - (B) Henly & Meenan, Ellensburg, \$13,873.
 - (C) John King & Son, Ellensburg, \$15,055.50.
 - (D) General Const. Co., Seattle, \$15,434.
 - (E) Farker-Schram Co., Portland, \$16,725.00.
 - (F) Lawlor - Woodward Co., Seattle, \$16,752.50.
 - (G) Addison-Miller, Inc., Saint Paul, Minn., \$18,170.
 - (H) Curtis-Gardner, Portland, \$18,537.
 - (I) Pittsburgh-Des Moines Steel Co., Des Moines, Iowa, \$20,336.50.
 - (J) Concrete Const. Co., Seattle, \$21,893.
 - (K) Industrial Contracting Co., Minneapolis, Minn., \$22,493.10.
 - (L) R. H. Stock, Seattle.
- Unit prices were:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) |
|-----------|---------|---------|---------|--------|---------|---------|--------|---------|---------|---------|---------|
| (1)..... | \$.40 | \$ 1.16 | \$.25 | \$.30 | \$.50 | \$.30 | \$.45 | \$.50 | \$.30 | \$.40 | \$.55 |
| (2)..... | .60 | .34 | .55 | .70 | 1.00 | .75 | 1.50 | .50 | .55 | .65 | .80 |
| (3)..... | 1.25 | .80 | .60 | .40 | .80 | 1.25 | 2.00 | 1.00 | 3.00 | 1.10 | 1.35 |
| (4)..... | .40 | .20 | .40 | .40 | .20 | .50 | .50 | 1.00 | .55 | .70 | .70 |
| (5)..... | .75 | .40 | .50 | .80 | 1.25 | 1.00 | 1.50 | 1.00 | .80 | 1.40 | 1.00 |
| (6)..... | 1.25 | 1.25 | 1.25 | 1.50 | 3.00 | 1.50 | 3.50 | 4.00 | 3.00 | 1.70 | 1.50 |
| (7)..... | .35 | .16 | .20 | .50 | .50 | .50 | .50 | 1.00 | .55 | .45 | 1.35 |
| (8)..... | .60 | .50 | .70 | 1.00 | 1.50 | 1.25 | 1.50 | 2.00 | 1.50 | 1.10 | 3.00 |
| (9)..... | 1.25 | 2.00 | 1.00 | 5.00 | 4.00 | 3.00 | 5.00 | 4.00 | 3.50 | 1.65 | 5.00 |
| (10)..... | .35 | .25 | .30 | .30 | .40 | .40 | .50 | .50 | .55 | .20 | .60 |
| (11)..... | .40 | .25 | .25 | .30 | .40 | .40 | .50 | .50 | .65 | .20 | .60 |
| (12)..... | .35 | 1.00 | .50 | .40 | .55 | 1.00 | .50 | 1.00 | 1.50 | .30 | 1.00 |
| (13)..... | .40 | 1.00 | .50 | .40 | .55 | 1.00 | .50 | 1.00 | 1.50 | .30 | 1.00 |
| (14)..... | 1.25 | 1.00 | 1.00 | 2.00 | 2.00 | 1.50 | 1.50 | 1.00 | 4.50 | 3.50 | 2.00 |
| (15)..... | 11.00 | 16.00 | 14.00 | 16.00 | 15.00 | 14.50 | 15.50 | 16.00 | 16.50 | 24.00 | 20.00 |
| (16)..... | 8.50 | 9.00 | 12.00 | 12.00 | 11.00 | 11.00 | 13.00 | 12.00 | 16.50 | 19.00 | 18.00 |
| (17)..... | .40 | .40 | .40 | .50 | .25 | .25 | 1.00 | .50 | .50 | .50 | 2.50 |
| (18)..... | .0125 | .02 | .02 | .02 | .01 | .02 | .010 | .02 | .02 | .015 | .02 |
| (19)..... | 21.50 | 16.00 | 25.00 | 20.00 | 24.00 | 20.00 | 23.00 | 50.00 | 50.00 | 35.00 | 40.00 |
| (20)..... | .50 | .50 | .60 | .50 | .20 | .40 | .70 | .50 | .40 | .50 | 2.00 |
| (21)..... | .03 | .05 | .03 | .03 | .01 | .05 | .08 | .04 | .055 | .05 | 1.00 |
| (22)..... | 200.00 | 80.00 | 132.00 | 150.00 | 50.00 | 50.00 | 175.00 | 25.00 | 100.00 | 150.00 | 300.00 |
| (23)..... | 150.00 | 60.00 | 150.00 | 200.00 | 40.00 | 75.00 | 75.00 | 125.00 | 40.00 | 150.00 | 300.00 |
| (24)..... | 75.00 | 125.00 | 75.00 | 100.00 | 50.00 | 50.00 | 165.00 | 70.00 | 300.00 | 95.00 | 400.00 |
| (25)..... | 2000.00 | 800.00 | 1050.00 | 300.00 | 1000.00 | 2250.00 | 600.00 | 1000.00 | 1000.00 | 1250.00 | 2500.00 |

6.4 MILES GRADING, CONCRETE PAVING—STATE—SOLANO CO.

SOLANO COUNTY Calif.—D. McDonald, 204 23rd St., Sacramento, and N. M. Ball, P. O. Box 215, Porterville, at \$185,483.15 submitted low bid to the State Highway Commission, Sacramento April 20 to grade and pave with Portland cement concrete about 6.4 miles between one-half mile west of Cordelia and one-third mile east of Fairfield, involving:

- (1) 92,500 cu. yds. rdwy. excavation without class;
- (2) 2,400,000 sta. yds. overhaul;
- (3) 16,000 cu. yds. imp. borrow;
- (4) 4,050 cu. yds. struc. excav.;
- (5) 52,350 sq. yds. subgrade for pave.;
- (6) 1,350 cu. yds. cushion course;
- (7) 1,200 cu. yds. salvaged base;
- (8) 4,500 tons untreated cru. stone or gravel surf.;
- (9) 485 tons crushed gravel or stone (bit. treated surf.);
- (10) 25 tons cut back asphalt;
- (11) 168 bbls. light fuel oil;
- (12) 13,900 cu. yds. Class A Portland cem. conc. (pave.); (struc.);
- (13) 725 cu. yds. do; (tremie);
- (14) 40 cu. yds. do;

- (15) 104 cu. yds. Class B Port. cem. conc. (struc.);
- (16) 410,500 lbs. bar reinf. steel (pave. and struc.);
- (17) 1,982 lin. ft. 18-in. corru. metal pipe;
- (18) 288 lin. ft. 24-in. do;
- (19) 665 lin. ft. corrugated metal pipe (clean and relay);
- (20) 236 lin. ft. salvage exist culverts;
- (21) 9 move and reset headwalls;
- (22) 500 cu. yds. Port. cer. concrete remove from exist pave. and struc.;
- (23) 0.6 mile new property fence;
- (24) 6.6 miles new hog tight property fence;
- (25) 40 tubular gates;
- (26) 3.2 miles move and reset fences;
- (27) 310 M. gal. water applied to base and surf.;
- (28) 360 lin. ft. solid timber guard rail;
- (29) 32 M. ft. b.m. redwood timber, dense sel. all-heart structural grade;
- (30) 34 M. ft. b.m. redwood timber select all-heart struc. grade;
- (31) 235 lbs. bronze expansion plates;

- (32) 338 sta. finish rdwy.;
- (33) 77 monuments complete in place.

State will furnish corrugated metal pipe, and cast steel frames and covers for drop inlets.

Complete bids follow:

- (A) D. McDonald, Sacramento, and N. M. Ball, Porterville, \$185,483.15.
- (B) C. W. Wood, Stockton, \$189,563.75.
- (C) Hanrahan Co., San Francisco \$195-144.25.
- (D) Fredrickson & Watson, Oakland, \$195,418.85.
- (E) Union Paving Co., San Francisco, \$203,473.65.
- (F) United Concrete Pipe Co., Los Angeles, \$209,837.85.
- (G) Southern California Roads Co., L. A., \$212,891.50.
- (H) Hein Bros., Basalt Rock Co. and J. V. Galbraith, Petaluma, \$213-758.30.
- (I) Peninsula Paving Co., San Francisco, \$226,878.05.
- (J) Heafey-Moore Co., Oakland, \$232-364.95.

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| (1) | \$.18 | \$.22 | \$.22 | \$.175 | \$.30 | \$.265 | \$.20 | \$.257 | \$.23 | \$.34 |
| (2) | .005 | .005 | .004 | .004 | .005 | .005 | .0015 | .0045 | .005 | .006 |
| (3) | .24 | .40 | .50 | .40 | .65 | .75 | .50 | .605 | .55 | .75 |
| (4) | .40 | .50 | .80 | .60 | .60 | .40 | .56 | .52 | .90 | .60 |
| (5) | .08 | .07 | .06 | .065 | .08 | .07 | .06 | .06 | .09 | .09 |
| (6) | .50 | .50 | .70 | 1.00 | .65 | .85 | .84 | 1.00 | 1.00 | .78 |
| (7) | .50 | .75 | .50 | .65 | .50 | .58 | 1.00 | .40 | .90 | .65 |
| (8) | 1.50 | 1.25 | 1.20 | 1.40 | 1.50 | 1.34 | 1.56 | 1.17 | 1.40 | 1.53 |
| (9) | 2.25 | 2.50 | 1.65 | 3.00 | 2.50 | 2.50 | 2.44 | 2.50 | 3.00 | 2.55 |
| (10) | 18.00 | 15.00 | 20.00 | 9.00 | 12.00 | 16.00 | 9.00 | 19.00 | 12.00 | 10.00 |
| (11) | 1.55 | 2.00 | 1.50 | 2.00 | 1.50 | 1.65 | 2.00 | 1.50 | 1.50 | 2.75 |
| (12) | 6.90 | 6.75 | 7.25 | 7.85 | 7.00 | 7.23 | 8.68 | 8.00 | 8.67 | 8.32 |
| (13) | 15.20 | 15.00 | 13.00 | 15.00 | 16.00 | 20.00 | 18.75 | 16.00 | 17.00 | 14.40 |
| (14) | 15.00 | 15.00 | 15.00 | 12.00 | 10.00 | 20.00 | 10.90 | 12.50 | 12.00 | 12.30 |
| (15) | 12.10 | 13.00 | 12.50 | 12.00 | 15.00 | 13.00 | 15.30 | 15.50 | 14.00 | 13.20 |
| (16) | .036 | .04 | .04 | .035 | .0325 | .0375 | .037 | .038 | .035 | .0365 |
| (17) | .30 | .25 | .40 | .35 | .40 | .30 | .30 | .25 | .40 | .35 |
| (18) | .50 | .25 | .40 | .35 | .35 | .35 | .40 | .35 | .50 | .40 |
| (19) | .50 | .50 | .50 | .40 | .50 | .35 | .50 | .35 | .50 | .40 |
| (20) | .50 | .25 | .50 | .40 | .30 | .25 | .30 | .50 | .50 | 1.50 |
| (21) | 10.00 | 10.00 | 8.00 | 12.00 | 10.00 | 10.00 | 10.00 | 10.00 | 5.00 | 10.00 |
| (22) | 1.25 | 1.50 | 1.50 | 1.15 | 1.00 | 1.00 | 2.00 | 2.00 | 2.50 | 1.00 |
| (23) | 400.00 | 300.00 | 300.00 | 350.00 | 250.00 | 300.00 | 320.00 | 300.00 | 400.00 | 350.00 |
| (24) | 375.00 | 400.00 | 400.00 | 400.00 | 250.00 | 400.00 | 478.00 | 425.00 | 500.00 | 425.00 |
| (25) | 12.00 | 12.00 | 15.00 | 10.00 | 15.00 | 10.50 | 17.00 | 11.20 | 12.00 | 10.00 |
| (26) | 200.00 | 100.00 | 120.00 | 115.00 | 100.00 | 150.00 | 150.00 | 200.00 | 250.00 | 300.00 |
| (27) | 1.00 | 1.00 | 1.20 | 1.10 | 1.50 | 1.00 | 1.00 | 2.50 | 2.50 | 1.50 |
| (28) | 1.00 | 1.00 | 1.00 | 1.30 | 1.00 | 1.00 | .80 | .90 | .80 | .75 |
| (29) | 75.00 | 75.00 | 75.00 | 80.00 | 85.00 | 85.00 | 79.00 | 88.00 | 90.00 | 75.00 |
| (30) | 70.00 | 65.00 | 70.00 | 75.00 | 80.00 | 80.00 | 77.00 | 81.00 | 80.00 | 65.00 |
| (31) | 30.00 | .25 | .20 | .25 | .30 | .25 | .20 | .25 | .25 | .25 |
| (32) | 5.00 | 5.00 | 5.00 | 5.00 | 3.00 | 5.00 | 5.00 | 3.50 | 5.00 | 4.00 |
| (33) | 2.00 | 3.00 | 2.50 | 2.50 | 3.00 | 2.00 | 2.75 | 2.50 | 2.00 | 3.00 |

ROAD OILING—CALIFORNIA STATE

AMADOR, El Dorado and Alpine Counties, Cal.—C. F. Frederickson & Co., Lower Lake, at \$19,533.45 submitted low bid to the State Highway Commission, Sacramento, April 20, to treat with fuel oil and asph. road oil about 80 mi. bet. Chapmans and Picketts Junction and between Picketts Junction and Alpine Junction and between Picketts Junction and Hangmans Bridge near Markleville, involving:

- (1) 1,270 bbls. asph. road oil, Loc. A;
- (2) 350 bbls. heavy fuel oil, Loc. A;
- (3) 2,450 bbls. heavy fuel oil, Loc. B;
- (4) 700 bbls. light fuel oil, Loc. C;

- (5) 350 bbls. heavy fuel oil, Loc. C;
- (6) 975 bbls. light fuel oil, Loc. D;
- (7) 900 bbls. heavy fuel oil, Loc. D;
- (8) 300 bbls. light fuel oil, Loc. E;
- (9) 850 bbls. heavy fuel oil, Loc. E;
- (10) 850 bbls. asph. road oil, Loc. E.

Complete bids follow:

- (A) C. F. Frederickson, Lower Lake, \$19,533.45.
- (B) Tiffany, McReynolds & Tiffany, San Jose, \$21,115.75.
- (C) Basalt Rock Co., Napa, \$22,289.70.
- (D) C. W. Wood, Stockton, \$23,703.75.
- (E) Force Const. Co., Piedmont, \$23-855.00.

Unit bids follow:

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| (A) | \$2.16 | \$1.79 | \$1.99 | \$2.31 | \$2.31 | \$2.57 | \$2.57 | \$2.48 | \$2.65 | \$2.85 |
| (B) | 2.40 | 2.20 | 2.35 | 2.50 | 2.55 | 2.55 | 2.55 | 2.50 | 2.50 | 2.85 |
| (C) | 2.16 | 1.80 | 2.57 | 2.99 | 2.99 | 3.08 | 3.08 | 2.24 | 2.34 | 2.57 |
| (D) | 2.50 | 2.30 | 2.50 | 3.05 | 3.05 | 3.05 | 3.05 | 3.00 | 3.00 | 3.25 |
| (E) | 2.65 | 2.53 | 2.77 | 2.86 | 2.94 | 2.86 | 2.86 | 2.70 | 2.70 | 3.14 |

AWARD

SALINAS, Monterey Co., Cal.—W. A. Dontanville, Box 544, Salinas, at \$13,621.03 awarded contract by county supervisors to pave portions of the Salinas—Monterey Road in Supervisor Districts No. 2 and No. 5, involving:

- (1) 7021 sq. yds. subgrade for hydraulic pavement;
- (2) 1316 cu. yds. Class A Port. cem. conc. pavement;
- (3) 1053 lbs. reinf. steel.

Complete bids follow:

- (A) W. A. Dontanville, Salinas, \$13-621.03.
- (B) Sidney Ruthven, Seaside, \$13-783.15.
- (C) Granite Const. Co., Watsonville, \$15,393.57.

Unit bids follow:

| | (1) | (2) | (3) |
|-----|-------|--------|-------|
| (A) | \$.13 | \$9.35 | \$.05 |
| (B) | .10 | .90 | .05 |
| (C) | .32 | 9.95 | .05 |

WEST BLVD. BRIDGE—LOS ANGELES—BIDS OPENED

LOS ANGELES, Calif.—Lynch-Cannon Engineering Co., 5658 Wilshire Blvd., Los Angeles, submitted low bid to board of public works April 29, at \$59,986.76 to construct West Boulevard Bridge across Venice Blvd. and the tracks of the Pacific Electric Railway, between Victoria Park Drive and 16th Place, under Cash Contract. Structure will be a reinforced concrete, rigid frame type bridge, 526 feet in length, with a 39-foot roadway and one 5-ft. sidewalk, making an overall width of 39 ft. The main spans will be as follows: Over Venice Blvd., 65 ft. in length; over the Pacific Elec. Ry. tracks, 49 ft. in length. Work will include a pedestrian subway along the bridge south of the Pacific Elec. tracks, under Venice Blvd., and a stairway (part of bridge structure), north of the tracks leading from the bridge to the railway right of way, involving:

- (1) reining steel complete in place (about 174 tons);

- (2) 2850 cu. yds. Class F concrete;
- (3) 55 cu. yds. Class G concrete;
- (4) removal of existing bridge;
- (5) pedestrian subway complete in place;
- (6) grading;
- (7) 127 ft. curb bar;
- (8) cement curb;
 - (a) 282 ft. light unplas. curb;
 - (b) 461 ft. heavy do;
 - (c) 168 ft. special curb;
 - (d) 453 ft. special reinf. curb;
- (9) concrete gutter;
 - (a) 904 sq. ft. 8-in. conc. gutter;
 - (b) concrete gutter as per Sec. B, in place;
 - (c) concrete gutter as per Sec. C, 75 lin. ft.;
- (10) cement sidewalk;
 - (a) 4413 sq. ft. sidewalk, 3-inches thick;
 - (b) 162 sq. ft. sidewalk, 4-inches thick;
- (11) construct and remodel storm drains, complete;
- (12) pavements complete in place;

- (13) 7240 sq. ft. oiled roadway;
 - (14) 44 units traffic markers, type B, in place;
 - (15) ornamental handrails, complete, type B, in place;
 - (16) lighting standards and lighting units, complete in place;
 - (17) crib wall, complete, in place.
- Total bids follow:
- (A) Lynch-Cannon Eng. Co., \$59,986.76.
 - (B) Fred F. Greenfield Co., \$62,444.23.
 - (C) Mitty Bros. Const. Co., \$68,477.21.
 - (D) Dimmitt & Taylor, \$69,925.63.
 - (E) Oberg Bros., \$71,427.31.
 - (F) Clark & Campbell, \$72,929.31; alt. \$72,942.01 (change in price using item 7b).
 - (G) Lindgren & Swinerton, Inc., \$73,857.93.
 - (H) Weymouth Crowell Co., \$77,323.74.
 - (I) Byerts & Dunn, \$83,043.44.
 - (J) Engineer's estimate, \$77,558.46.

Unit prices were:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) |
|------------|------------|-------------|------------|-------------|-------------|-------------|------------|-------------|-------------|-------------|
| (1)..... | \$7,500.00 | \$11,029.00 | \$3,300.00 | \$10,500.10 | \$10,030.35 | \$12,000.00 | \$9,600.00 | \$12,100.00 | \$12,300.00 | \$12,000.00 |
| (2)..... | 12.00 | 11.45 | 14.90 | 14.25 | 13.85 | 14.00 | 15.00 | 14.55 | 16.00 | 14.90 |
| (3)..... | 5.00 | 5.00 | 8.00 | 6.50 | 6.35 | 7.50 | 5.00 | 8.55 | 8.00 | 5.70 |
| (4)..... | 7,000.00 | 3,015.00 | 3,400.00 | 2,500.00 | 3,577.00 | 3,700.00 | 3,000.00 | 3,310.00 | 4,000.00 | 3,240.00 |
| (5)..... | 2,000.00 | 2,340.00 | 3,510.00 | 3,000.00 | 3,568.00 | 3,000.00 | 3,200.00 | 3,190.00 | 3,200.00 | 3,200.00 |
| (6)..... | 500.00 | 855.00 | 800.00 | 1,000.00 | 1,568.00 | 2,000.00 | 850.00 | 1,780.00 | 2,500.00 | 1,000.00 |
| (7a)..... | .22 | .31 | .75 | .25 | .25 | .25 | .20 | .32 | .30 | .20 |
| (7b)..... | .22 | .31 | .75 | .25 | .25 | .35 | .20 | .32 | .30 | .20 |
| (8a)..... | .55 | .32 | .4 | .40 | .59 | .45 | .40 | .75 | .40 | .45 |
| (8b)..... | .60 | .35 | .50 | .50 | .73 | .50 | .45 | .91 | .50 | .50 |
| (8c)..... | .85 | .41 | .75 | .50 | .87 | .60 | .50 | 1.00 | .60 | .60 |
| (8d)..... | .95 | .38 | 1.5 | .60 | 1.00 | .75 | .50 | 1.28 | .75 | .75 |
| (8e)..... | .27 | .22 | .25 | .30 | .30 | .25 | .25 | .24 | .30 | .25 |
| (9)..... | 100.00 | 61.00 | 95.00 | 90.00 | 73.60 | 100.00 | 60.00 | 120.00 | 60.00 | 69.00 |
| (9c)..... | .95 | .54 | .80 | .60 | .79 | .75 | .80 | .93 | .65 | .55 |
| (10a)..... | .12 | .11 | .10 | .11 | .13 | .12 | .14 | .115 | .18 | .12 |
| (10b)..... | .14 | .13 | .14 | .15 | .15 | .15 | .18 | .125 | .20 | .15 |
| (11)..... | 1,000.00 | 1,037.00 | 1,031.00 | 1,000.00 | 1,400.00 | 1,000.00 | 3,480.00 | 2,740.00 | 1,520.00 | 1,425.00 |
| (12)..... | 3,000.00 | 4,251.00 | 2,100.00 | 3,000.00 | 3,470.00 | 3,800.00 | 2,786.00 | 4,120.00 | 4,500.00 | 4,167.00 |
| (13)..... | .055 | .0612 | .06 | .035 | .06 | .05 | .10 | .06 | .05 | .04 |
| (14)..... | .55 | .65 | .23 | .25 | .50 | .25 | .30 | 1.55 | .70 | .40 |
| (15)..... | 1,500.00 | 3,738.00 | 4,100.00 | 3,000.00 | 3,600.00 | 3,000.00 | 4,000.00 | 3,820.00 | 4,100.00 | 5,700.00 |
| (16)..... | 900.00 | 1,458.00 | 1,500.00 | 1,375.00 | 1,866.00 | 2,000.00 | 1,835.00 | 1,300.00 | 1,750.00 | 2,500.00 |
| (17)..... | 565.00 | 830.00 | 1,375.00 | 700.00 | 945.00 | 1,000.00 | 800.00 | 1,200.00 | 1,880.00 | 615.00 |

AWARD

SANTA ROSA, Sonoma Co., Cal.—Highway Builders, Ltd., 640 Redhill Ave., San Anselmo, at \$8122.50 awarded contract by county supervisors to construct 11.3 miles of asphaltic oil surfacing on roads in Fourth and Fifth Supervisorial Districts, involving:

Roads To Be Oiled

West Dry Creek Road.....7.00 miles
Red Hill to Hilton.....4.30 miles

Estimated Quantities

675 bbls. heavy oil
225 tons heavy oil
3150 tons rock
3150 tons gravel (alternate).

Complete bids follow:

- (A) Highway Builders, San Anselmo, \$8122.50.
- (B) A. Helwig, Sebastopol, \$8,493.75.
- (C) J. R. Reeves, Sacramento, \$9,679.
- (D) Geo. Petres, Richmond, \$9,731.
- (E) Granite Const. Co., Watsonville, \$10,327.50.
- (F) J. V. Galbraith, Petaluma, \$10,365.75.
- (G) A. Teichert & Sons, Sacramento, \$10,498.50.
- (H) H. C. Tiffanv. San Jose, \$11,508.75.

Unit bids follow:

| | (1) | (2) | (3) | (4) |
|----------|--------|--------|--------|--------|
| (A)..... | \$1.40 | \$1.11 | \$1.85 | \$1.45 |
| (B)..... | 1.55 | 1.35 | 1.65 | 1.40 |
| (C)..... | 1.40 | 1.25 | 2.13 | 1.88 |
| (D)..... | 2.01 | 1.30 | 2.01 | 1.70 |
| (E)..... | 1.50 | 1.50 | 2.10 | 1.85 |
| (F)..... | 2.05 | 1.85 | 1.78 | 1.53 |
| (G)..... | 1.62 | 1.30 | 2.30 | 2.00 |
| (H)..... | 1.75 | 1.30 | 2.10 | 2.35 |

BIDS OPENED

& Dahlberg, Box 517, Yosemite, Calif., at \$59,836 submitted low bid to U. S. Bureau of Public Roads, 461 Market St., San Francisco, for enlarging a ventilating adit in the highway tunnel on Section A5 of Route 2, Wawona Road, Yosemite National Park, involving in the main:

- (1) enlarge roadway tunnel, lump sum
- (2) enlarge adit, lined section, lump sum;
- (3) 470 lin. ft. enlarge adit, unlined section;
- (4) 110 cu. yds. control room and passageway excavation;
- (5) concrete lining, roadway tunnel and adit, lump sum;
- (6) 20 cu. yds. concrete lining, control room and passageway;
- (7) 18,600 lbs. reinforcing steel;
- (8) extra work (furnishing and placing anchor bolts, etc.)

Bids follow:

- (A) Goerig & Dahlberg, Yosemite, \$59,836.00.
- (B) T. E. Connolly, San Francisco, \$66,392.00.

Unit bids follow:

| | (A) | (B) |
|----------|------------|------------|
| (1)..... | \$1,000.00 | \$2,000.00 |
| (2)..... | 3,500.00 | 5,000.00 |
| (3)..... | 85.00 | 87.00 |
| (4)..... | 12.00 | 15.00 |
| (5)..... | 12,000.00 | 15,000.00 |
| (6)..... | 40.00 | 25.00 |
| (7)..... | .06 | .07 |
| (8)..... | 50.00 | 50.00 |

BIDS OPENED

SISKIYOU COUNTY, Cal.—As previously reported, Skeels & Graham Co., Roseville, submitted low bid to F. W. Haselwood, District Engineer, Redding, at \$8567.50 for treating with fuel oil and asphaltic road oil as a dust palliative 36.4 miles highway in Siskiyou County, between Weed and the state line near Colar, involving:

- (1) 220 lbs. heavy fuel oil;
- (2) 850 bbls. asphaltic fuel oil.

Complete list of bids follow: Skeels & Graham Co.—(1) \$2, (2) \$2.55; total, \$8567.50.
Basalt Rock Co.—(1) \$2.24, (2) \$2.64; total, \$942.
Oilfields Trucking Co.—(1) \$2.58, (2) \$2.68; total, \$10,687.

BIDS OPENED

SISKIYOU COUNTY, Cal.—As previously reported, Skeels & Graham Co., Roseville, submitted low bid to District Engineer, F. W. Haselwood, at \$1891.25, for treating with asphaltic road oil as a dust palliative about 20.8 miles between the junction of Routes 3 and 46, near the Shasta River and Walker Station in Siskiyou County, involving 655 bbls. asphaltic fuel oil.

Complete list of bids follow: Skeels & Graham Co., Roseville, \$2.75; total, \$1891.25.
Oilfields Trucking Co., Taft, \$2.96; total, \$1938.
Basalt Rock Co., Napa, \$3.62; total \$2371.

GRADE—SURFACE—WHITE PINE COUNTY, NEVADA

WHITE PINE COUNTY, Nev.—As previously reported, Utah Const. Co., Ogden, Utah, awarded contract by the State Highway Engineer, S. C. Dun-kee, Carson City, Nevada, at \$89,182.14 for grading and surfacing from Iliyah to Robinson Summit, 14.4 mi. involving:

- (1) 138,300 cu. yd. roadway excav.
- (2) 1500 cu. yds. struc. excav.
- (3) 8905 cu. yds. sel. borrow excav. in place;
- (4) 73,969 yd. sta. overhaul;
- (5) 14.40 mi. prepare subgrade and shoulders;
- (6) 28 demolition headwalls;
- (7) 45,500 cu. yd. cr. rk. or cr. grav. surface in place;
- (8) 156 cu. yds. class "B" concrete;
- (9) 122 lin. ft. 15-in. corr. metal pipe in place;
- (10) 1070 lin. ft. 18-in. corr. metal pipe in place;
- (11) 412 lin. ft. 24-in. corr. metal pipe in place;
- (12) 10 lin. ft. 30-in. corr. metal pipe in place;
- (13) 852 lin. ft. 36-in. corr. metal pipe in place;

| | (A) | (B) | (C) |
|-----------|--------|-------|--------|
| (1)..... | \$.25 | \$.30 | \$.30 |
| (2)..... | .50 | .75 | .75 |
| (3)..... | .35 | .25 | .45 |
| (4)..... | .01 | .02 | .02 |
| (5)..... | 50.00 | 50.00 | 50.00 |
| (6)..... | 4.00 | 5.00 | 2.50 |
| (7)..... | .66 | .55 | .56 |
| (8)..... | 21.00 | 27.00 | 27.00 |
| (9)..... | 1.20 | 1.25 | 1.00 |
| (10)..... | 1.25 | 1.50 | 1.25 |
| (11)..... | 2.00 | 1.86 | 1.75 |
| (12)..... | 2.40 | 2.70 | 2.50 |
| (13)..... | 4.00 | 3.25 | 3.50 |
| (14)..... | 6.75 | 6.50 | 6.00 |
| (15)..... | 11.00 | 8.75 | 10.00 |
| (16)..... | .50 | .50 | .50 |
| (17)..... | .80 | 5.00 | 1.00 |
| (18)..... | 2.50 | 3.00 | 2.50 |
| (19)..... | .97 | .06 | .06 |
| (20)..... | 5.00 | 10.00 | 5.00 |
| (21)..... | 100.00 | 50.00 | 100.00 |

- (14) 1020 lin. ft. 48-in. corr. metal pipe in place;
 - (15) 68 lin. ft. 60-in. corr. metal pipe in place;
 - (16) 72 lin. ft. removing corr. metal pipe;
 - (17) 56 lin. ft. removing and resetting corr. metal pipe;
 - (18) 112 monuments;
 - (19) 3000 lbs. reinf. steel;
 - (20) 2 Federal air markers;
 - (21) 14.40 miles finish roadway.
- Complete bids follow:
 (A) Utah Const. Co., Ogden, Utah, \$89,182.14.
 (B) A. D. Drumm, Jr., Fallon, Nev., \$89,626.95.
 (C) Nevada Rock & Sand Co., Reno, \$93,033.13.
 (D) J. N. Tedford, Fallon, Nev., \$98,437.88.
 (E) Wheelwright Const. Co., Ogden, Utah, \$99,583.03.
 (F) Nevada Const. Co., Fallon, Nev., \$109,895.54.
 (G) Edger Bros., Inc., Fallon, Nev., \$11,951.63.

Engineer's estimate, \$91,431.63.

Unit bids follow:

| | (D) | (E) | (F) | (G) | (H) |
|-----------|-------|-------|--------|--------|-------|
| (1)..... | \$.32 | \$.35 | \$.37 | \$.37 | \$.28 |
| (2)..... | 1.00 | 1.00 | .75 | .50 | .75 |
| (3)..... | .30 | .35 | .35 | .45 | .35 |
| (4)..... | .02 | .02 | .01 | .02 | .02 |
| (5)..... | 75.00 | 50.00 | 100.00 | 75.00 | 75.00 |
| (6)..... | 3.00 | 5.00 | 2.00 | 5.00 | 4.00 |
| (7)..... | .65 | .60 | .70 | .75 | .60 |
| (8)..... | 26.00 | 28.00 | 31.00 | 27.50 | 28.00 |
| (9)..... | 1.25 | 1.00 | 1.10 | 1.25 | 1.25 |
| (10)..... | 1.50 | 1.00 | 1.25 | 1.50 | 1.50 |
| (11)..... | 2.00 | 1.65 | 2.00 | 2.00 | 2.25 |
| (12)..... | 2.60 | 2.25 | 2.90 | 2.50 | 2.75 |
| (13)..... | 3.50 | 3.30 | 3.95 | 3.50 | 3.50 |
| (14)..... | 5.50 | 5.30 | 6.50 | 6.00 | 6.00 |
| (15)..... | 9.00 | 10.50 | 11.25 | 10.00 | 9.00 |
| (16)..... | .50 | .50 | .50 | .50 | .50 |
| (17)..... | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| (18)..... | 2.50 | 3.00 | 3.00 | 3.00 | 3.00 |
| (19)..... | .05 | .07 | .08 | .06 | .06 |
| (20)..... | 5.00 | 5.00 | 3.50 | 5.00 | 5.00 |
| (21)..... | 75.00 | 50.00 | 100.00 | 100.00 | 50.00 |

REINFORCED CONCRETE BRIDGE—ORANGE COUNTY

SANTA ANA, Orange Co., Cal.—W. H. Bowman, P. O. Box 282, Tustin, awarded contract by county supervisors at \$29,685.35 to construct a reinforced concrete bridge on 17th St. over the Santa Ana River in the Second Road District, involving:

- (1) dismantling of old structure;
- (2) 6900 cu. yds. embankment for approaches;
- (3) 1485 cu. yds. Class A concrete;
- (4) 53.56 cu. yds. Class C concrete;
- (5) 297,823 lbs. reinf. steel;
- (6) 1775 ft. concrete piles.

The bids were:

| | (1) | (2) | (3) | (4) | (5) | (6) | Totals |
|---------------------------|-----------|-------|---------|---------|--------|--------|-------------|
| (A) Wm. H. Bowman..... | \$1400.00 | \$ 30 | \$ 7.26 | \$38.50 | \$.93 | \$2.50 | \$29,685.35 |
| (B) T. C. Prichard..... | 1750.00 | .27 | 9.85 | 23.30 | .0269 | 2.45 | 31,848.23 |
| (C) Clark & Campbell..... | 2430.00 | .13 | 10.00 | 24.00 | .033 | 2.30 | 33,373.10 |
| (D)..... | 1250.00 | .27 | 9.55 | 45.00 | .032 | 2.80 | 34,205.29 |
| (E)..... | 2500.00 | .32 | 10.00 | 40.00 | .031 | 2.00 | 34,482.91 |
| (F)..... | 1700.00 | .26 | 10.00 | 38.00 | .031 | 2.72 | 34,439.79 |
| (G)..... | 1800.00 | .3075 | 10.50 | 26.40 | .0275 | 3.15 | 34,709.61 |
| (H)..... | 1470.00 | .26 | 10.50 | 48.00 | .03 | 2.70 | 35,154.57 |
| (I)..... | 1500.00 | .25 | 10.90 | 40.00 | .033 | 2.25 | 35,375.81 |
| (J)..... | 1650.00 | .18 | 11.80 | 45.00 | .03 | 2.50 | 36,197.39 |
| (K)..... | 1600.00 | .28 | 12.50 | 35.00 | .03 | 2.00 | 36,453.79 |
| (L)..... | 3500.00 | .29 | 10.25 | 45.00 | .032 | 2.55 | 37,189.04 |
| (M)..... | 2000.00 | .28 | 11.25 | 50.00 | .03 | 3.00 | 37,575.94 |
| (N)..... | 3050.00 | .30 | 10.00 | 60.00 | .03 | 3.25 | 37,887.04 |
| (O)..... | 2900.00 | .25 | 10.50 | 50.00 | .0325 | 3.25 | 38,343.59 |
| (P)..... | 2393.22 | .22 | 11.00 | 33.00 | .035 | 2.30 | 38,797.01 |
| (Q)..... | 1746.79 | .395 | 11.39 | 32.70 | .03645 | 2.86 | 39,079.00 |
| (R)..... | 1500.00 | .49 | 12.00 | 34.00 | .034 | 2.85 | 39,407.13 |
| (S)..... | 1500.00 | .19 | 14.68 | 60.00 | .03 | 1.96 | 40,786.08 |
| (T)..... | 1950.00 | .60 | 11.80 | 60.00 | .033 | 3.80 | 43,399.76 |
| (U)..... | 2150.00 | .28 | 14.8225 | 35.73 | .03 | 3.295 | 43,764.61 |
| (V)..... | 1850.00 | .25 | 15.75 | 45.00 | .035 | 3.20 | 46,477.76 |

- (D) Oberg Brothers.
- (E) Johnson Const. Co.
- (F) Herbert M. Baruch Corp.
- (G) J. E. Burrell and A. G. Schmid.
- (H) Edwin G. Bowen Co.
- (I) J. H. Dudley.
- (J) R. R. Bishop.
- (K) Chas. W. Pettifer Co.
- (L) Norman I. Fadel.
- (M) Byerts & Dunn.
- (N) Franklin B. Cridley.
- (O) Heuser & Garnett.
- (P) M. B. McGowan, Inc.
- (Q) Sharp & Fellows Const. Co.
- (R) Gist & Bell.
- (S) Chas. and Fred W. Steffen.
- (T) W. S. Nethery & Son.
- (U) Hart, Petley & O'Hara.
- (V) W. M. Ledbetter & Co.

BIDS OPENED

LOS ANGELES, Cal.—Bids for furnishing B. & S. cast iron water pipe under Specifications No. 3773 received by city purchasing agent, April 14, follow:

- (1) 10,000 lin. ft. 8-in. f. o. b. Slauson and Compton Ave.;
- (2) 20,000 lin. ft. 8-in. Slauson and Compton Ave.;
- (3) 30,000 lin. ft. 8-in. f. o. b. Hewitt Street;
- (4) 10,000 lin. ft. 8-in. f. o. b. Hewitt Street;
- (5) 15,000 lin. ft. 8-in. f. o. b. Aetna and Vesper Sts., Van Nuys;
- (6) 15,000 lin. ft. 8-in. f. o. b. Aetna and Vesper Sts.;
- (7) 20,000 lin. ft. 12-in. f. o. b. Hewitt Street;
- (8) 20,000 lin. ft. 12-in. f. o. b. Hewitt Street;
- (9) 10,000 lin. ft. 12-in. f. o. b. Slauson and Compton Ave.;
- (10) 10,000 lin. ft. 12-in. f. o. b. Slauson and Compton Ave.

The bidders were:
 (A) American Cast Iron Pipe Co.
 (B) National Cast Iron Pipe Co.
 (C) U. S. Pipe & Foundry Co.
 (D) Pacific States Cast Iron Pipe Co.
 (E) Utilities Equipment Corp.
 All terms net.

The bids follow:

| | (A) | (B) | (C) | (D) | (E) |
|-----------|-------|-------|--------|---------|-----|
| (1)..... | \$.65 | \$.67 | \$.646 | \$.6892 | |
| (2)..... | .655 | .65 | .67 | .712 | |
| (3)..... | .655 | .647 | | .7651 | |
| (4)..... | .645 | .67 | | .7101 | |
| (5)..... | | .69 | .668 | .7085 | |
| (6)..... | .675 | .67 | .69 | .7669 | |
| (7)..... | 1.35 | 1.38 | | 1.5135 | |
| (8)..... | 1.36 | 1.35 | | 1.4710 | |
| (9)..... | 1.36 | 1.35 | | 1.3642 | |
| (10)..... | 1.36 | 1.35 | | 1.4992 | |

AWARD

SANTA ROSA, Sonoma Co., Cal.—Highway Builders, Ltd., 640 Redhill Ave., San Anselmo, at \$10,116.65 for gravel awarded contract by the county supervisors to construct 11.75 miles of asphaltic oil surfacing on roads in 5th Supervisorial District, involving:

- Light oil;
- Heavy oil;
- Rock;
- Gravel.

- Complete bids follow:
 (A) Highway Builders, San Anselmo, \$10,116.65.
 (B) A. Helwig, Sebastopol, \$10,475.50.
 (C) J. R. Reeves, Sacramento, \$10,737.00.
 (D) Geo. Peres, Richmond, \$12,126.55.
 (E) J. V. Galbraith, Petaluma, \$12,603.25.
 (F) Granite Const. Co., Watsonville, \$12,927.50.
 (G) A. Teichert & Sons, Sacramento, \$14,338.50.

Unit bids follow:

| | (1) | (2) | (3) | (4) |
|----------|--------|--------|--------|--------|
| (A)..... | \$1.53 | \$1.20 | \$2.25 | \$1.87 |
| (B)..... | 1.55 | 1.65 | 2.00 | 1.50 |
| (C)..... | 1.50 | 13.50 | 2.24 | 1.99 |
| (D)..... | 2.35 | 14.08 | 2.44 | 2.17 |
| (E)..... | 2.15 | 19.50 | 2.01 | 1.55 |
| (F)..... | 1.70 | 16.00 | 2.65 | 2.43 |
| (G)..... | 2.00 | 16.50 | 2.55 | 2.70 |

BIDS REJECTED

SANTA ROSA, Cal.—Highway Builders, Ltd., 640 Redhill Ave., San Anselmo, at \$15,240 submitted only bid to county supervisors to construct 22.0 miles of Asphaltic Oil Surfacing on roads in Third Supervisorial District, involving:

- Light oil..... \$1320 tons
- Heavy oil..... 440 tons
- Rock..... 6000 tons

Unit bids follow: (1) \$2.00; (2) \$1.00 (3) \$1.00. Bids rejected and work will be done by days labor.

SECTION A—SUNSET BLVD.—SAN FRANCISCO

SAN FRANCISCO.—Fay Imp. Co., Phelan Bldg., at approximately \$117,077.42 submitted low bid to the Department of Public Works to improve Section "A" of Sunset Blvd. from Yorba Street to the Skyline Blvd. Est. cost, \$180,000. Project involves:

- (1) 151,800 cu. yds. excavation;
- (2) 263,700 sq. ft. asphalt mac. pave.;
- (3) 194,800 sq. ft. 2½-in. asphalt conc. wearing surface;
- (4) 110,000 sq. ft. 4-in. waterbound macadam sidewalk;
- (5) 42,600 sq. ft. 6-in. waterbound macadam equestrian path;
- (6) 46,400 sq. ft. completion of existing sidewalk;
- (7) 36,100 sq. ft. completion of existing equestrian paths;
- (8) 2,700 sq. ft. conc. sidewalk, one-course;
- (9) 14,800 unarmored concrete curb;
- (10) 19,700 sq. ft. 2x6-in. conc. header;
- (11) 9,500 sq. ft. basalt block slope pavement;
- (12) 305,000 sq. ft. loam;
- (13) 305,000 sq. ft. manure;
- (14) 2 brick manholes;
- (15) 13 brick catchbasins;
- (16) 2 brick catchbasins, multiple inlet;
- (17) 750 lin. ft. 10-in. V.C.P. culvert;
- (18) 240 lin. ft. 12-in. do;
- (19) 90 lin. ft. 15-in. do;

- (20) 48 cu. yds. Class B 2500-lb. concrete in retaining wall;
- (21) 2,600 lbs. bar reinf. steel;
- (22) 540 ft. 3-in. NEG galv. conduit;
- (23) 100 ft. wood fence;
- (24) 326 ft. 48-in. corr. metal culvert
- (25) 6,020 ft. 6-in. c. i. water pipe;
- (26) 990 ft. 2½-in. galv. wrought iron water pipe;
- (27) 2,750 ft. 2-in. do;
- (28) 5,700 ft. 1½-in. do;
- (29) 5,000 ft. 1¼-in. do;
- (30) 1,800 ft. 1-in. do;
- (31) 15,550 ft. ¾-inch galv. wrought iron sprinkler lines;
- (32) 8 6-in. standard valves;
- (33) 180 1-in. lawn cocks;
- (34) 12 brass boxes for gate valves;
- (35) 6,330 ft. painting existing red-wood curb;
- (36) 5 concrete end wall culverts;
- (37) 120 ft. redwood spillway.

Complete bids (approximate totals) follow:

| | |
|-------------------------------|--------------|
| (A) Fay Improvement Co..... | \$117,077.42 |
| (B) Meyer Rosenberg..... | 122,078.57 |
| (C) Eaton & Smith..... | 126,338.30 |
| (D) MacDonald & Kahn..... | 134,861.48 |
| (E) California Const. Co..... | 138,843.55 |
| (F) Sibley Grading Co..... | 145,031.97 |
| (G) C. L. Harney..... | 146,356.84 |
| (H) Union Paving Co..... | 158,106.00 |

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) |
|-----------|--------|--------|--------|--------|--------|--------|--------|-------|
| (1)..... | .173 | .21 | .17 | .204 | .256 | .2136 | .217 | .20 |
| (2)..... | .0785 | .06 | .102 | .093 | .10 | .12 | .115 | .14 |
| (3)..... | .0585 | .06 | .07 | .074 | .07 | .0725 | .078 | .06 |
| (4)..... | .019 | .02 | .03 | .015 | .015 | .03 | .02 | .04 |
| (5)..... | .022 | .02 | .035 | .025 | .03 | .04 | .024 | .04 |
| (6)..... | .0128 | .005 | .01 | .012 | .01 | .0125 | .012 | .04 |
| (7)..... | .014 | .0075 | .005 | .024 | .015 | .02 | .012 | .04 |
| (8)..... | .124 | .10 | .14 | .66 | .13 | .12 | .145 | .14 |
| (9)..... | .432 | .45 | .40 | .144 | .44 | .48 | .496 | .50 |
| (10)..... | .077 | .05 | .10 | .142 | .15 | .05 | .109 | .15 |
| (11)..... | .147 | .08 | .10 | .192 | .15 | .05 | .109 | .15 |
| (12)..... | .024 | .025 | .035 | .024 | .022 | .03 | .026 | .04 |
| (13)..... | .014 | .01 | .01 | .018 | .01 | .015 | .014 | .02 |
| (14)..... | 68.85 | 60.00 | 90.00 | 72.00 | 100.00 | 86.00 | 72.60 | 85.00 |
| (15)..... | 79.20 | 50.00 | 90.00 | 60.00 | 70.00 | 86.00 | 78.65 | 85.00 |
| (16)..... | 125.00 | 100.00 | 200.00 | 108.00 | 90.00 | 150.00 | 193.60 | 85.00 |
| (17)..... | 1.33 | .60 | 1.25 | .72 | 1.10 | 1.10 | 1.21 | 1.50 |
| (18)..... | 1.48 | .70 | 1.50 | .90 | 1.20 | 1.60 | 1.60 | 2.00 |
| (19)..... | 1.43 | 1.00 | 2.00 | 1.50 | 1.40 | 2.15 | 3.00 | 2.00 |
| (20)..... | 17.20 | 14.00 | 19.00 | 24.00 | 15.00 | 21.50 | 22.39 | 20.00 |
| (21)..... | .043 | .04 | .035 | .048 | .03 | .05 | .048 | .04 |
| (22)..... | .80 | .60 | .60 | .84 | .80 | .60 | .847 | .50 |
| (23)..... | .90 | .50 | 1.00 | 1.20 | .75 | 1.25 | 1.21 | 1.00 |
| (24)..... | 8.00 | 6.50 | 7.00 | 7.20 | 5.00 | 8.00 | 12.10 | 8.00 |
| (25)..... | .85 | .74 | .72 | 1.02 | 1.10 | .887 | .943 | .80 |
| (26)..... | .93 | .91 | .72 | 1.20 | 1.20 | .825 | .931 | 1.00 |
| (27)..... | .67 | .61 | .50 | .90 | 1.00 | .582 | .726 | .75 |
| (28)..... | .497 | .44 | .35 | .65 | .55 | .436 | .592 | .50 |
| (29)..... | .436 | .45 | .33 | .60 | .45 | .422 | .58 | .50 |
| (30)..... | .343 | .34 | .20 | .48 | .35 | .351 | .447 | .60 |
| (31)..... | .219 | .22 | .17 | .30 | .20 | .234 | .242 | .20 |
| (32)..... | 35.00 | 27.14 | 25.00 | 38.40 | 20.00 | 23.40 | 30.25 | 30.00 |
| (33)..... | 3.15 | 3.75 | 2.75 | 4.20 | 3.00 | 3.24 | 4.235 | 5.00 |
| (34)..... | 30.00 | 35.00 | 25.00 | 38.40 | 25.00 | 33.00 | 30.25 | 40.00 |
| (35)..... | .085 | .02 | .01 | .006 | .025 | .03 | .012 | .05 |
| (36)..... | 8.25 | 4.00 | 10.00 | 24.00 | 10.00 | 17.50 | 10.300 | 15.00 |
| (37)..... | 2.25 | 3.00 | .75 | 1.56 | .50 | .90 | 1.815 | .20 |

AWARD

SAN MATEO, Cal.—Union Paving Co., 624 Call Bldg., San Francisco, at \$33,403 awarded contract by city council to improve portions of Isabelle Avenue, Hacienda St., Portola Drive, Delmar Way, 27th Ave., and San Mateo Terrace, involving:

- (1) 5,000 cu. yds. grading;
- (2) 30,200 sq. ft. sidewalk;
- (3) 6,050 lin. ft. 12-in. curb and 24-in. gutter;
- (4) 87,000 sq. ft. 3½-inch asphalt pave. and 1½-in. wear surf.;
- (5) 132 lin. ft. headerboard;
- (6) 420 lin. ft. 8-in. vit. pipe;

- (7) 3,110 lin. ft. 6-in. vit. pipe;
- (8) 3,000 lin. ft. 4-inch lateral sewer vit. pipe;
- (9) 1 reinf. conc. box culvert (17 cu. yds.);
- (10) 74 lin. ft. 36-in. conc. pipe;
- (11) 126 lin. ft. 12-in. conc. pipe;
- (12) 14 manholes;
- (13) 8 catchbasins;
- (14) 124 Y branches;
- (15) 2,480 lin. ft. 6-in. c. i. water pipe;
- (16) 1,060 lin. ft. 4-in. do;
- (17) 440 lin. ft. 2-in. wrought iron pipe
- (18) 17 6-in. gate valves, inclu. valve box;
- (19) 3 4-in. do;
- (20) 12-2-in. do;

Complete bids follow:

| | Union Pav. Co | Hanrahan Co. |
|------------|---------------|--------------|
| (1)..... | \$.20 | \$.20 |
| (2)..... | .15 | .185 |
| (3)..... | .75 | .80 |
| (4)..... | .14 | .15 |
| (5)..... | 300.00 | 500.00 |
| (6)..... | 6.00 | 5.17 |
| (7)..... | 1.00 | 2.75 |
| (8)..... | 50.00 | 25.00 |
| (9)..... | 1.00 | .71 |
| (10)..... | .50 | .35 |
| (11)..... | .50 | .26 |
| (12)..... | .50 | .50 |
| (13)..... | 60.00 | 45.00 |
| (14)..... | 1.25 | .90 |
| (15)..... | 1.00 | .63 |
| (16)..... | 1.00 | .42 |
| (17)..... | 55.00 | 55.00 |
| (18)..... | 10.00 | 22.00 |
| (19)..... | 15.00 | 14.00 |
| (20)..... | 10.00 | 9.00 |
| Total..... | \$33,403.00 | \$34,288.33 |

BIDS OPENED

LOS ANGELES, Cal.—Alvord Nichols, 922 California Bldg., submitted low bid to board of public works at \$35,163.50 for improving streets in Abington Ave. and Balmoral Ave. Imp. Dist. (2127 ft.), involving:

- (1) grading (7770 cu. yds. cut, 813 cu. yds. fill);
- (2) 45,990 sq. ft. 6-in. conc. pave.;
- (3) 65 sq. ft. 8-in. conc. local depressions;
- (4) 57 sq. ft. Class D resurfacing;
- (5) 2624 ft. reinf. integral curb;
- (6) 1748 ft. integral curb (without reinf.);
- (7) storm drain complete;
- (8) sanitary sewer;
- (9) 492 ft. house sewers without conc. reinf.;
- (10) 9 ft. house sewers with concrete reinf.;
- (11) water system;
- (12) 60 water services.

The totals of the bid and of the estimate follow:

| | |
|------------------------------|-------------|
| (A) Alvord Nichols..... | \$35,163.80 |
| (B) Engineer's estimate..... | 26,530.93 |

The unit bids were:

| | (A) | (B) |
|-----------|-----------|-----------|
| (1)..... | \$8000.00 | \$4250.00 |
| (2)..... | .225 | .182 |
| (3)..... | .27 | .25 |
| (4)..... | .30 | .30 |
| (5)..... | .60 | .60 |
| (6)..... | .50 | .45 |
| (7)..... | 700.00 | 400.00 |
| (8)..... | 737.00 | 530.00 |
| (9)..... | 1.50 | 1.00 |
| (10)..... | 2.00 | 1.60 |
| (11)..... | 4000.00 | 3480.00 |
| (12)..... | 25.00 | 20.00 |

BIDS REJECTED

SANTA ROSA, Sonoma Co., Cal.—Bids rejected by county supervisors to construct ten miles of asphaltic oil surfacing on roads in the Second Supervisorial District, as follows:

Roads To Be Oiled

| | |
|--------------------------|------------|
| Vine Hill Road..... | 2.50 miles |
| Trenton Road..... | 2.50 miles |
| Molino Road..... | 1.25 miles |
| Pleasant Hill Road..... | 1.50 miles |
| New Occidental Road..... | 2.25 miles |

Estimated Quantities

| | |
|----------------|-----------|
| Light oil..... | 600 bbls. |
| Heavy oil..... | 200 tons |
| Rock..... | 2800 tons |

Bids follow:

| | |
|--------------------------------|----------|
| (A) T. Jensen, Stockton..... | \$13,800 |
| (B) A. Helwig, Sebastopol..... | 14,350 |

Unit bids follow:

| | (1) | (2) | (3) |
|----------|---------|----------|--------|
| (A)..... | \$12.00 | \$500.00 | \$2.00 |
| (B)..... | 17.00 | 275.00 | 2.40 |

Work will be done by day labor.

ROAD OIL, ASPHALT, ETC.—OREGON STATE

OREGON STATE—Bids received by the Oregon State Highway Department for furnishing road oil, asphalt, cut-back, and emulsified asphalt for Oregon state force account work opened by R. H. Baldock, the State Highway Engineer, follow:

- (1) 500 bbls. No. 1 road oil tany cars Bay District;
- (2) 1500 bbls. No. 1 road oil, tank cars Portland;
- (3) 500 bbls. No. 2 road oil, tank cars, Bay District;
- (4) 4000 bbls. No. 2 road oil, tank cars Portland;
- (5) 6000 tons No. 3 road oil, tank cars, Bay District;
- (6) 100 tons No. 3 road oil, drums Bay District;
- (7) 100 tons No. 3 road oil, drums, Portland;
- (8) 250 tons D asphalt—S. H. barrels, Bay District;
- (9) 500 tons D asphalt—S. H. barrels, Portland;
- (10) 2400 tons E asphalt tank cars, Bay District;
- (11) 400 tons E asphalt D. H. barrels, Bay District;
- (12) 125 tons E asphalt S. H. barrels, Bay District;
- (13) 800 tons E asphalt, S. H. barrels, Portland;
- (14) 125 tons E asphalt S. H. barrels, Portland;
- (15) 125 tons light cut-back tank cars, Bay District;
- (16) 600 tons light cut-back tank cars, Portland;
- (17) 100 tons light cut-back drums, Bay District;
- (18) 100 tons light cut-back drums, Portland;

- (19) 100 tons heavy cut-back tank cars Bay District;
- (20) 100 tons do, Portland;
- (21) 100 tons heavy cut-back drums, Bay District;
- (22) 100 tons heavy cut-back drums, Willbridge;
- (23) 300 tons emul. asphalt tank cars, Bay District;
- (24) 1200 tons do, Willbridge;
- (25) 100 tons emul. asphalt drums, Bay District;
- (26) 100 tons do, Willbridge.

- ALTERNATE BOAT DELIVERY
- (27) 200 tons emul. asphalt bulk, Tillamook;
 - (28) 200 tons emulsified asph. drums, Tillamook;
 - (29) 400 tons emulsified asphalt bulk, Toledo;
 - (30) 400 tons emulsified asph. drums, Toledo;
 - (31) 150 tons emulsified asph., bulk, Toledo;
 - (32) 150 tons emulsified asph. drums, Toledo;
 - (33) 100 tons emulsified asphalt bulk, Coos Bay;
 - (34) 100 tons emulsified asphalt drums, Coos Bay;
 - (35) 750 tons emulsified asphalt bulk, Crescent City.
 - (36) 750 tons emulsified asphalt drums Crescent City.

The bidders were:
 (A) Union Oil Co.
 (B) Associated Oil Co.
 (C) General Petroleum Co.
 (D) Gilmore Oil Co.
 (E) Standard Oil Co.
 (F) Shell Oil Co.
 (G) Bitumuls Asphalt Sales Corp.

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) |
|-----------|---------|---------|-------|-------|-------|-------|-------|
| (1)..... | \$.725 | \$.725 | ..... | ..... | ..... | ..... | ..... |
| (2)..... | .89 | .90 | .90 | .90 | .90 | .90 | ..... |
| (3)..... | .78 | .78 | .89 | .89 | .89 | .89 | ..... |
| (4)..... | .89 | 1.15 | .99 | .99 | .99 | 1.04 | ..... |
| (5)..... | 6.89 | 6.90 | ..... | 6.97 | 6.97 | 7.40 | ..... |
| (6)..... | 17.30 | ..... | ..... | 14.07 | 14.07 | 14.54 | ..... |
| (7)..... | 19.70 | ..... | ..... | 16.57 | 16.57 | 18.87 | ..... |
| (8)..... | 13.90 | ..... | ..... | 13.94 | 13.94 | 15.45 | ..... |
| (9)..... | 15.90 | ..... | ..... | 17.34 | 17.34 | 18.85 | ..... |
| (10)..... | 7.39 | 7.40 | ..... | 7.94 | 7.94 | 7.94 | ..... |
| (11)..... | 14.90 | ..... | ..... | 15.04 | 15.04 | 16.54 | ..... |
| (12)..... | 13.90 | ..... | ..... | 13.94 | 13.94 | 15.44 | ..... |
| (13)..... | 16.90 | ..... | ..... | 18.44 | 18.44 | 19.94 | ..... |
| (14)..... | 15.90 | ..... | ..... | 17.34 | 17.34 | 18.84 | ..... |
| (15)..... | 7.39 | 7.45 | ..... | 7.94 | 7.94 | 10.89 | ..... |
| (16)..... | 13.89 | ..... | 15.26 | 15.26 | 15.26 | 14.89 | ..... |
| (17)..... | 18.67 | ..... | ..... | 15.04 | 15.04 | 17.99 | ..... |
| (18)..... | 21.07 | ..... | ..... | 17.54 | 17.54 | 21.99 | ..... |
| (19)..... | 7.39 | 9.45 | 7.94 | 7.94 | 7.94 | 10.89 | ..... |
| (20)..... | 13.89 | ..... | 15.26 | 15.26 | 15.26 | 14.89 | ..... |
| (21)..... | 18.67 | ..... | ..... | 15.04 | 15.04 | 17.99 | ..... |
| (22)..... | 21.07 | ..... | ..... | 17.54 | 17.54 | 21.99 | ..... |
| (23)..... | 13.80 | ..... | ..... | ..... | ..... | 13.80 | 13.80 |
| (24)..... | 17.80 | ..... | ..... | ..... | ..... | 17.80 | 17.80 |
| (25)..... | 28.20 | ..... | ..... | ..... | ..... | 28.20 | 28.20 |
| (26)..... | 32.20 | ..... | ..... | ..... | ..... | 32.20 | 32.20 |
| (27)..... | ..... | ..... | ..... | ..... | ..... | 21.80 | 21.80 |
| (28)..... | ..... | ..... | ..... | ..... | ..... | 36.60 | 36.60 |
| (29)..... | ..... | ..... | ..... | ..... | ..... | 22.20 | 22.20 |
| (30)..... | ..... | ..... | ..... | ..... | ..... | 37.40 | 37.40 |
| (31)..... | ..... | ..... | ..... | ..... | ..... | 22.40 | 22.20 |
| (32)..... | ..... | ..... | ..... | ..... | ..... | 37.40 | 37.40 |
| (33)..... | ..... | ..... | ..... | ..... | ..... | 24.90 | 24.90 |
| (34)..... | ..... | ..... | ..... | ..... | ..... | 33.62 | 33.62 |
| (35)..... | ..... | ..... | ..... | ..... | ..... | 23.95 | 23.95 |
| (36)..... | ..... | ..... | ..... | ..... | ..... | 34.55 | 34.55 |

BIDS REJECTED
 SANTA ROSA, Sonoma Co., Cal.—T. Jensen, Stockton at \$13,275 submitted only bid to county supervisors to construct 15 miles of asphaltic oil surfacing on roads in First Supervisorial District, involving:
Roads To Be Oiled
 Cotati Section8.0 miles

Sonoma Valley7.0 miles
Estimated Quantities
 900 barrels light oil;
 300 tons heavy oil;
 3700 tons rock.
 Unit bids follow:
 (1) \$1.50 (2) \$12.00 (3) \$2.25.
 Bid rejected and work will be done by day labor.

AWARD
 CLARK COUNTY, Nev.—As previously reported, Thorne, Strong & Grant, Springville, Utah, was awarded contract by State Highway Engineer S. C. Durkee, Carson City, Nevada, at \$101,232 to construct reinforced concrete bridge over Virgin River, between Glendale and Bunkerville, 0.17 miles, involving:
 (1) 900 cu. yds. rdwy. excav.;
 (2) 3,800 cu. yds. struc. excav.;
 (3) 1,530 cu. yds. Class A concrete;
 (4) 1,620 cu. yds. Class D concrete;
 (5) 1,800 lin. ft. concrete railing;
 (6) 220 cu. yds. rip-rap;
 (7) 64 lin. ft. stand. timber guard rail;
 (8) 4 monuments;
 (9) 477,000 lbs. reinf. steel;
 (10) 29,000 lbs. expansion plates and rockers;
 (11) 3,400 lin. ft. furnish timber piles;
 (12) 7,850 lin. ft. drive piles;
 (13) remove temporary structure.
 Complete bids follow:
 (A) A. O. Thorn, Strong & Grant\$101,232.00
 (B) Dodge Bros., Inc, Fallon Nevada 108,941.00
 (C) Utah Construction Co., Ogden, Utah 112,728.50
 (D) Gibbons & Reed, Salt Lake City, Utah 117,514.50
 Unit bids follow:

| | (A) | (B) | (C) | (D) |
|-----------|----------|----------|--------|--------|
| (1)..... | \$.25 | ..... | .30 | ..... |
| (2)..... | 3.00 | 2.00 | 3.50 | 4.00 |
| (3)..... | 17.00 | 17.50 | 16.50 | 19.00 |
| (4)..... | 17.80 | 17.50 | 22.50 | 21.00 |
| (5)..... | 1.25 | 4.00 | 3.50 | 2.00 |
| (6)..... | 4.00 | 3.00 | 2.50 | 1.50 |
| (7)..... | 1.00 | 1.00 | 1.00 | 1.00 |
| (8)..... | 4.00 | 3.00 | 3.00 | 2.00 |
| (9)..... | .04 | .045 | .0365 | .0375 |
| (10)..... | .15 | .14 | .18 | .14 |
| (11)..... | .34 | .40 | .38 | .50 |
| (12)..... | .50 | .50 | .50 | 1.00 |
| (13)..... | 1,000.00 | 1,000.00 | 500.00 | 500.00 |

AWARD
 SANTA ROSA, Sonoma Co., Cal.—Highway Builders, Ltd., 640 Redhill Avenue, San Anselmo, at \$12,322.40 awarded contract by county supervisors to construct 16 miles of asphaltic oil surfacing on roads in Second Supervisorial District, as follows:
Roads To Be Oiled
 Pepper Road1.00 mile
 Chileno Valley Road3.00 miles
 Western Ave. Road1.00 mile
 Paula Lane1.00 mile
 Roblar Road1.50 miles
 Road No. 191.40 miles
 Stony Point Road1.10 miles
 Petaluma Rural Roads6.00 miles
Estimated Quantities
 Light oil960 bbls.
 Heavy oil320 tons
 Rock4500 tons

Complete bids follow:
 (A) Highway Builders, San Anselmo, \$12,322.40.
 (B) A. Helwig, Sebastopol, \$13,057.00.
 (C) Geo. French, Jr., Stockton, \$13,050.00.
 (D) J. R. Reeves, Sacramento, \$13,905.00.
 (E) J. V. Galbraith, Petaluma, \$14,998.00.
 (F) A. Teichert & Sons, Sacramento, \$16,017.20.
 (G) Granite Const. Co., Watsonville, \$16,764.00.
 Unit bids follow:
 (A)..... \$1.26 (1) (2) (3)
 (B)..... 1.45 13.25 1.65
 (C)..... 1.50 12.50 1.70
 (D)..... 1.30 12.00 1.96
 (E)..... 2.05 18.50 1.58
 (F)..... 1.50 18.00 2.30
 (G)..... 1.40 15.00 2.36

7.6 MILES GRADING—M. RIPOSA COUNTY—STATE—BIDS OPENED

- MARIPOSA COUNTY, Cal.—Charles Harbison, Jr., 5122 Lakeshore Blvd., Oakland, at \$185,062.15 submitted low bid to State Highway Commission to grade about 7.6 miles between Pain Flat and Mariposa, involving:
- (1) 417 sta. clear and grub right-of-way;
 - (2) 301 cu. yds. rdwy. excav. with 100 cu. yds. embankment;
 - (3) 596,800 sq. yds. overhaul;
 - (4) 11,600 cu. yds. imp. borrow;
 - (5) 250 cu. yds. light riprap;
 - (6) 750 cu. yds. struct. excav.;
 - (7) 460 cu. yds. rubble masonry (retaining walls);
 - (8) 125 cu. yds. Class A Port. cem. conc. (tremie);

- (9) 1495 cu. yds. Class A Port. cem. concrete;
- (10) 126,300 lbs. bar reinf. steel (struct.);
- (11) 64,000 lbs. struct. steel;
- (12) 100 cu. yds. salvage surf.;
- (13) 525 tons crushed gravel or stone surf.;
- (14) 200 bbls. heavy fuel oil;
- (15) 2530 lin. ft. 18-in. corr. metal pipe;
- (16) 905 lin. ft. 24-in. do.;
- (17) 128 lin. ft. 36-in. do.;
- (18) 310 lin. ft. 36-in. do.;
- (19) 154 lin. ft. 42-in. do.;
- (20) 223 lin. ft. 48-in. do.;
- (21) 76 lin. ft. 10-in. perf. metal pipe underdrains;
- (22) 1119 lin. ft. timber guard rail;
- (23) 0.75 mi. property fences move and

- (24) 155-ft. heavy property fence;
- (25) 8 gates, Const. Co., Los Angeles, \$240,863.35;
- (26) 418 sta. finish rdwy.;
- (27) 195 monuments complete in place. State will furnish corr. metal pipe, perf. metal pipe and cast steel frames and covers for drop inlets.
- Complete bids follow:
- (A) Chas. Harlowe, Jr., Oakland, \$185,062.15;
- (B) Nicholas Const. Co., San Francisco, \$187,234.60;
- (C) Utah Const. Co., San Francisco, \$203,427.40;
- (D) Morrison & Knudsen, Boise, Id., \$210,300.40;
- (E) Fredrickson & Watson, Oakland, \$215,691.75.

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) |
|------|---------|---------|---------|---------|---------|---------|----------|----------|----------|----------|---------|----------|----------|----------|----------|
| (1) | \$10.00 | \$20.00 | \$10.00 | \$20.00 | \$16.00 | \$ 7.00 | \$ 25.00 | \$ 35.00 | \$ 25.00 | \$ 20.00 | \$20.00 | \$ 12.00 | \$ 13.00 | \$ 10.00 | \$ 27.00 |
| (2) | .37 | .35 | .40 | .44 | .46 | .47 | .49 | .49 | .54 | .52 | .60 | .59 | .61 | .69 | .70 |
| (3) | ..... | ..... | ..... | ..... | ..... | .01 | .01 | .005 | .01 | .01 | .05 | .01 | .01 | .01 | .015 |
| (4) | .45 | .40 | .40 | .45 | .50 | 2.50 | 3.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 2.00 | 5.00 |
| (5) | 2.00 | 2.50 | 3.00 | 2.00 | 2.00 | 2.50 | 3.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.25 | 1.50 | 1.50 |
| (6) | 10.00 | 10.00 | 11.50 | 10.00 | 11.50 | 1.20 | 1.25 | 1.10 | 1.50 | 1.00 | 4.00 | 4.00 | 4.00 | 11.00 | 11.50 |
| (7) | 10.00 | 10.00 | 12.00 | 10.00 | 12.00 | 15.00 | 15.00 | 14.00 | 15.00 | 15.00 | 15.00 | 15.00 | 15.00 | 16.50 | 16.50 |
| (8) | 14.50 | 17.00 | 17.00 | 12.00 | 12.00 | 15.00 | 21.00 | 21.00 | 21.00 | 21.00 | 21.00 | 21.00 | 21.00 | 21.00 | 21.00 |
| (9) | 16.50 | 16.00 | 20.00 | 17.00 | 16.00 | 19.00 | 22.50 | 19.00 | 19.00 | 20.00 | 15.00 | 23.00 | 20.00 | 18.00 | 23.00 |
| (10) | .04 | .05 | .05 | .045 | .035 | .015 | .0375 | .05 | .035 | .04 | .038 | .05 | .04 | .05 | .04 |
| (11) | .04 | .06 | .05 | .055 | .04 | .06 | .05 | .10 | .04 | .05 | .05 | .06 | .065 | .065 | .06 |
| (12) | 1.00 | 60 | 80 | 75 | 1.20 | 3.00 | 3.50 | 5.00 | 1.00 | 2.00 | 1.00 | 1.00 | 1.25 | 1.00 | 3.00 |
| (13) | 3.25 | 4.00 | 2.50 | 1.80 | 4.20 | 3.00 | 3.50 | 2.75 | 5.00 | 2.00 | 2.50 | 2.00 | 2.50 | 2.50 | 4.50 |
| (14) | 2.30 | 2.50 | 1.50 | 3.00 | 3.00 | 3.00 | 3.00 | 2.50 | 2.60 | 2.50 | 3.00 | 3.00 | 3.00 | 3.00 | 4.50 |
| (15) | .25 | .40 | .50 | .35 | .40 | .50 | .50 | .30 | .40 | .40 | .40 | .50 | .40 | .50 | .40 |
| (16) | .25 | .40 | .50 | .35 | .40 | .50 | .50 | .30 | .40 | .40 | .40 | .50 | .40 | .50 | .40 |
| (17) | .35 | .60 | .80 | .50 | .50 | .50 | .50 | .60 | .40 | .50 | .50 | .50 | .50 | .50 | .50 |
| (18) | .50 | .75 | 1.00 | .60 | .60 | .60 | .60 | .75 | .75 | .75 | .75 | .75 | .75 | .75 | .75 |
| (19) | .70 | 1.00 | 1.20 | .70 | .70 | .70 | .75 | 1.00 | .85 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| (20) | .75 | 1.10 | 1.50 | .80 | .80 | .80 | .85 | 1.25 | 1.00 | 1.00 | 1.00 | 1.00 | 1.25 | 1.00 | 1.25 |
| (21) | .60 | 1.00 | 1.50 | .70 | .70 | .70 | .75 | 1.00 | .85 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| (22) | .80 | 1.00 | 1.00 | .80 | .80 | .80 | .80 | 1.50 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| (23) | 100.00 | 300.00 | 300.00 | 200.00 | 255.00 | 100.00 | 250.00 | 300.00 | 200.00 | 300.00 | 150.00 | 300.00 | 300.00 | 300.00 | 500.00 |
| (24) | 300.00 | 450.00 | 400.00 | 400.00 | 350.00 | 500.00 | 423.00 | 430.00 | 350.00 | 350.00 | 270.00 | 375.00 | 500.00 | 500.00 | 500.00 |
| (25) | 15.00 | 15.00 | 15.00 | 11.00 | 10.00 | 10.00 | 9.00 | 15.00 | 15.00 | 20.00 | 15.00 | 16.00 | 15.00 | 15.00 | 30.00 |
| (26) | 3.00 | 3.00 | 3.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 3.00 |
| (27) | 3.00 | 2.50 | 3.00 | 2.50 | 2.50 | 3.00 | 3.00 | 2.50 | 3.00 | 3.00 | 2.50 | 3.00 | 3.00 | 3.00 | 2.50 |

Unit bids follow:

AWARD

- SANTA ROSA, Sonoma Co., Cal.—Geo. French, P. O. Box 675, Stockton, awarded contract by county supervisors for about one mile of bituminous treated surface on Washington Street bet. Elmore and Adobe Roads, involving:
- (1) 69 bbls. crushed rock;
 - (2) 1000 tons crushed rock;
 - (3) 65 tons cut-back asphalt;

(4) 1 mile mixing.

- Complete bids follow:
- (A) Geo. French, Stockton.....\$227,550
 - (B) Granite Const. Co., Wat..... 2815.00
 - (C) J. V. Galbraith, Petaluma 3343.00
- Unit bids follow:
- (A)\$1.25 \$10.50 \$1.10 \$400
 - (B)1.50 15.00 1.30 450
 - (C)2.30 17.00 1.80 300

DAILY PACIFIC BUILDER

Features in every issue a summary of the developments in the construction field: work contemplated, bids wanted, bids opened and contracts awarded for all types of building and engineering construction. The subscription price is \$1.50 per month or \$15.00 per year when paid in advance. Send for sample copy, Daily Pacific Builder, 545 Mission St., San Francisco, or phone Garfield 8744.

ENGINEERING NEWS

BRIDGES

WASHINGTON STATE.—Until May 10, 10 A. M., bids will be received by Samuel J. Humes, Director of Highways, to construct a bridge 855-ft., 5-in. long over Stillaguamish River on State Road No. 1 bet. Island School and East Stanwood in Snohomish County, consisting of three 200-foot steel spans and five 50-ft. concrete girder approach spans, with 48 foot rdwy. and two 4-ft. sidewalks.

Certified check 5% required with bid. Specifications obtainable from office of county engineer.

LOS ANGELES COUNTY, Cal.—As previously reported, until May 4, 2 P. M., bids will be received by State Highway Commission, Sacramento, to construct three bridges at points between four and eight miles south of Gorman Station, involving:

- (1) 700 cu. yds. rdwy. excav. without class;
- (2) 2490 cu. yds. struc. excav.;
- (3) 1445 cu. yds. Class "A" Port. cem. conc. (struc.);
- (4) 55 cu. yds. Class "A" Port. cem. conc. (slope paving);
- (5) 143,000 lbs. bar reinf. steel;
- (6) 195,000 lbs. new struc. steel;
- (7) 1 lot plate girder spans;
- (8) 990 lin. ft. solid timber railing;
- (9) 180 lin. ft. bank protection fence;
- (10) 110 cu. yds. rock backfill;
- (11) 1 lot misc. items of work.

State will furnish three plate girder spans.

VENTURA COUNTY, Calif.—C. W. Jones of the State Highway Engineer's office, reported to the city council that a contract for construction of the new bridge on Main St. over the Ventura River will be let before June 1. Specifications practically completed and bids will be called probably within the next three weeks. Proposed structure will be of reinforced concrete construction, 1233 feet long, 54 ft. in width, having a 44-ft. roadway and two 5-ft. sidewalks. Bridge will be built 22 ft. south of the present structure. Concrete in old superstructure will be used for rip-rapping river banks. Estimated cost, \$350,000.

EUREKA, Humboldt Co., Cal.—Until May 10, bids will be received by Fred M. Kay, county clerk, to construct reinforced concrete bridge over Supply Creek in the Hoopa Indian Reservation; estimated cost, \$5000. Plans obtainable from Frank E. Kelly, county engineer.

SALINAS, Cal.—The bid call scheduled to be opened by the Board of Supervisors on April 21, for construction of five bridges over the Cholame Creek, has been withdrawn and action on the project postponed indefinitely.

LIVERMORE, Alameda Co., Cal.—Bids will be asked in the near future by county supervisors to construct timber bridge on the Mines Road over Mocho Creek, involving:

- (1) 220 cu. yds. excav. for struc.;
 - (2) 265 cu. yds. conc. for struc.;
 - (3) 4950 l. m. ft. Douglas Fir timber;
 - (4) 2200 b. m. ft. redwood timber;
 - (5) 3400 lbs. reinf. steel.
- George Posey, county surveyor. Geo. E. Gross, county clerk.

SACRAMENTO, Cal.—Until May 9, 2 P. M., bids will be received by the county supervisors to construct the H St. Bridge over the Sacramento river. Bridge will have a roadway 32 ft. wide with 5-ft. wide sidewalks on each side, involving:

- (1) 1,410,000 lbs. struct. steel;
- (2) 42,000 lbs. cast steel;
- (3) 245,000 lbs. reinf. steel;
- (4) 1690 cu. yds. conc. (pier—5 sacks)
- (5) 430 cu. yds. concrete (tremie—6 sacks);
- (6) 580 cu. yds. struc. and floor slab conc. 6 sacks;
- (7) 250 cu. yds. approach conc. 6 sacks;
- (8) 5 cu. yds. rail conc., 9 sacks;
- (9) 42,000 cu. yds. paving conc. 9-7-9, 6 sacks;
- (10) 2700 lin. ft. conc. piles 30 to 40 ft. long, ex'6;
- (11) 5800 lin. ft. steel piles 8-in. H section, 42 lbs. per pile;
- (12) 5500 lin. ft. redwood piles 30 to 40 ft. long;
- (13) 100,000 b.m. ft. Douglas Fir struc. grade;
- (14) 36,000 b.m. ft. redwood, dense sel. all-heart grade;
- (15) 17,000 b.m. ft. redwood sel. all-heart grade;
- (16) 2700 cu. yds. b. m. ft. redwood all-heart;
- (17) 14 electroliners;
- (18) 6000 yds. embankment in place;
- (19) lump sum remove present bridge and pier—dismantle and reassemble.

Estimated cost, \$200,000. Chas. W. Deterding is county surveyor.

YUBA CITY, Cal.—O. Van Geldern, Yuba City consulting engineer, preparing plans for a bridge to be built at Knights Landing for Joint Highway District No. 12. The bridge will be a double-leaf bascule structure, having two 120-ft. steel spans and two 40-ft. concrete spans. Estimated cost \$190,000. Plans have been approved by the War Department.

FAIRFIELD, Solano Co., Cal.—War Department has approved the application of the Solano County Supervisors seeking permission to construct a bridge across Miner Slough, north of Rio Vista. Preliminary plans provide for a drawbridge structure from 200- to 300-ft. in length. Funds, however, are not available for construction at this time. It has been definitely de-

SKILSAW Portable Electric Hand Saws (four models)

SKILSAW Portable Electric Sander

SKILSAW Radial Arm Attachments

SYNTRON Portable Electric Hammers (four models, motorless)

MAL Flexible Shaft Machines (50 models)

Electric Drills, Grinders, Buffers, Routers, Lock Mortisers.

Peter H. Nelson

Labor Saving Portable Electric Tools

1246 Union St., San Francisco
UNderhill 7662

SALES : SERVICE : RENTALS

ecided that construction will not be undertaken this year.

SAN RAFAEL, Marin Co., Cal.—Until May 5, 11 A. M., bids will be received by county supervisors for constructing a reinforced concrete bridge between Fallon and Two Rocks, located at Fallon Corners, involving:

- (1) 165 cu. yds. Class A Portland cement concrete;
- (2) 15,000 lbs. reinf. steel.

Plans obtainable from Rodney Messner, county surveyor, San Rafael. Estimated cost, \$5000.

MONTEREY COUNTY, Cal.—Ward Engineering Co., 315 Montgomery St., San Francisco, at \$62,165.50 awarded contract by State Highway Commission, Sacramento, to construct a reinforced concrete bridge across Rocky Creek, about 17 miles south of Carmel, consisting of one 239-ft. open spandrel arch span and six girder approach spans, having a total length of 253 feet.

GOSHEN, Tulare Co., Calif.—State Department of Public Works has filed application with the State Railroad Commission seeking authorization to construct a subway under the tracks of the Southern Pacific at the Plaza on the Golden State Highway, 1½ mi. south of Goshen. The cost of construction will exceed \$100,000.

LOS ANGELES, Cal.—Until 2 P. M., May 16, bids will be received by County Supervisors to construct concrete and steel bridge on Firestone Blvd. over the Los Angeles River; will be of the steel girder type, with concrete piers, decks, and railing. It will have twelve 40-ft. spans, with a 54-ft. roadway, and two pedestrian walks, each 7 ft. 2½ in. Rock rip-rap will be placed along the approaches and abutments. Project involves:

- 2415 cu. yds. A concr. (pre-cast piles);
- 2055 cu. yds. A concr. (cast in place piles);
- 500,025 lbs. reinf. steel (pre-cast piles);
- 302,392 lbs. reinf. steel (cast in place piles);
- 75,115 sq. ft. forms (pre-cast piles);
- 63,762 sq. ft. forms (cast in place piles);
- 2193 lbs. expansion angles;
- 149,275 lb. structural steel bracing;
- 58,318 sq. ft. painting area for steel;
- 120 pieces tile;
- 314.8 tons steel girders in place;
- 270 B. M. creosoted lumber;
- 960 lin. ft. railing;
- 21,230 lbs. rocker bearing plates;
- 4406 lbs. fixed bearing plates;
- 1713 lbs. batts;
- 9447 cu. yds. fill;
- 3150 cu. yds. excav
- 1717 cu. yds. rip-rap;
- 9152 lin. ft. 20x20-in. x64 ft. piles (143 required);

DREDGING, HARBOR WORKS & EXCAVATIONS

SAN FRANCISCO.—Ben. C. Gerwick, Inc., and George Fallock Co., 112 Market St., at \$26,044.62 awarded the contract by Pacific Gas & Electric Co. 245 Market St., for construction of a submarine crossing at Channel Street

SANTA MONICA, Los Angeles Co., Cal.—Bid of Merritt-Chapman & Scott Corp., San Pedro, for core borings for proposed new Santa Monica Harbor Breakwater Project, opened April 11, rejected by city council April 12. While no announcement was made, it is understood that the work will be done by city forces under the direction of the city engineer, Howard B. Carter.

MONTEREY, Monterey Co., Cal.—The House Rivers and Harbors Committee, according to word from Washington, has ordered a new survey of Monterey harbor to determine the desirability of extending the jetty 400 feet to a total length of 1700 feet.

FORT BRAGG, Mendocino Co., Cal.—Until May 4, 3 P. M., bids will be received by U. S. Engineer Office, Customhouse, San Francisco, for mixing, transporting and placing concrete in jetty at Noyo River, 1½ miles south of Fort Bragg in Mendocino County. Project involves 1,000 cu. yds. mass concrete.

LOS ANGELES, Cal.—Until 2 P. M., May 9, bids will be received by County Supervisors for the excavation of channel on Ballona Creek, from Roosevelt Highway westerly, involving:

(1) 86,000 cu. yds. excavation for the excav. of channel and the construction of levees complete.

E. C. Eaton, 202 N. Broadway, County Flood Control Engineer, Mame B. Beattv, 503 Hill of Records, Clerk of the Board.

INDIO, Riverside Co., Cal.—Until 6:30 P. M., May 14, bids will be received by trustees of the Coachella Valley Storm Water District, Indio, for channel work and levee protection work in Deep Canyon Project in flood channel near Point Happy, involving:

(1) 136,000 cu. yds. excavation;

(2) 300 lin. ft. of wire netting and 2-in. pipe channel protection work.

Plans obtainable from consulting engineer, C. N. Adams, 216 Rowan

Bldg., 458 S. Spring St., Los Angeles. Certified check or bond, 10%, must accompany each bid.

STREET LIGHTING SYSTEMS

SUNNYVALE, Santa Clara Co., Cal.—NePage-McKenny Co., 7 Front St., San Francisco, at \$62,887 submitted low bid to Bureau of Yards and Docks Washington, D. C., for the underground electric distributing system, including concrete manholes, transformer vaults, conduit encased in concrete, concrete lighting standards, light, power, telephone and street lighting cables, transformers and accessories, all at the Naval Air Station, Sunnyvale.

MACHINERY AND EQUIPMENT

COALINGA, Fresno Co., Cal.—Until May 5, 5 P. M., to be opened at 7:30 P. M., bids will be received by E. J. McCroskey, City Clerk, to furnish a combination sprinkler sweeper equipped with nine-ft. double speed bamboo broom; and a 200-gal. water tank with two spray pipes with independent control, said equipment to also have rolling bearing axles and four-inch solid rubber tires; two weigh approx. 3500 lbs. and to be equipped with sheet iron broom housing. Above to be without front truck. Specifications obtainable from above. Certified check 10% required with bid.

COALINGA, Fresno Co., Cal.—Until May 5, 5 P. M., to be opened at 7:30 P. M., bids will be received by E. J. McCroskey, City Clerk, to furnish:

(a) 1 one and one-half ton six-cylinder truck equipped with dual pneumatic tires on the rear with 157-in. wheel base.

(b) 1 steel body for use on truck (a) to be used for hauling garbage. Body to be 12-ft. long, 7½-ft. wide at top,

6½-ft. wide at bottom with rear end of floor elevated 4-in.; sides to be straight for a distance of 18-in. then flared out 6-in., and then straight for 1½-in.; rear door hinged at bottom with piano type hinge allowing door to drop down when load is being dumped and provided with suitable catches and held same when being filled; wheel housing to be placed with suitable clearance over wheels; body to be constructed of 12 gauge steel electric weld with all sides water tight; stringers and under bracing to be of steel of suitable strength to carry load; body equipped with hand operated hoist to be installed, and of sufficient capacity to raise and dump a three-ton load. Specifications obtainable from above office. Certified check 10% required with bid.

PACIFIC GROVE, Cal.—Until May 5, bids will be received by city council to furnish tractor with dump body for operating a lawn mower on the municipal golf course. Specifications on file in office of city clerk. Erwin Dames is city manager.

CALIFORNIA.—Empire Const. Co., Shell Bldg., San Francisco, at \$5,870 awarded contract by the Associated Oil Co., 79 New Montgomery St., San Francisco, for installing pumps and piping in distributing plants from Ukiah to Santa Maria.

FRESNO, Fresno Co., Calif.—City commissioners have withdrawn the call for bids, scheduled for opening April 29, to furnish two motor trucks for street department. New specifications will be prepared and another call for bids issued.

SAN DIEGO, Cal.—Austin Western Road Machinery Co., Philadelphia, submitted low bid of \$6500 to the Navy Department, Bureau of Supplies and Accounts, on April 19 for furnishing a street sweeper for San Diego; schedule 7602. Other bids were: Elgin Sweeper Co., \$7150; Kinney Mfg. Co., \$7785.

RAILROADS

ALAMEDA, Cal.—Bids will be asked in about ten days for furnishing and laying approximately 4000 feet of railroad track at the Benton Field Air Depot, Alameda. Captain Lander Larson, Constructing Quartermaster Benton Field Air Depot, 33 Pacific Ave., Alameda.

LONG BEACH, Cal.—Contract bet. Union Pacific R. R. and Merritt-Chapman & Scott Corp., San Pedro, to construct 7.5 mile cut-off line from San Pedro to North Long Beach, has been signed, according to F. H. Knickerbocker, General Manager of the Union Pacific at Los Angeles. The project, which is estimated to cost \$1,500,000, will involve grading, roadbed construction, drainage work, six grade separations of steel and concrete construction.

RESERVOIRS AND DAMS

LOS ANGELES, Cal.—Plans for San Gabriel Dam No. 1 have been approved by the state engineer. The proposed dam will be a rock fill type dam with Granite upstream facing, about 320 ft. in height, providing a reservoir with a capacity of 70,000 acre feet to the lip of the spillway. The site is located about two miles below the Forks.

SEND FOR A SAMPLE COPY OF

PACIFIC CONSTRUCTOR

Daily News Service

SAN DIEGO, Cal.—H. W. Rohl Co., 4351 Alhambra Ave., Los Angeles, and T. E. Connolly, 461 Market Street, San Francisco, at \$2,332,860 awarded contract by city council to construct El Capitan Dam, involving: 1,350,000 cu. yds. excavation and hydraulic placing in dam; 120,000 cu. yds. excavation and placing in rolled embankment; 840,000 cu. yds. rock excavation and placing in dam; 61,100 cu. yds. concrete of all classes; 67,000 tons lbs. reinforcing steel; 496,000 lbs. structural steel; 25,000 cu. ft. of grout; and the furnishing and installation of outlet works.

It will be an earth and rock fill structure, with concrete core wall and heavy rock embankment slopes, and will be 197 ft. high above stream bed with foundations about 25 ft. below, and a 30-ft. freeboard, giving a total overall height of 250 ft. The length of the structure across the top will be 1160 ft.

PASADENA, Cal.—Bent Bros., Inc., 418 S Pecan St., Los Angeles, Winston Bros., Minneapolis, Minn., and Wm. C. Crowell Co., 495 S Broadway, Pasadena, at \$2,407,311.70, joint bid, were awarded contract by city directors to construct the Pine Canyon Dam and appurtenant works, located in the San Gabriel Canyon, about 4 miles north of Azusa. Plans provide for a concrete gravity section dam, approximately 245 feet high above stream bed with a crest length of approx. 750 ft. A complete list of the unit and total bids on this project was published in issue of March 3.

PIPE LINES, WELLS, ETC.

LOS ANGELES, Cal.—Bids will be taken about May 1 by the Southern Counties Gas Co. 810 S Flower Street, to construct approximately 50 miles of pipe line in San Diego County as part of the natural gas pipe line to serve the San Diego Consolidated Gas and Electric Co.'s San Diego territory. This line will be built of 12 $\frac{1}{2}$ -in., O. D. steel pipe, an order for 7500 tons having been placed with the Republic Steel Co. of Los Angeles at an estimated cost of \$400,000. Total length of line is about 70 miles, the other portions between Huntington Beach and the San Diego county line to be built by the Southern Counties Gas Co. forces. Specifications for the proposed work are being prepared and will be ready for bidders within the next few weeks.

SEWERS AND SEWAGE DISPOSAL PLANTS

BIG HORN COUNTY, Montana—See "Government Work and Supplies" in this issue. Bids wanted by Quartermaster, Ninth Corps Area, Presidio, San Francisco, to construct electric power line, water system, sewage disposal system and pumps at Custer Battlefield National Cemetery, Crow Agency, Big Horn County, Montana.

LOS ANGELES, Calif.—Until 10 A. M., May 18, bids will be received by board of public works to construct reinforced concrete structure for the automatic control gate at the Hyperion sewage treatment plant, to be located on the center line of existing North Outfall Sewer, approximately 37.5 ft. west from the center line of right of way of the Redondo Beach line of the Pacific Electric Railway. F. L. Weis-

enheimer, room 749, City Hall, assistant engineer of sewer design.

AMERICAN LAKE, Wash.—Bids will be asked May 5 and opened June 6, 230 P. M., by the Superintendent of Construction, Veterans' Hospital, Palo Alto, for a vitrified clay and reinforced concrete outfall sewer, 19,000 feet in length at the Veterans' Hospital, American Lake. Specifications are prepared by the Supervising Superintendent of Construction, Palo Alto.

SAN FRANCISCO—Until May 10, 11 A. M., bids will be received by Constructing Quartermaster, Fort Mason, for the construction of a cast iron and terra cotta outfall sewer at Crissy Field, involving:

- * (1) 13 pieces of 30-in. terra cotta pipe (39-ft. in length).
- (2) 7 pieces of 30-in. cast iron pipe (84-ft. in length).

Plans obtainable from Constructing Quartermaster at Fort Mason.

LOS ANGELES, Cal.—Until 10 A. M. May 4, bids will be received by board of public works to construct a storm drain and appurtenances in Lafayette Park Place, bet. Marathon Street and Bellevue Ave., and in portions of other streets, involving:

- 482 ft. 21-in. pipe;
- 42 ft. 18-in. pipe;
- 78 ft. 15-in. pipe;
- 45 ft. 12-in. pipe.

Alternate bids will be taken on vit. and concrete pipe. Separate bids, same date, to construct storm drain and appurtenances in right of way west of Lyman Place bet. DeLongpre Ave. and Fountain Ave. and in a portion of DeLongpre Ave., involving:

- 276 ft. 22-in. R.C.P. (centrifugal);
- 48 ft. 21-in. cem. pipe (centrifugal);
- 26 ft. 18-in. cem. pipe.

Separate bids, same date, to construct extension of By-pass Channel at the Hyperion sewage treatment plant, involving: 140.5 lin. ft. of reinf. appurtenances.

EL CENTRO, Imperial Co., Calif.—The \$185,000 sewer bond issue was defeated at the special election held April 11.

DENVER, Colo.—Construction Service, Inc., and Associates, 401 Trawway Bldg., Denver, Colo., awarded contract by City at \$1,074,293.37 for the construction of a sewer system in Park Hill Storm Sewer District.

LOS ANGELES, Cal.—Until 2 P. M., May 9, bids will be received by the county supervisors to construct storm drain in the West Side of San Gabriel Blvd. from Gainsborough Dr. to Huntington Dr., and in Huntington Drive north of the Pacific Electric Railway

from San Gabriel Boulevard to Eaton Wash. Plans were prepared by County Road Commissioner Geo. W. Jones. The total length of the storm drain is 3700 lin. ft. or 0.70 mile. The work to be done under Cash Contract No. 438 involves in the main: 540 ft. 27-in. R. C. P. heavy; 396 ft. 33-in. R. C. P. heavy; 1069 lin. ft. 39-in. heavy and double medium R. C. P.; 1642 ft. 42-in. heavy R. C. P.; 513 lin. ft. cradle for 39-in. pipe; Three standard storm drain manholes; Five junction chambers. Name B. Beatty, 303 Hall of Records clerk.

COALINGA, Fresno Co., Calif.—Until May 5, 5 P. M., to be opened at 7:30 P. M., bids will be received by E. J. McCroskey, city clerk, to furnish 1200 ft. 3-in. eight thread standard lap weld black pipe. Certified check 10% required with bid. Specifications obtainable from above office.

SIGNAL HILL, Los Angeles Co., Cal.—A. A. Taylor, City Engineer, states that construction of 3 pumping stations for which bids will be received by city council at 3 P. M. May 9 (previously noted), will involve construction of circular concrete wells, 20-ft. deep and 10 ft. in diameter, with a wet well at the bottom and a dry well directly over this pit. They will be submerged in the street. Each will have two sewage pumps, working alternately. One station will use pumps of 125 G. P. M. against a 33-ft. head, and the other stations pumps of 150 G. P. M. against a 50-ft. head.

LOS ANGELES, Cal.—Until 10 A. M., May 4, new bids will be received by Board of Public Works to construct Sec. No. 34-E of north outfall sewer, from Vanowen St. and White Oak Ave. to Vanowen St. and Corbin Ave. Bids will be taken on types as follows:

- (1) Type No. 1—13,225.03 lin. ft. vit. clay pipe sewer, incl. conc. reinforcement, if required, structures, etc.
- (2) Type No. 2—13,225.03 lin. ft. cent. conc. pipe san. sewer, incl. struc. etc.
- (3) Type No. 3—13,225.03 lin. ft. san. sewer, incl. 7975.30 lin. ft. cem. pipe sewer and 5429.73 lin. ft. of either vit. clay sewer or cent. conc. pipe sewer, incl. conc. reinforcement, if required, structures, etc.

Construction of this section will involve pipe as follows: 5249.73 ft. 18-in. pipe, 2000-D load pipe; 660.12 ft. 15-in. pipe, 2100-D load pipe; 3000.12 ft. 15-in. pipe, 2000-D load pipe; 4314.56 ft. 15-in. pipe, 1900-D load pipe; A total of 13,225.03 lin. ft. of sewer. 9 manholes B; 1 junction chamber F; 27 junction chambers G; 1 trap manhole.

Bids received March 30 rejected. M. Miller was the previous low bidder, being low on all three types.

WATERWORKS

LOS ANGELES, Cal.—Contracts for furnishing cast iron water pipe under Spec. No. 2773 awarded by city purchasing agent, Thomas Oughton, April 18, follow:

- Pacific States Cast Iron Pipe Co., Items 1 and 5 at \$16,480.
- National Cast Iron Pipe Co., items 2 and 6 at \$23,050.
- American Cast Iron Pipe Co., items 4 and 7 at \$33,450.
- United States Foundry Co., items 3, 8, 9 and 10 at \$73,410.

CAPITAL CITY TITLE COMPANY

J. C. PALEN,
Manager

914 Seventh Street
Sacramento :: California

SANTA MONICA, Los Angeles Co., Cal.—Bid of Merritt-Chapman & Scott Corp., San Pedro, for core borings for proposed new Santa Monica Harbor Breakwater Project, opened April 11, rejected by city council April 12. While no announcement was made, it is understood that the work will be done by city forces under the direction of the city engineer, Howard B. Carter.

MONTEREY, Monterey Co., Cal.—The House Rivers and Harbors Committee, according to word from Washington, has ordered a new survey of Monterey harbor to determine the desirability of extending the jetty 400 feet to a total length of 1700 feet.

FORT BRAGG, Mendocino Co., Cal.—Until May 4, 3 P. M., bids will be received by U. S. Engineer Office, Customhouse, San Francisco, for mixing, transporting and placing concrete in jetty at Noyo River, 1½ miles south of Fort Bragg in Mendocino County. Project involves 1,000 cu. yds. mass concrete. 1

LOS ANGELES, Cal.—Until 2 P. M., May 9, bids will be received by County Supervisors for the excavation of channel on Ballona Creek, from Roosevelt Highway westerly, involving:

(1) 86,000 cu. yds. excavation for the excav. of channel and the construction of levees complete.

E. C. Eaton, 202 N. Broadway, County Flood Control Engineer, Mame E. Beatty, 503 Hill of Records, Clerk of the Board.

INDIO, Riverside Co., Cal.—Until 6:30 P. M., May 14, bids will be received by trustees of the Coachella Valley Storm Water District, Indio, for channel work and levee protection work in Deep Canyon Project in flood channel near Point Happy, involving:

(1) 136,000 cu. yds. excavation;
(2) 300 lin. ft. of wire netting and 2-in. pipe channel protection work.

Plans obtainable from consulting engineer, G. N. Adams, 216 Rowan

Bldg., 458 S. Spring St., Los Angeles. Certified check or bond, 10%, must accompany each bid.

STREET LIGHTING SYSTEMS

SUNNYVALE, Santa Clara Co., Cal.—NePage-McKenny Co., 7 Front St., San Francisco, at \$62,887 submitted low bid to Bureau of Yards and Docks, Washington, D. C., for the underground electric distributing system, including concrete manholes, transformer vaults, conduit encased in concrete, concrete lighting standards, light, power, telephone and street lighting cables, transformers and accessories, all at the Naval Air Station, Sunnyvale.

MACHINERY AND EQUIPMENT

COALINGA, Fresno Co., Cal.—Until May 5, 5 P. M., to be opened at 7:30 P. M., bids will be received by E. J. McCroskey, City Clerk, to furnish a combination sprinkler sweeper equipped with nine-ft. double speed bamboo broom; and a 200-gal. water tank with two spray pipes with independent control, said equipment to also have rolling bearing axles and four-inch solid rubber tires; two weigh approx. 3500 lbs. and to be equipped with sheet iron broom housing. Above to be without front truck. Specifications obtainable from above. Certified check 10% required with bid.

COALINGA, Fresno Co., Cal.—Until May 5, 5 P. M., to be opened at 7:30 P. M., bids will be received by E. J. McCroskey, City Clerk, to furnish:

(a) 1 one and one-half ton six cylinder truck equipped with dual pneumatic tires on the rear with 157-in. wheel base.

(b) 1 steel body for use on truck (a) to be used for hauling garbage. Body to be 12-ft. long, 7½-ft. wide at top,

6½-ft. wide at bottom with rear end of floor elevated 4-in.; sides to be straight for a distance of 18-in. then flared out 6-in., and then straight for 1½-in.; rear door hinged at bottom with piano type hinge allowing door to drop down when load is being dumped and provided with suitable catches to hold same when being filled; wheel housing to be placed with suitable clearance over wheels; body to be constructed of 12 gauge steel electric weld with all sides water tight; stringers and under bracing to be of steel of suitable strength to carry load; body equipped with hand operated hoist to be installed, and of sufficient capacity to raise and dump a three-ton load. Specifications obtainable from above office. Certified check 10% required with bid.

PACIFIC GROVE, Cal.—Until May 5, bids will be received by city council to furnish tractor with dump body for operating a lawn mower on the municipal golf course. Specifications on file in office of city clerk, Erwin Dames is city manager.

CALIFORNIA—Empire Const. Co., Shell Bldg., San Francisco, at \$5,870 awarded contract by the Associated Oil Co., 79 New Montgomery St., San Francisco, for installing pumps and piping in distributing plants from Ukiah to Santa Maria.

FRESNO, Fresno Co., Calif.—City commissioners have withdrawn the call for bids, scheduled for opening April 29, to furnish two motor trucks for street department. New specifications will be prepared and another call for bids issued.

SAN DIEGO, Cal.—Austin Western Road Machinery Co., Philadelphia, submitted low bid of \$6500 to the Navy Department, Bureau of Supplies and Accounts, on April 19 for furnishing a street sweeper for San Diego; schedule 7602. Other bids were: Elgin Sweeper Co., \$7150; Kinney Mfg. Co., \$7785.

RAILROADS

ALAMEDA, Cal.—Bids will be asked in about ten days for furnishing and laying approximately 4000 feet of railroad track at the Benton Field Air Depot, Alameda. Captain Lander Larson, Constructing Quartermaster Benton Field Air Depot, 33 Pacific Ave., Alameda.

LONG BEACH, Cal.—Contract bet. Union Pacific R. R. and Merritt-Chapman & Scott Corp., San Pedro, to construct 7.5 mile cut-off line from San Pedro to North Long Beach, has been signed, according to F. H. Knickerbocker, General Manager of the Union Pacific at Los Angeles. The project, which is estimated to cost \$1,500,000, will involve grading, roadbed construction, drainage work, six grade separations of steel and concrete construction. 5

RESERVOIRS AND DAMS

LOS ANGELES, Cal.—Plans for San Gabriel Dam No. 1 have been approved by the state engineer. The proposed dam will be a rock fill type dam with Gunite upstream facing, about 320 ft. in height, providing a reservoir with a capacity of 70,000 acre feet to the lip of the spillway. The site is located about two miles below the Forks.

SEND FOR A SAMPLE COPY OF

PACIFIC CONSTRUCTOR

Daily News Service

SAN DIEGO, Cal.—H. W. Rohl Co., 4351 Alhambra Ave., Los Angeles, and T. E. Connolly, 461 Market Street, San Francisco, at \$2,337,500 awarded contract by city council to construct El Capitán Dam, involving:
 1,359,000 cu. yds. excavation and hydraulic placing in dam;
 120,000 cu. yds. excavation and placing in rolled embankment;
 840,000 cu. yds. rock excavation and placing in dam;
 61,100 cu. yds. concrete of all classes; 67,000 barrels cement;
 2,400,000 lbs. reinforcing steel;
 496,000 lbs. structural steel;
 25,000 cu. ft. of grout;
 and the furnishing and installation of outlet works.

It will be an earth and rock fill structure, with concrete core wall and heavy rock embankment slopes, and will be 197 ft. high above stream bed with foundations about 25 ft. below, and a 20-ft. freboard, giving a total overall height of 250 ft. The length of the structure across the top will be 1160 ft.

PASADENA, Cal.—Bent Bros., Inc., 418 S Pecan St., Los Angeles, Winston Bros., Minneapolis, Minn., and Wm. C. Crowell Co., 495 S Broadway, Pasadena, at \$2,407,311.70, joint bid, were awarded contract by city directors to construct the Pine Canyon Dam and appurtenant works, located in the San Gabriel Canyon, about 4 miles north of Azusa. Plans provide for a concrete gravity section dam, approximately 245 feet high above stream bed with a crest length of approx. 750 ft. A complete list of the unit and total bids on this project was published in issue of March 3.

PIPE LINES, WELLS, ETC.

LOS ANGELES, Cal.—Bids will be taken about May 1 by the Southern Counties Gas Co., 810 S Flower Street, to construct approximately 50 miles of pipe line in San Diego County as part of the natural gas pipe line to serve the San Diego Consolidated Gas and Electric Co.'s San Diego territory. This line will be built of 12 3/4-in. O. D. steel pipe, an order for 7500 tons having been placed with the Republic Steel Co. of Los Angeles at an estimated cost of \$400,000. Total length of line is about 70 miles, the other portions between Huntington Beach and the San Diego county line to be built by the Southern Counties Gas Co. forces. Specifications for the proposed work are being prepared and will be ready for bidders within the next few weeks.

SEWERS AND SEWAGE DISPOSAL PLANTS

BIG HORN COUNTY, Montana—See "Government Work and Supplies" in this issue. Bids wanted by Quartermaster, Ninth Corps Area, Presidio, San Francisco, to construct electric power line, water system, sewage disposal system and pumps at Custer Battlefield National Cemetery, Crow Agency, Big Horn County, Montana.

LOS ANGELES, Cal.—Until 10 A. M., May 18, bids will be received by board of public works to construct reinforced concrete structure for the automatic control gate at the Hyperion sewage treatment plant, to be located on the center line of existing North Outfall Sewer, approximately 37.5 ft. west from the center line of right of way of the Redondo Beach line of the Pacific Electric Railway. P. L. Weis-

enheimer, room 749, City Hall, assistant engineer of sewer design.

AMERICAN LAKE, Wash.—Bids will be asked May 5 and opened June 6, 2:30 P. M., by the Superintendent of Construction, Veterans' Hospital, Palo Alto, for a vitrified clay and reinforced concrete outfall sewer, 19,000 feet in length at the Veterans' Hospital, American Lake. Specifications are prepared by the Supervising Superintendent of Construction, Palo Alto.

SAN FRANCISCO—Until May 10, 11 A. M., bids will be received by Constructing Quartermaster, Fort Mason, for the construction of a cast iron and terra cotta outfall sewer at Crissy Field, involving:

- * (1) 13 pieces of 30-in. terra cotta pipe (39-ft. in length).
- (2) 7 pieces of 30-in. cast iron pipe (84-ft. in length).

Plans obtainable from Constructing Quartermaster at Fort Mason.

LOS ANGELES, Cal.—Until 10 A. M. May 4, bids will be received by board of public works to construct a storm drain and appurtenances in Lafayette Park Place, bet. Marathan Street and Bellevue Ave. and in portions of other streets, involving:

- 432 ft. 21-in. pipe;
- 42 ft. 18-in. pipe;
- 78 ft. 15-in. pipe;
- 45 ft. 12-in. pipe.

Alternate bids will be taken on vit. and concrete pipe.

Separate bids, same date, to construct storm drain and appurtenances in right of way west of Lyman Place bet. DeLongpre Ave. and Fountain Ave. and in a portion of DeLongpre Ave., involving:

- 276 ft. 22-in. R.C.P. (centrifugal);
- 48 ft. 21-in. cem. pipe (centrifugal);
- 26 ft. 18-in. cem. pipe.

Separate bids, same date, to construct extension of By-pass Channel at the Hyperion sewage treatment plant, involving: 140.5 lin. ft. of reinf. appurtenances.

EL CENTRO, Imperial Co., Calif.—The \$185,000 sewer bond issue was defeated at the special election held April 11.

DENVER, Colo.—Construction Service, Inc., and Associates, 401 Trawway Bldg., Denver, Colo., awarded contract by City at \$1,074,293.37 for the construction of a sewer system in Park Hill Storm Sewer District.

LOS ANGELES, Cal.—Until 2 P. M., May 9, bids will be received by the county supervisors to construct storm drain in the West Side of San Gabriel Blvd. from Gainsborough Dr. to Huntington Dr., and in Huntington Drive north of the Pacific Electric Railway

from San Gabriel Boulevard to Eaton Wash. Plans were prepared by County Road Commissioner Geo. W. Jones. The total length of the storm drain is 3700 lin. ft. or 0.70 mile. The work to be done under Cash Contract No. 438 involves in the main:
 540 ft. 27-in. R. C. P. heavy;
 296 ft. 33-in. R. C. P. heavy;
 1069 lin. ft. 39-in. heavy and double medium R. C. P.;
 1642 ft. 42-in. heavy R. C. P.;
 513 lin. ft. cradle for 39-in. pipe;
 Three standard storm drain manholes;
 Five junction chambers.
 Mame B. Beatty, 303 Hall of Records clerk.

COALINGA, Fresno Co., Calif.—Until May 5, 5 P. M., to be opened at 7:30 P. M., bids will be received by E. J. McCroskey, city clerk, to furnish 1200 ft. 3-in. eight thread standard lap weld black pipe. Certified check 10% required with bid. Specifications obtainable from above office.

SIGNAL HILL, Los Angeles Co., Cal.—A. A. Taylor, City Engineer, states that construction of 3 pumping stations for which bids will be received by city council at 3 P. M. May 9 (previously noted), will involve construction of circular concrete wells, 20-ft. deep and 10 ft. in diameter, with a wet well at the bottom and a dry well directly over this pit. They will be submerged in the street. Each will have two sewage pumps, working alternately. One station will use pumps of 125 G. P. M. against a 38-ft. head, and the other stations pumps of 150 G. P. M. against a 50-ft. head.

LOS ANGELES, Cal.—Until 10 A. M., May 4, new bids will be received by Board of Public Works to construct Sec. No. 34-E of north outfall sewer, from Vanowen St. and White Oak Ave. to Vanowen St. and Corbin Ave. Bids will be taken on types as follows:

- (1) Type No. 1—13,225.03 lin. ft. vit. clay pipe sewer, includ. conc. reinforcement, if required, structures, etc.
- (2) Type No. 2—13,225.03 lin. ft. cent. conc. pipe san. sewer, includ struc. etc.
- (3) Type No. 3—13,225.03 lin. ft. san. sewer, includ 7975.30 lin. ft. cem. pipe sewer and 5429.73 lin. ft. of either vit. clay sewer or cent. conc. pipe sewer, includ. conc. reinforcement, if required, structures, etc.

Construction of this section will involve pipe as follows:
 5249.73 ft. 18-in. pipe, 2000-D load pipe;
 660.12 ft. 15-in. pipe, 2100-D load pipe;
 3600.12 ft. 15-in. pipe, 2000-D load pipe;
 4314.56 ft. 15-in. pipe, 1900-D load pipe;
 A total of 13,225.03 lin. ft. of sewer.
 9 manholes B;
 1 junction chamber F;
 27 junction chambers G;
 1 trap manhole.

Bids received March 30 rejected. M. Miller was the previous low bidder, being low on all three types.

WATERWORKS

LOS ANGELES, Cal.—Contracts for furnishing cast iron water pipe under Spec. No. 2773 awarded by city purchasing agent, Thomas Oughton, April 18, follow:

- Pacific States Cast Iron Pipe Co., Items 1 and 5 at \$16,480.
- National Cast Iron Pipe Co., items 2 and 6 at \$23,050.
- American Cast Iron Pipe Co., items 4 and 7 at \$33,450.
- United States Foundry Co., items 3, 8, 9 and 10 at \$73,410.

**CAPITAL CITY
 TITLE COMPANY**

▼

J. C. PALEN,
 Manager

▼

914 Seventh Street
 Sacramento :: California

PESCADERO, San Mateo Co., Cal.—Watsonville Farms Co. has started construction of a \$20,000 water distributing system on the Will Steele farm, south of Pescadero, water to be taken from the Wadell Creek in Santa Cruz County, four miles distant.

SIGNAL HILL, Los Angeles Co., Cal.—Until 3 P. M., May 9, bids will be received by city council for furnishing 2409 ft. 6-in. cast iron pipe. Specifications obtainable from George H. Cooper, city clerk.

YAKIMA, Wash.—Inland Pipe & Supply Co., Yakima, at \$48,755 awarded contract by city council to furnish 13 tons 16, 20 and 24-in. sand spun centrifugal cast iron pipe, manufactured by R. D. Wood & Co., Philadelphia.

VICTORVILLE, Cal.—Bids will be taken shortly by County Water District for the sale of the \$50,000 bond issue recently voted for a new water system. Plans prepared by Charles L. Foulke, consulting engineer, 455 4th St., San Bernardino, provide for work as follows:

Drilling of two wells.
Installation of deep well pumps and sand filters.
150,000 gal. concrete reservoir,
37,000 lin. ft. of cast iron pipe (6-in. and 4-in.)

The company has 24 acres of water-bearing bottom land and has filed an application for 250 inches of water from the Mojave River.

The directors of the district are: Walter Roberts, J. P. Hoffman, J. A. Farrington, Francis Arnold and E. G. Butts, all of Victorville.

SAN MATEO San Mateo Co., Cal.—Pacific Pump Co., at \$529.70 submitted low bid to city council to install one 50-gal. per minute deep well turbine pump with press tank in pumping plant at East Park, San Mateo. Complete bids follow:

| | |
|-----------------------|----------|
| Pacific Pump Co. | \$529.70 |
| John Bean Co. | 595.00 |
| Coast Electric Co. | 614.00 |
| Byron-Jackson Co. | 615.00 |
| Ash Englehart | 625.00 |
| Peerless Pump Co. | 616.50 |
| Scott Machinery Co. | 657.00 |
| Wooden & Little | 658.00 |
| R. E. Olson Co. | 677.00 |
| Western Pump Co. | 679.75 |
| Wesco Chippewa Co. | 698.50 |
| Sterling Pump Co. | 720.00 |
| Fairbanks-Morse Co. | 809.49 |
| Simonds Machinery Co. | 877.00 |

First five bids held under advisement.

BIG HORN COUNTY, Montana.—See "Government Work and Supplies" in this issue. Bids wanted by Quartermaster, Ninth Corps Area, Presidio, San Francisco, to construct electric power line, water system, sewage disposal system and pumps at Custer Battlefield National Cemetery, Crow Agency, Big Horn County, Montana.

SAN BRUNO, San Mateo Co., Cal.—City Engineer Robt. Klassen instructed to prepare plans for extension of water system into the Third Addition, including drilling of a 10-inch gravel-envelope well at the municipal water plant. Total estimated cost \$12,000.

LA HABRA, Orange Co., Cal.—The \$100,000 water bond issue carried at the special election April 11, of which proceeds will be used to establish a municipal water system either by purchase of existing water system or by

constructing an entirely new plant. Preliminary survey of the water requirements made prior to the election by Koebig & Koebig, consulting engineers, owan Bldg., Los Angeles. Determination as to the purchase will be made by the board of trustees within the next few weeks. Proposed construction includes reinforced concrete reservoirs, drilling of wells, and installation of cast iron water mains.

SAN CLEMENTE, Orange Co., Cal.—The \$60,000 water bond issue carried at the special election April 11, proceeds of which will be used for water development and extensions to present system. James Bennett, supervisor of public works. W. A. Ayer, city engineer.

SAN FRANCISCO.—Following identified bids at \$5.92 per C ft., received by City Purchasing Agent to furnish and deliver 30,000 ft. 3/4-in. galv. pipe T & C, random lengths, made in the U. S. A.:

- Woodin & Little, less 10% 10th following delivery.
- Pacific Pipe Co., do;
- Turner Company, do;
- Grinnell Company, do;
- General Machy. & Sup. Co., do;
- Walworth-California Co., do;
- Richmond Sply Co., do;
- A. J. Glesener Co., do;
- P. E. O'Hair Co., do;
- Crane Company, do;
- Steam & Plbg. Service Co., do;
- Pacific Pump & Sup. Co., do;
- Pacific Pib. & Heat. Co., do;
- Marshall Newell, do;
- Federal Pipe Co., do;
- Petroleum Equip. Co., do;
- Dalziel Moller Co., do;
- Pacific Heating Co., do;
- Tay-Holbrook Co., do;
- S. McCabe Co., do;
- Olsen & Hefferman, less 2% 10th following arrival.
- Dunham, Carrigan & Hayden, less 10% 10th following shipment.
- Gilmore Iron & Steel Co., less 2% 30 days following shipment.
- Baker-Hamilton-Pacific Co.

BIEBER, Lassen Co., Calif.—Lake County Water Works District No. 1 sets May 2 as date to vote bonds of \$10,000 to finance construction of water system from fire protection and domestic supply.

OAKDALE, Stanislaus Co., Calif.—Superintendent Hartley of the Oakdale Irrigation District is preparing estimates of cost for a pumping plant to pump water from the Lone Tree Creek in the vicinity of Lone Creek School to irrigate 200 acres of land.

CALIFORNIA.—Empire Const. Co., Shell Bldg., San Francisco, at \$5,870 awarded contract by the Associated Oil Co., 79 New Montgomery St., San Francisco, for installing pumps and piping in distributing plants from Ukiah to Santa Maria.

WASHINGTON, D. C.—Until June 15, 2 P. M., under Specifications No. 534, bids will be received by U. S. Bureau of Reclamation, Washington, D. C., for furnishing, erecting and painting plate-steel outlet pipes with branch connections, wye branches and manifolds in concrete-lined tunnels at Hoover Dam, Boulder Canyon Project, Arizona-California-Nevada, as follows:

SCHEDULES 1 and 2
Furnishing, erecting and painting four plate-steel headers 30-ft. and 25-ft. in diameter, with 13-ft. diameter penstocks and 102-in. and 91-in. dia. needle valve conduits; estimated wt. 52,000 tons.

SCHEDULES 3 and 4
Furnishing, erecting and painting twenty-eight 13-ft. diameter outlet pipes, twelve having branch connections to needle valves; estimated wt. 60,000 tons.

SCHEDULES 5 and 6
Furnishing, erecting and painting sixteen outlet pipes 17-ft. 6-in. in dia. oranching to 13-ft. in dia. for connection to hydraulic turbines in the power plant, and to 91-in. dia. and 102-in. dia. for connection to needle valves in the outlet works; estimated wt. 55,000 tons.

Specifications obtainable from above office (no charge to prospective bona fide bidders; to others \$3.50, not returnable). Certified check 10% required with bid.

HAYWARD, Cal.—May 14 is date set in the Fairview district to vote bonds of \$56,000 to finance construction of water distributing system to tie-in with the system of the East Bay Municipal Utility District.

MARE ISLAND, Cal.—Naval Appropriation Bill reported to the House April 19, carried \$50,000 for improvements of the magazines, and \$25,000 for improvement of the fire protection system at the Mare Island navy yard.

DENVER, Colo.—Until 10 A. M., May 11, bids will be received by City and County Board of Water Commissioners, W. H. Leonard, President, 1509 Cleveland Pl. to furnish the following pumping equipment proposed for use in the new University Park Pumping Station:

- One 5,000,000 gals. per day centrifugal pump.
- Two 10,000,000 gals. per day centrifugal pumps.
- Two 15,000,000 gals. per day centrifugal pumps.
- One 20,000,000 gals. per day centrifugal pump.
- One synchronous motor 200 H. P.
- Two synchronous motors, 400 H. P. each.
- Two synchronous motors, 600 H. P. each.
- One synchronous motor, 800 H. P.
- Six controls, suitable for operation of the above listed synchronous motors

Member Insurance Brokers' Exchange

FRED H. BOGGS

INSURANCE

490 GEARY STREET

Phone FRanklin 9400

San Francisco

STREETS AND HIGHWAYS

LYON CO., Nevada.—As previously reported, A. D. Drumm, Jr., Fallon, Nevada, awarded contract by State Highway Engineer S. C. Durkee, at \$24,715.04 to grade and gravel surface between 2 miles east of Mound House and Dayton, 3.51 miles, involving:

- (1) 34,000 cu. yds. rdwy. excav.;
 - (2) 378 cu. yds. struc. excav.;
 - (3) 5,481 cu. yds. sel. borrow excav. in place;
 - (4) 49,139 yd. sta. overhaul;
 - (5) 3.5 miles prepare subgrade and shoulders;
 - (6) 57 monuments;
 - (7) 2 remove timber bridges;
 - (8) 825 lbs. reinf. steel;
 - (9) 10,100 cu. yds. crusher rock or crushed gravel surf. in place;
 - (10) 350 cu. yds. crushed gravel in stockpile;
 - (11) furnish water equipment;
 - (12) 706 M. gal. apply water;
 - (13) 37 cu. yds. Class B conc.;
 - (14) 104 lin. ft. 15-in. corr. metal pipe in place;
 - (15) 784 lin. ft. 18-in. do;
 - (16) 128 lin. ft. 24-in. do;
 - (17) 50 lin. ft. 36-in. do;
 - (18) 96 lin. ft. 48-in. do;
 - (19) 20 lin. ft. remove corr. metal pipe;
 - (20) 40 lin. ft. 24-in. corr. metal siphon pipe in place;
 - (21) 2,282 lin. ft. remove fence;
 - (22) 2,282 lin. ft. construct fence;
 - (23) 1,633 lin. ft. remove and reconstruct fence;
 - (24) 2 moving buildings;
 - (25) 1 reconstruct building;
 - (26) 6 remove trees;
 - (27) 3.51 miles finish roadway.
- Complete bids follow:
- (A) A. D. Drumm, Jr., Fallon, Nev., \$24,715.04.
 - (B) J. N. Tedford, Fallon, Nev., \$24,790.92.
 - (C) Nevada Rock & Sand Co., Reno, \$27,541.34.
 - (D) Dodge Bros., Inc., Fallon, Nev., \$27,636.78.
 - (E) Nevada Const. Co., Fallon, Nev., \$28,159.38.

Unit bids follow:

| (A) | (B) | (C) | (D) | (E) | |
|--------|----------|--------|--------|--------|--------|
| (1) \$ | 2.88 | .28 | .38 | \$.33 | \$.35 |
| (2) | 1.00 | 1.00 | .75 | 1.00 | 1.00 |
| (3) | .30 | .30 | .30 | .30 | .40 |
| (4) | .02 | .02 | .02 | .02 | .02 |
| (5) | 50.00 | 75.00 | 50.00 | 100.00 | 70.00 |
| (6) | 3.00 | 2.50 | 2.50 | 3.00 | 3.00 |
| (7) | 50.00 | 37.50 | 25.00 | 50.00 | 20.00 |
| (8) | .95 | .95 | .96 | .10 | .96 |
| (9) | .55 | .60 | .60 | .67 | .60 |
| (10) | .50 | .60 | .60 | .67 | .60 |
| (11) | 1,000.00 | 500.00 | 500.00 | 500.00 | 500.00 |
| (12) | .50 | 1.00 | .50 | 1.00 | 1.40 |
| (13) | 30.00 | 26.00 | 21.00 | 30.00 | 30.00 |
| (14) | 1.00 | 1.25 | 1.00 | 1.00 | 1.00 |
| (15) | 1.25 | 1.50 | 1.25 | 1.25 | 1.30 |
| (16) | 1.50 | 2.00 | 1.75 | 1.75 | 2.00 |
| (17) | 3.00 | 3.50 | 3.25 | 3.00 | 3.50 |
| (18) | 5.00 | 5.50 | 5.50 | 6.00 | 6.00 |
| (19) | .50 | .50 | .50 | .50 | .50 |
| (20) | 2.00 | 3.00 | 2.50 | 2.00 | 2.50 |
| (21) | .03 | .02 | .02 | .05 | .03 |
| (22) | .13 | .15 | .15 | .15 | .15 |
| (23) | .08 | .05 | .10 | .10 | .08 |
| (24) | 150.00 | 40.00 | 100.00 | 75.00 | 25.00 |
| (25) | 100.00 | 50.00 | 100.00 | 100.00 | 50.00 |
| (26) | 5.00 | 8.00 | 10.00 | 7.50 | 15.00 |
| (27) | 100.00 | 75.00 | 100.00 | 100.00 | 100.00 |

MONO COUNTY, Cal.—Geo. Herz & Co., 311 Platt Bldg., San Bernardino, at \$85,854.50 awarded contract by State Highway Commission to surface with crusher run base and bituminous treated crushed gravel or stone about 14.2 miles between 2 miles west of Bridgeport and Sonora Junction. Complete bids published on April 14.

LOS ANGELES, Cal.—Until 10 A. M., May 11, bids will be received by the Los Angeles Board of Public Works to improve 98th St., bet. Avalon Blvd. and Western Ave. (center line length 12,916 lin. ft.), under Cash Contract, involving in the main: Grading (not figured); 257,171 sq. ft. 6-in. concrete paving; 225,693 sq. ft. oiled roadway; 224 tons asphalt concrete base; 144 tons asphaltic concrete wearing surface; Storm drain complete; Sanitary sewer complete; Ornamental lighting conduit, etc.

KERN COUNTY, Calif.—Until 2 P. M., April 25, bids will be received by District Engineer, E. E. Wallace, Fresno, for 30.6 miles of highway between Weldon and Democrat Springs to be treated with road oil as a dust palliative, involving 4230 bbls. road oil (70-80).

SAN JOSE, Santa Clara Co., Calif.—A. J. Raish, 305 Burrell Bldg., San Jose, at \$24,449 awarded contract by county supervisors to improve King and Aborn Roads, Supervisor District No. 2, involving 233,400 sq. ft. asphaltic concrete. Complete bids follow:

| | |
|--------------------------------|----------|
| A. J. Raish, San Jose..... | \$24,449 |
| Valley Paving Co., Fresno..... | 26,500 |
| Union Paving Co., S. F..... | 27,556 |

RIVERSIDE COUNTY, Cal.—United Concrete Pipe Corp., Box 1, Station H, Los Angeles, at \$286,806.35 awarded contract by State Highway Commission, Sacramento, to grade and pave with Portland cement concrete about 6.0 miles between Avenue 74 and the southerly boundary. Complete bids published in issue of April 14.

KERN COUNTY, Cal.—Standard Road Planning Co., 111 W 7th St., Los Angeles, at \$21,516.71 submitted only bid to District Engineer, Division of Highways, Fresno, for planing asphalt pavement on Route 4XB and C, involving 1,823,450 sq. ft. planing. Bid held under advisement.

MARIPOSA COUNTY, Cal.—Charles Helms, Jr., 5122 Lakeshore Blvd., Oakland, at \$185,062.15 awarded contract by State Highway Commission to grade about 7.6 miles between Pain Flat and Mariposa. Complete bids published in issue of April 14.

CALAVERAS & ALPINE COUNTIES, Cal.—Until May 5, 2 P. M., bids will be received by R. E. Pierce, District Engineer, Room 502 State Office Bldg., Sacramento, to treat with fuel oil as a dust palliative about 20.2 miles between Big Trees and Lake Alpine. Plans obtainable from above office. Certified check 10% required with bid.

LOS ANGELES, Cal.—Until 2 P. M., May 16, bids will be received by county supervisors for improvements in Co. Imp. No. 982, Orangewood Blvd., bet. north line of Tract No. 9775 and Lexington and Galatun Rd., and other streets in Tracts 3289, 9775, 9856 and 10083, in the vicinity of the intersection of the Anaheim-Telegraph Rd. and San Gabriel Blvd., 19,412 ft. or 3.67 miles. The quantities are:

- (1) 33,847 cu. yds. excavation;
- (2) 20,717 ft. 6x9x15-in. curb;
- (3) 7942 ft. 6x10x13-in. curb;
- (4) 92,034 sq. ft. 6-in. gutter;
- (5) 19,436 sq. ft. 8-in. gutter;
- (6) 22,687 sq. ft. 3½-in. walk;
- (7) 397,913 sq. ft. 4-in. Bitumulus pavement;

- (8) 110,126 sq. ft. 6-in. Bitumulus pavement;
- (9) 112,755 sq. ft. 4-in. D. R. base;
- (10) 463 ft. curb armor.

Estimate, \$138,000.

No bids were received October 19. Mame B. Beatty, 303 Hall of Records, Clerk of the Board.

SAN RAFAEL, Marin Co., Cal.—Until May 5, 11 A. M., new bids will be received by county supervisors for surfacing and treating with emulsified asphalt and screenings portions of the county highway from Marshall to the Sonoma county line on the Marshall-Valley Ford Road, excepting one-half mile in the town of Tomales, a distance of 11.7 miles, involving 1,115,000 sq. ft. emulsified asphalt and screenings in place. Plans obtainable from Rodney Messner, county surveyor, at San Rafael. Contract on this project previously awarded on April 12 to Geo. Peres, Richmond, who asked to be released, claiming error in bid.

STOCKTON, San Joaquin Co., Cal.—Until May 2, 11 A. M., bids will be received by Eugene D. Graham, County Clerk, to improve Canal Boulevard in Road District No. 3 from Oak Ave. to Berry Ave., 1.27 miles, involving:

- (1) 6000 cu. yds. grading;
- (2) 2400 tons 2½-in. road gravel;
- (3) 1200 tons 1½-in. do;
- (4) 100 tons asphaltic oil;
- (5) 6700 ft. mixing (67 sta.);
- (6) 2 install pipe.

Engineer's estimate, \$6590. Specifications obtainable from office of J. E. Manthey, county surveyor. Certified check or bond payable to Chairman of Board of Supervisors, 10%, required with bid.

KERN COUNTY, Cal.—Until 2 P. M., April 25, bids will be received by District Engineer, E. E. Wallace, Fresno, for 19.5 miles highway between the junction of the Arvin Road and the west city limits of Tehachapi, Kern County, to be treated with fuel oil as a dust palliative, involving: 6630 bbls. heavy fuel oil (60-70).

KERN & INYO COUNTIES, Cal.—B. C. Carroll, 4396 Maryland St., San Diego, at \$1,048.25 awarded contract by State Highway Commission to apply traffic stripes to the surface of the roadbed on state highway in Kern and Inyo counties, at various locations between Mojave and Mono county line, about 175 miles in length.

SHASTA COUNTY, Cal.—Until May 9, 2 P. M., bids will be received by F. W. Haseiwold, District Engineer, Redding, to grade and surface with untreated crushed gravel or stone about 0.3 mile near Towerhouse, 17 miles west of Redding. Specifications obtainable from above office. Certified check 10% required with bid.

MONO COUNTY, Cal.—As previously reported, until May 4, 2 P. M., bids will be received by State Highway Commission, Sacramento, to treat with fuel oil about 13.8 miles of existing roadbed between the foot of Conway Grade and two mile west of Bridgeport, involving:

- (1) 5245 bbls. heavy fuel oil.

SAN DIEGO COUNTY, Cal.—Until May 11, 2 P. M., bids will be received by State Highway Commission Sacramento, to treat with fuel oil about 60.2 miles earth shoulders between San Diego and San Diego - Riverside county line, involving: (1) 15,170 bbls. heavy fuel oil.

SONOMA COUNTY, Cal.—U. B. Lee, 1059 Carpenter St., San Leandro, at 7286 submitted low bid to District Engineer, State Division of Highways, to surface with bituminous treated crushed gravel or stone about 1 mile between Fairville and Vineburg Junction, involving:

- (1) 1800 tons crushed gravel or stone;
- (2) 100 tons cut-back asphalt;
- Complete bids follow:
- U. B. Lee, San Leandro (1) \$3.27 (2) \$14.00 total \$7286.
- Helwig Const. Co., Sebastopol, (1) \$3.35 (2) \$14.00 total \$7430.
- A. Teichert & Son, Sacramento, (1) \$3.49 (2) \$12.60 total \$7542.
- C. W. Wood, Stockton, (1) \$3.90 (2) \$13.00 total \$8320.
- J. V. Galbraith, Petaluma, (1) \$4.15 (2) \$9.05 total \$8375.
- H. J. Anderson, Sacramento, (1) \$3.75; (2) \$16.65 total \$8415.
- Pacific States Const. Co., San Francisco (1) \$4.10 (2) \$10.50 total \$8430.

OKLAND, Cal.—Until May 5, 8 P. M., bids will be received by W. W. Chappell, city clerk, to widen upper Park Blvd. between Estates Drive and Mountain Blvd., involving:

- (1) 122,000 cu. yds. excavation;
- (2) 792 lin. ft. 12-in. reinf. conc. pipe conduit;
- (3) 85 lin. ft. 15-in. reinf. pipe conduit
- (4) 520 lin. ft. 18-in. do;
- (5) 9 storm water inlets, 34-in. opening;
- (6) 3 manholes with inlet tops, 34-in.;
- (7) 2 manholes with standard tops;
- (8) 33,175 yd. cu. m. overhaul.

Specifications obtainable from the above office. Certified check 10% required with bid. Walther N. Frickstad, city engineer.

SALINAS, Monterey Co., Cal.—City council declares intention No. 100 to improve Grove Street from northerly boundary of Maple Park Addition No. 1 to 155.59 ft. northerly, involving:

- (1) 5290 sq. ft. grading;
- (2) 5290 sq. ft. paving;
- (3) 311.2 lin. ft. curb;
- Work under Imp. Act 1911 and Bond Act 1915. Hearing will be May 16, 7:30 P. M. M. R. Keef is city clerk and Howard Cozzens is city engineer.

BUTTE COUNTY, Cal.—As previously reported, until May 4, 2 P. M., bids will be received by State Highway Commission, Sacramento, to grade about 4.2 miles between Pulga and Cresta, involving:

- (1) 45 acres clear and grub right-of-way;
- (2) 465,000 cu. yds. rdwy. excav. without class;
- (3) 710,000 sta. yds. overhaul;
- (4) 8500 cu. yds. struc. excav.;
- (5) 7000 cu. yds. embank. protection;
- (6) 900 cu. yds. Class "A" Port. cem. conc. (struc.);
- (7) 82,000 lbs. bar reinf. steel (struc.);
- (8) 5700 cu. yds. rubble masonry walls;
- (9) 2900 lin. ft. 18-in. corr. metal pipe;
- (10) 800 lin. ft. 24-in. do;
- (11) 500 lin. ft. 30-in. do;
- (12) 330 lin. ft. 36-in. do;
- (13) 75 lin. ft. 4-in. do;
- (14) 221 sta. finish rdwy.;
- (15) 160 monuments complete in place.
- State will furnish corrugated metal pipe.

WASHINGTON STATE.—Until May 10, 10 A. M., bids will be received by Samuel J. Humes, Director of Highways, for highway construction as follows:

- (1) Pave with Port. cem. conc. 9 mi. of State Road No. 5, Auburn vicinity

(in the City of Auburn) King County.

(2) Grade and surface 3.1 miles of State Road No. 3, Blyn East in Callam County, involving 17 acres of clearing, 92,940 cu. yds. excav., 13,120 cu. yds. of crushed stone, 355 cu. yds. conc., 1-281 lin. ft. pipe culverts, and other items.

(3) Grade and surface 3.6 miles of State Road No. 14, Port Orchard to Tidewater Creek, Federal Aid Project No. 168-C in Kitsap County, involving 24 acres of clearing, 121,640 cu. yds. excavation, 14,460 cu. yds. crushed stone, 265 cu. yds. conc., 1,017 cu. yds. sack riprap, 1,830 lin. ft. of pipe culverts and other items.

(4) Preparation of roadway and application of 30,000 bbis. road oil on 277 miles of State Roads No. 9, 13 and 21 in Clallam, Jefferson, Grays Harbor, Pacific, Mason and Kitsap Counties.

Certified check 5 required with bid. Specifications obtainable from office of County Engineer of county in which work is located. 3

MOUNTAIN VIEW, Cal.—City trustees abandon proposal to construct extension (outside of city limits) to Moffett Blvd., 51% of the property owners having protested the proposed improvement. The contract for that unit inside the city limits was let March 1 to the Union Faving Company, Call Bldg., San Francisco, on a bid of \$34,110.59, details of which were published in issue of Feb. 26.

SAN JOSE, Santa Clara Co., Cal.—Granite Const. Co., Bin 9, Watsonville, at \$13,723 awarded contract by county supervisors to improve Gilman Road from Sixth St. to Holsclaw Rd., involving 134,800 sq. ft. oil macadam surface. Complete bids follow:

| | |
|----------------------------|--------|
| A. J. Raich Co. | 13,353 |
| O. G. Ritchie, San Jose | 14,850 |
| W. A. Dontanville, Salinas | 15,995 |

SOLANO COUNTY, Calif.—D. McDonald, 204 23rd St., Sacramento, and N. M. Ball, P.O. Box 215, Porterville, at \$185,483 awarded contract by State Highway Commission, Sacramento, to grade and pave with Portland cement concrete about 6.4 miles between one-half mile west of Cordelia and one-third mile east of Fairfield.

AMADOR, El Dorado and Alpine Counties, Cal.—C. F. Frederickson and Co., Lower Lake, at \$19,583.45 was awarded contract by State Highway Commission, Sacramento, to treat with fuel oil and asphalt road oil about 80 miles bet. Chapmans and Picketts Junction and between Picketts Junction and Alpine Junction and between Picketts Junction and Hangman's Bridge near Markleeville.

KERN COUNTY, Cal.—As previously reported, until May 4, 2 P. M., bids will be received by State Highway Commission, Sacramento, to treat with asphaltic road oil as a dust palliative about 30.7 miles of existing roadbed, between Weldon and Junction of Routes 57 and 23, involving:

- (1) 7000 bbis. asphaltic road oil.

KERN AND INYO COS., Cal.—B. G. Carroll, 4396 Maryland St., San Diego, submitted low bid to District Engineer, F. G. Sommer, State Highway Commissioner, Bishop, April 12, at \$1-048.25, for traffic stripes to be applied to the surface of the roadbed on state highway in Kern and Inyo counties, at various locations bet. Mojave and Mono county line, about 175 miles in length. 25

SOLANO COUNTY, Cal.—As previously reported, until May 4, 2 P. M., bids will be received by State Highway Commission, Sacramento, to grade and pave with Portland cement concrete about 0.8 mile at Rio Vista, involving:

- (1) 9 trees remove and dispose of;
- (2) 21,000 cu. yds. rdwy. excav. without class;
- (3) 215,000 sta. yds. overhaul;
- (4) 132 cu. yds. struc. excav.;
- (5) 8500 sq. yds. subgrade for pave.;
- (6) 60 cu. yds. salv. mac. surf.;
- (7) 360 tons untr. cru. gravel or stone surf.;
- (8) 73 tons cru. gravel or stone (bit. treated surf.);
- (9) 4 tons cut back asphalt.;
- (10) 1750 cu. yds. Class "A" Port. cem. conc. (pave.);
- (11) 10 cu. yds. Class "A" Port. cem. conc. (struc.);
- (12) 40,750 lbs. bar reinf. steel (pave and struc.);
- (13) 110 lin. ft. 18-in. corr. metal pipe
- (14) 274 lin. ft. 24-in. do;
- (15) 40 lin. ft. salv. exist. culverts;
- (16) 0.36 mi. move and reset fences;
- (17) 1.03 mi. new hog tight property fence;
- (18) 6 gates complete in place;
- (19) 105 cu. yds. Port. cem. conc. remove from exist. pave.;
- (20) 22 bbis. light fuel oil;
- (21) 18 M. gal. water apply to surf.;
- (22) 38 sta. finish rdwy.;
- (23) 13 monuments complete in place.
- State will furnish corrugated metal pipe.

LOS ANGELES, Calif.—Until 10 A. M., May 18, bids will be received by Board of works for improving streets in Wetona Dr. and Mulholland Highway Improvement District, involving:

- (1) grading (58,110 cu. yds. cut, 483 cu. yds. fill);
- (2) 310,290 sq. ft. 6-in. conc. paving;
- (3) 324 sq. ft. 8-in. concrete (local depressions);
- (4) 149 sq. ft. 4-in. conc. (driveways);
- (5) 958 sq. ft. 4-in. asph. conc. wear-in surface;
- (6) 63 sq. ft. Class D resurfacing;
- (7) 1768 light unplas. curb;
- (8) 431 ft. heavy unplas. curb;
- (9) 19,032 ft. reinf. integral curb;
- (10) 46 ft. special reinf. deep curb;
- (11) 5365 sq. ft. one-course walk;
- (12) storm drain;
- (13) sanitary sewer;
- (14) 866 ft. house sewers;
- (15) water system;
- (16) 105 water services;
- (17) 100 ft. wooden guard rail;
- (18) concrete and reinf. concrete retaining walls & appurtenances;
- (19) reinforced concrete structures;
- (20) ornamental lighting system.
- Remove 21 trees.

Bids were previously advertised for Nov. 4, but no bids were received at that time. 8

SANTA CRUZ COUNTY, Cal.—As previously reported, until May 4, 2 P. M., bids will be received by the State Highway Commission, Sacramento, to clear and grub about 5.1 miles of highway right-of-way bet. Inspiration Point and Vine Hill Road, involving:

- (1) 85 acres clear and grub right-of-way.

HUMBOLDT-TRINITY COUNTIES, Cal.—Until May 4, 2 P. M., bids will be received by H. S. Comby, district engineer, State Highway Commission, 546 Wabash Ave., Eureka, to treat with heavy fuel oil as a dust palliative 30-mi. between Blue Lake and Salyer.

BUILDING NEWS

APARTMENTS

Contract Awarded.
APARTMENTS Cost, \$110,000
LOS ANGELES, Los Angeles Co., Cal.
 1554 Laurel Canyon Road.
 Five-story Class B reinforced concrete
 apartments (63x136 ft.) 37 apts.
 Owner—Paul J. Guerin.
 Architect—Robert H. Orr, Corporation
 Bldg., Los Angeles.
 Contractor—Associated Constructors,
 J. E. Bogue, 1226 S. La Brae Ave.,
 Los Angeles.

Preparing Sketches.
APARTMENTS Cost, \$30,000
SAN FRANCISCO, Marina District.
 Three-story and basement frame and
 stucco apartments (6 4-room and
 1 5-room apts.); composition and
 tile roof, steam heat, colored tile
 baths and kitchens, electric re-
 frigeration, hardwood floors, etc.)
 Owner—Withheld.
 Architect—Irvine & Ehbets, 2048 Mar-
 ket St., San Francisco.

BONDS

NORTH SACRAMENTO, Cal.—May
 17 is date set by Grant Union High
 School District to vote bonds of \$150,-
 000 to finance erection of a new high
 school plant, preliminary plans for
 which have been prepared by Archi-
 tects Starks & Flanders, Forum Bldg.,
 Sacramento. A \$250,000 bond issue,
 recently held in the district to finance
 a new plant was recently defeated,
 with the result that the second elec-
 tion provides only for a \$150,000 struc-
 ture.

SAN GABRIEL, Los Angeles Co.,
 Cal.—San Gabriel High School District
 will hold a second election on May 17
 at which time it is proposed to vote
 bonds for financing the construction of
 the new San Gabriel high school. The
 three propositions to be voted on are:

- (1) Bonds in the amount of \$246,-
 500 to buy a site and provide a gym-
 nasium.
- (2) Bonds in the amount of \$236,-
 500 for a site and building with an
 auditorium.
- (3) Bonds in the amount of \$345,-
 000, as previously voted upon, for a
 site, building, auditorium and gym-
 nasium.

Architects Marsh, Smith & Powell,
 816 W. Fifth St., Los Angeles, and Ar-
 chitect Scott Quintin, Edison Bldg.,
 Alhambra, have been commissioned to
 prepare plans for the buildings.

SAN FRANCISCO—Clerk of the
 Board of Supervisors has been di-
 rected to advertise for bids for the
 purchase of the site and preparation
 sale of \$690,000 in bonds, including
 \$120,000 for purchase of the site and
 preparation of plans for the new
 county jail; \$270,000 for underpasses
 on Sunset Blvd., and \$300,000 for com-
 pletion of the 15th St. and Fillmore
 St. main sewers. The bids will be
 opened May 9.

CHURCHES

Preparing Plans.
CHURCH Cost, \$40,000
UPLAND, Sacramento Co., Cal. Eu-
 chid Ave. and C Street.
 One-story brick church (40x75 feet).
 English type.

Owner—Upland Methodist Church
 (Rev. Irvin A. Engle, Pastor).
 Architect—Skilling & Inwood, 1003 W.
 Adams St., Los Angeles.

Plans Being Figured.
CHURCH Cost, \$—
LOS ANGELES, Los Angeles Co., Cal.
 NW Eighth Ave. and 77th St.
 Two-story frame church (70x80 ft.);
 16 classrooms, kitchen and social
 hall.

Owner—Eighth Avenue Baptist Church
 Architect—Marsh, Smith & Powell,
 Architects Bldg., Los Angeles.
 April 23, 1932

Preparing Working Drawings.
AUDITORIUM Cost, \$20,000
SACRAMENTO, Sacramento Co., Cal.
 O Street.

One-story steel frame and brick audi-
 torium (to seat 1000).

Owner—Buddhist Association, 418 O
 St., Sacramento.
 Architect—Charles Dean, California
 State Life Bldg., Sacramento.

Whether bids will be asked or not is
 not determined at this time.
 (8427) 1st report April 16, 1932 3

FACTORIES AND WARE- HOUSES

Preparing Sketches.
CREAMERY & OFFICES Cost \$60,000
RICHMOND, Contra Costa Co., Calif.
 San Pablo Ave. near Macdonald.
 Creamery and offices (height and type
 of structure not determined.)
 Owner—Golden State Company, Ltd.,
 425 Battery St., San Francisco.
 Plans by Eng. Dept. of Owner.
 (8489) 4

Completing Plans.
DISTRIBUTING PLANT \$300,000
SAN FRANCISCO, Potrero Ave., bet.
 25th and Army Sts.

Three-story Class A steel frame and
 concrete distributing plans and
 offices; three-story Class A steel
 frame and concrete pasteurizing
 building; one-story Class A steel
 and concrete boiler and compres-
 sor building with steel trusses,
 steel frame loading shed, galvan-
 ized roof; Class B steel frame and
 galvanized iron garage and repair
 shop; composition roof; one-story
 Class A steel and concrete butter
 and by-products building; brick
 exterior walls and concrete and
 tile floors.

Owner—Dairy Delivery Co., 2550 19th
 St., San Francisco.

Architect—William Toepke, Call Bldg.,
 San Francisco.
 Associate Architect—Otto G. Hinter-
 mann, Call Bldg., San Francisco.
 Bids will be asked in about two
 weeks.

Contract Awarded.
OIL PLANT Cost, \$250,000
AVON, Contra Costa Co., Cal.
 Lubricating oil plant (steel construc-
 tion); furnaces, towers, tanks,
 etc.

Owner—Associated Oil Co., 79 New
 Montgomery St., San Francisco.
 Architect—Eng. Dept. of Owner.
 Contractor—Foster-Wheeler Corp., 165
 Broadway Ave., New York City.

Plans Being Revised.
FACTORY ADDITION Cost, \$25,000
SAN FRANCISCO, No. 962 Battery
 Street.

Three-story Class C concrete addition
 to factory (steel rolling doors,
 steel sash, etc.)

Owner—Kraft-Phenix Cheese Corp. of
 California, 962 Battery St.
 Architect—Not Given.
 Bids will be asked shortly.

GOVERNMENT WORK AND SUPPLIES

SAN FRANCISCO—Until May 10, 11
 A. M., bids will be received by Con-
 structing Quartermaster, Fort Mason,
 for the construction of a cast iron and
 terra cotta outfall sewer at Crissy
 Field, involving:

- (1) 13 pieces of 30-in. terra cotta
 pipe (39-ft. in length).
- (2) 7 pieces of 30-in. cast iron pipe
 (34-ft. in length).

Plans obtainable from Constructing
 Quartermaster at Fort Mason.

BOISE, Idaho—Until May 26, 2:30
 P. M., bids will be received by the
 Superintendent of Construction, Vete-
 rans' Administration Hospital, Palo
 Alto, for furnishing and installing a
 six foot high woven wire fence and
 wrought iron gates. Work involves ex-
 cavating, grading, concrete post set-
 tings, galvanized metal posts, galvan-
 ized chain-link fabric, and all miscel-
 laneous anchors, specials, braces, etc.;
 and under Item II of the Bid Form
 wrought iron vehicle and pedestrian
 gates, including excavating, backfill-
 ing, concrete and stone posts, concrete
 anchors, conduit, outlet bases, and
 lighting fixtures.

Plans obtainable from above office.
 No deposit required.

FORT BRAGG, Mendocino Co., Cal.
 —Until May 4, 3 P. M., bids will be
 received by U. S. Engineer Office,
 Customhouse, San Francisco, for mix-
 ing, transporting and placing concrete
 in Jetty at Novo River, 1½ miles south
 of Fort Bragg in Mendocino County.
 Project involves 1,000 cu. yds. mass
 concrete.

ROSEBURG, Ore.—Redmon Heat-
 ing Co., Louisville, Kentucky, at \$264,-
 720 awarded contract for plumbing,
 heating and electrical work in con-
 nection with the construction of the
 Veterans' Administration Home, Rose-
 burg, Oregon. Murch Bros. Constr.
 Co., Railway Exchange Bldg., St.
 Louis, have the general contract at
 \$663,000. Complete list of bids pub-
 lished April 7.

SUB-CONTRACTORS MATERIALMEN Stop Your Losses

Credit information on general
 contractors, owners, builders and
 individuals.

MATERIALMEN'S CREDIT BUREAU

J. E. Higgins, General Manager
 564 Market St.—KEarny 6245-46
 Night Phone DOUGLAS 5304
 San Francisco

Completing Plans.
INSPECTION STATION \$73,000
CALEXICO, Imperial Co., Cal.
Inspection Station.
Owner—United States Government.
Plans by Supervising Architect, Washington, D. C.
Bids will be asked within thirty days.

MONTEREY, Monterey Co., Cal.—Until May 5, 10 A. M., under Schedule No. 688-32-11, bids will be received by the Quartermaster, Presidio of Monterey, to furnish and deliver lumber, doors, windows, screen doors, lock sets, nails, tacks, plumbing supplies, galv. iron pipe, paint cement, window glass, "Beaver Board" wall board, electrical supplies, etc. Copy of the specifications for this bid call is on file in the office of Daily Pacific Builder and may be inspected by those interested.

BANDON, Ore.—Until May 19, bids will be received by U. S. Coast Guard Headquarters, Washington, D. C., for removal of the present boathouse and launchway and the construction of a frame boathouse 42x54 ft. with reinforced concrete floor slab and foundation walls; construction of a 3-track creosoted wood pile and timber marine launchway, approx. 180 ft. long; construction of a creosoted wood pile and timber wharf, approx. 12x40 ft. with timber walkway 3 ft. wide and approx. 118 ft. long connecting wharf to inshore end of launchway; and construction of a concrete retaining wall approx. 12 ft. high and 150 ft. long, together with all necessary grading, filling, excavation, etc., at the Coquille River Coast Guard station, Bandon, Oregon. Plans obtainable from U. S. Coast Guard Headquarters at Washington, D. C.

SACRAMENTO, Calif.—Following bids received by U. S. Engineer Office, to furnish job, Rio Vista:
(1) 55 tons (2000 lbs.) untreated road rock suitable for mix-in-place road;
(2) 5 cu. yds. premixed crushed road rock and road oil suitable for patching chuck holes.

Basalt Rock Co., Napa, (1) \$2.75 (2) \$5.75.
Bechtel-Kaiser Rock Co., Oakland, (1) \$2.61 (2) \$3.50.
Noah Adams Lumber Co. (1) \$2.60 (2) \$5.50.
Sacramento Rock & Sand (1) \$2.61 (2) \$8.50.
Transit Concrete (1) \$2.30 (2) \$7.00.
A. Teichert (1) \$2.80 (2) \$6.45.

Preparing Working Drawings.
FEDERAL BLDG. Postal cost \$3,500,000
SAN FRANCISCO, Civic Center.
Six-story and basement reinforced concrete Federal office building (granite exterior, terra cotta court lining, lead covered copper roofing, terrazzo and prominate tile flooring, mastic tile floors in offices, steam heat).
Owner—United States Government.
Mechanical Engineer—Leland & Haley 58 Sutter Street.
Structural Engineer—C. H. Snyder, 251 Kearny Street.
Preliminary plans have been approved in Washington.

WHEELER FIELD, T. H.—Until May 9, bids will be received by the Constructing Quartermaster, 231 E. Munitions Bldg., Washington, D. C., for gasoline storage system for Wheeler Field, T. H.

BIG HORN COUNTY, Montana—Until May 20, 2 P. M., under Circular No. 59-32-3, bids will be received by the Quartermaster, Ninth Corps Area, Presidio, San Francisco, to construct an electric power line and water system at Custer Battlefield National Cemetery, Crow Agency, Big Horn County, Montana. The work comprises:

- (1) Construct an intake at Little Horn River, furnishing and laying about 2600 ft. 4-in. c. i. pipe and taking up and relaying of about 1800 ft. of old 3-in. pipe.
- (2) Furnish and install motor driven pump in present pump house, capacity 60 g. p. m.
- (3) Construct 20,000-gal. concrete reservoir;
- (4) Install septic tank and sewage disposal system;
- (5) Install sprinkling system at cemetery;
- (6) Furnish and install water filter in basement of Superintendent's Lodge.
- (7) Construct 2200-volt 3-phase electric power line approximately 3½ miles long from Crow Agency to cemetery.

Plans obtainable from the Quartermaster, Ninth Corps Area, Presidio, San Francisco. Certified check 10% payable to Chief of Finance required with bid.

Bids Opened.
WEATHER STATION Cost, \$—
TATOOSH ISLAND, Wash.
Two-story and basement concrete weather tower and residence.
Owner—United States Government (U. S. Weather Bureau Station).
Architect—W. P. Higgins, Terminal Sales Bldg., Portland, Ore.
Low Bidder—Western Constr. Co., Textile Tower Bldg., Seattle, Wash., at \$31,296.
William Wills, Seattle, second low bidder at \$31,412; C. B. Beal, Seattle, third low at \$31,987.

AMERICAN LAKE, Wash.—Bids will be asked May 5 and opened June 6, 2:30 P. M., by the Superintendent of Construction, Veterans' Hospital, Palo Alto, for a vitrified clay and reinforced concrete outfall sewer, 19,000 feet in length at the Veterans' Hospital, American Lake. Specifications are prepared by the Supervising Superintendent of Construction, Palo Alto.

Preparing Working Drawings.
POST OFFICE Cost, \$150,000
VISALIA, Tulara Co., Cal. Acequia and Locust Streets.
One-story and basement Class A concrete and steel Post Office (brick, granite and terra cotta exterior).
Owner—United States Government.
Architect—W. D. Coates Jr., Rowell Bldg., Fresno.
Plans will be completed in about 30 days.

Plans Completed.
POST OFFICE Cost, \$300,000
BEVERLY HILLS, Los Angeles Co., Cal. Civic Center Site.
Class A steel frame and masonry Post Office (tile and composition roof).
Owner—United States Government.
Architect—Ralph C. Flewelling, 450 N. Beverly Drive, Beverly Hills.
Consulting Architect—Allison & Allison, California Reserve Bldg., Los Angeles.
Final plans have been approved by the City Council.

WASHINGTON, D. C.—Until June 15, 2 P. M., bids will be received by U. S. Bureau of Reclamation for furnishing, erecting and painting plate-steel outlet pipes with branch connections, wye branches and manifolds in concrete-lined tunnels at Hoover Dam, Boulder Canyon Project, Arizona-California-Nevada. See items under "Waterworks" in this issue.

Plans Being Completed.
POST OFFICE Cost, \$140,000
NAPA, Napa Co., Cal. Randolph and Second Sts. (240x120 ft.)
One-story, basement and mezzanine floor Class A steel and concrete Post Office (brick and terra cotta exterior, granite base).
Owner—United States Government.
Architect—Reed & Corlett, Oakland Bank Bldg., Oakland.
Plans will be completed in about two weeks.

MARE ISLAND, Cal.—Naval Appropriation Bill reported to the House April 19, carried \$50,000 for improvements of the magazines, and \$25,000 for improvement of the fire protection system at the Mare Island navy yard.

Bids Wanted—To Close May 10.
ELEVATORS Cost, \$—
FAIREBANKS, Alaska.
Elevators for Post Office.
Owner—United States Government.
Plans by Supervising Architect, Washington, D. C.

Plans Being Figured—Bids Close May 31st.
POST OFFICE Cost, \$130,000
MERCED, Merced Co., Cal.
Two-story Class A steel and masonry post office (130x84 feet), stucco, terra cotta and stone exterior, tile roofing, steel and bronze windows and doors, marble and tile work, steam heat, hardwood trim, etc.
Owner—United States Government.
Architect—Allison and Allison, Edison Bldg., Los Angeles.

YAKIMA, Wash.—L. Coluccio & Co., 1638 Lane St., Seattle, Wash., at \$13,713 awarded contract by U. S. Reclamation Service for Wippel Pumping Plant of the Kittitas Division of the Yakima Project.

Bids Wanted—To Be Opened June 1.
POST OFFICE EXTENSION \$—
ALAMEDA, Alameda Co., Calif.
Fireproof extension to post office and remodel present quarters.
Owner—United States Government.
Plans by Supervising Architect's Office, Treasury Dept., Washington, D. C.
On previous call for bids the following were three lowest figures:
W. G. Thornally, Oakland, \$80,869
A. M. Lundberg, St. Louis, \$1,700
K. E. Parker Co., San Francisco \$2,700

SAN LUIS OBISPO, Cal.—Until May 11, 10 A. M., bids will be received by U. S. Property & Disbursing Officer, Sacramento, for exterior painting of buildings at National Guard Training Camp, San Luis Obispo. Specifications obtainable from above office.

Contract Awarded.
INSPECTION STA. Cont. price \$48,500
DOUGLAS, Arizona.
Owner—United States Government.
Plans by Supervising Architect, Treasury Dept., Washington, D. C.
Contractor—Robert E. McKee, 108 W. 6th St., Los Angeles, and El Paso, Texas.

STOCKTON, San Joaquin Co., Cal.—Until May 5, 3 P. M., under Order No. 4468/136, bids will be received by U. S. Engineer Office, California Fruit Bldg., Sacramento, to furnish 1000 ft. wire rope, 3/4-in. dia. 6x19, improved plow steel, modified Seales construction, minimum breaking strength 46,000 pounds, in one piece wound on one reel. Rope shall be uncoated, regular lay, constructed on a hemp core or center.

Bids Wanted—To Close May 20, 3 P. M.
POST OFFICE Cost, \$240,000 available BILLINGS, Montana.
 Class A post office and court house. Owner—United States Government. Plans by Supervising Architect, Washington, D. C.
 Deposit of \$15 required for plans.

Plans Being Completed. Cost, \$150,000
POST OFFICE Cost, \$150,000
 MARYSVILLE, Yuba Co., Cal. NE Fourth and C Sts. (160x160 ft.)
 One-story and basement Class A steel concrete and brick post office. Owner—United States Government. Architect—J. J. Donovan, 1916 Broadway, Oakland.
 Structural Engineer—Frank A. Johnson, 1916 Broadway, Oakland.
 Mechanical Engineer—Atkins & Parker, Hohart Bldg., San Francisco.
 Plans will be forwarded to Washington for approval shortly.

BOULDER CITY, Nevada— Until May 12, 10 A. M., under Specifications No. 569-D, bids will be received by U. S. Reclamation Bureau, Denver, Colo., to construct a 34-room dormitory at Boulder City. Structure will be 42 by 88 ft. in size with a basement under part of the building. Part of the foundation will be timber sills supported on concrete footings or on timber posts resting on concrete footings and the other part will be concrete walls resting on concrete footings. The outside walls and the partitions and roof will be of timber construction. The outside walls will be covered with stucco over gypsum wall board and inside walls and ceilings will be covered with gypsum wall board. The roof will be covered with asphalt composition shingles.
 The installation of the heating, lighting and plumbing systems will be included in the contract for the construction of the building.
 This invitation for bids does not cover the purchase of materials which are to be furnished by the Government. Plans obtainable from Bureau at Denver on payment of \$1.50. (8490) 7

Bids Wanted—To Close June 1.
POST OFFICE Total cost, \$200,000
 EL CENTRO, Imperial Co., Cal.
 Class A post office.
 Owner—United States Government. Plans by Supervising Architect, Washington, D. C.

HALLS AND SOCIETY BUILDINGS

Plans Completed. Cost, \$90,000
SACRAMENTO, Sacramento Co., Cal.
 17th and L Streets.
 Three-story reinforced concrete club (gymnasium, auditorium, dormitory, kitchen, etc.)

Owner—Y. W. C. A.
 Architect—Charles Dean, California State Life Bldg., Sacramento.
 Plans are being approved today. Whether bids will be asked or not is not determined.

Bids Wanted—To Close May 10, 10:30 A. M.
LIGHTING FIXTURES Cost, \$—
 ALBANY, Alameda Co., Cal.
 Lighting fixtures for Veterans' Memorial Building.
 Owner—County of Alameda.
 Architect—Henry H. Meyers, Kohl Bldg., San Francisco.
 Deposit of \$25 required for plans and specifications.

HOSPITALS

Plans Completed.
MEDICAL BLDG. Total Cost, \$600,000
 SAN FRANCISCO. Second and Parnassus Avenues.
 Seven-story and basement steel frame and concrete medical building (340 foot overall) steel beams, composition roof.
 Owner—Regents of the University of California.
 Architect—Wm. C. Hays, Crocker 1st Nat'l. Bank Bldg., San Francisco.
 Mechanical Engineer—Frank Walsh, 7/8 Architect.
 Structural Engineer—W. L. Huber, 1 Montgomery St., San Francisco.
 Bids will be advertised within a few days.

Contract Awarded.
RETREAT HOME Cost, \$115,000
 LOS ANGELES, Los Angeles Co., Cal.
 Hollywood Hills near Sunset Blvd.
 Frame and stucco retreat house (54 rooms), retreat master's building, (20 rooms), dining room, kitchen, storerooms and offices (tile roof, steam heat, cement & wood floors, garages, etc.)
 Owner—Loyola Retreat Association.
 Architect—Ross Montgomery, Chamber of Commerce Bldg., Los Angeles.
 Contractor—Harry C. Miller, P. O. Box 497, Santa Clara.

Commissioned To Prepare Plans. Cost, \$40,000
ADDITION
 HANFORD, Kings Co., Cal.
 Two-story wing addition and general alterations to county hospital.
 Owner—County of Kings.
 Architect—E. J. Kump, Rowell Bldg., Fresno.

Construction To Start Shortly. Cost, \$300,000
HOSPITAL Cost, \$300,000
 ALTADENA, Los Angeles Co., Calif.
 Foothill Blvd. and Washington St.
 Five-story Class A steel frame and reinforced concrete hospital (65 beds).
 Owner—Sisters of St. Joseph, Orange.
 Architect—Gene Verge, Beaux Arts Bldg., Los Angeles, and Newton Ackerman, 102 W 4th St., Eureka, associated.
 Mgr. of Const.—J. K. Doolan, 432 Security Bldg., Pasadena.

Construction will be started shortly after May 1st.
 Will provide for surgical department, kitchens, nurses' quarters, chapel, laundry, etc. Steel frame construction with reinforced concrete filler walls, floors and roof slab, steam heating system, electric elevators, marble and tile work, refrigeration plant, insulation, nurses' call system, ornamental iron, vaults, fire escapes, steel sash.

HOTELS

Contemplated.
HIOTEL Cost, \$2,000,000
 EAGLE ROCK, Los Angeles Co., Cal.
 Seven-story Class A hotel.
 Owner—Alonza C. Mather, 500 S. Lorraine Blvd., Los Angeles.
 Architect—Not Given.

Planned. Cost, \$—
HOTEL Cost, \$—
 BEVERLY HILLS, Los Angeles Co., Cal.
 SE Canyon Drive and Santa Monica Blvd (450x130 ft.)
 Twelve-story Class A hotel.
 Owner—Stanley S. Anderson, 1341 Benedict Canyon Road, Los Angeles.
 Architect—Not Selected.
 It is understood that work on the structure will be started within five months.

Contracts Awarded. Cost, \$50,000
HOTEL Cost, \$50,000
 MADERA, Madera Co., Calif.
 Three-story Class C hotel (concrete foundations, brick walls, stucco exterior, tile and composition roof combined steam heating and cooling system, elevator, etc.)
 Owner—Mrs. Sarah E. Gross, 167 S 14th St., San Jose.
 Architect—Davis-Pearce Co., Grant & Weber Sts., Stockton.

General Work
 F. R. Zinck, 2030 Pacific Avenue
 Stockton\$35,106
Heating
 Devlin Drev Co., 1314 Fulton St.
 Fresno\$10,432
Electric
 Robinson Elec. Co., 136 N Van
 Ness Ave., Fresno.....\$4,481

ICE AND COLD STORAGE PLANTS

Construction Postponed Temporarily. Cost, \$250,000
ICE MFG. PLANT Cost, \$250,000
 SAN FRANCISCO. Illinois, 23rd and 3rd Streets.
 Carbonic ice manufacturing plant.
 Owner—California Carbonic Ice Manufacturing Co. (E. W. Wilson, president), 14th floor, 200 Bush St.
 Engineer—C. A. Winder, 14th floor, 200 Bush Street.
 The plant will be of the "factory outdoor" type and will manufacture ice from the gases from substation stacks in the vicinity. The ice manufactured will be used in refrigeration on transpacific ships and transcontinental freight trains carrying perishables.
 Construction postponed for about 60 days.

Preparing Preliminary Plans. Cost, \$50,000
REFRIGERATING PLANT Cost, \$50,000
 BAKERSFIELD, Kern Co., Cal.
 One-story reinforced concrete refrigerating plant.
 Owner—Withheld.
 Architect—Erwin J. Symmes, Habersfelde Bldg., Bakersfield.

POWER PLANTS

NAPA, Napa Co., Calif.—Westinghouse Electric and Manufacturing Co. awarded contract by San Francisco, Napa and Callistoga Railway Co. to rebuild power sub-station recently destroyed by fire in East Napa. The contract calls for repairing of two of the damaged generators and the installation of all new electrical apparatus for a complete sub-station. The generators to be rewound are the 800 kw. and the 400 kw.

FRESNO, Fresno Co., Calif.—Construction work on the San Joaquin Light and Power Corporation's proposed \$5,000,000 steam power plant at Herndon, scheduled to commence this spring, will be delayed indefinitely due to a decrease in the power load and an adequate supply of water for generating power in reservoirs of the company and irrigation district, which make it unnecessary to place any additional generating facilities in operation prior to 1934. The announcement was made by A. Emory Wishon, president of the San Joaquin Corp., in a report on 1931 operations.

Plans Completed.
POWER PLANT Cost, \$110,000
LOS ANGELES, Los Angeles Co., Cal.
No. 6776 Hawthorne Avenue.
Two-story and basement Class A reinforced concrete electrical distributing station (60x95 ft.); reinforced concrete roof, steel sash, metal clad doors, cast stone trim, structural steel columns, concrete floors.
Owner—Los Angeles Department of Water & Power, 207 W. Broadway, Los Angeles.
Architect—Engr. Dept. of Owner.

YAKIMA Wash.—L. Coluccio & Co., 1628 Lane St., Seattle, Wash., at \$15,713 awarded contract by U. S. Reclamation Service for Wipgel Pumping Plant of the Kititas Division of the Yakima Project.

BIG HORN COUNTY, Montana—See "Government Work and Supplies" in this issue. Bids wanted by Quartermaster, Ninth Corps Area, Presidio, San Francisco, to construct electric power line, water system, sewage disposal system and pumps at Custer Battlefield National Cemetery, Crow Agency, Big Horn County, Montana.

SALEM, Ore.—Until May 12, 2 P. M. bids will be received by Wm. Einzig, secretary, Oregon State Board of Control, to construct:

Section A: An electrical distribution system to furnish light and power to the following buildings and institutions: State penitentiary, state hospital, state office building, state capitol, agricultural building, supreme court building, ornamental lighting, feeble minded institution, tuberculosis hospital, cottage farm, girls' industrial school, penitentiary annex, state highway shops.

Section B: A complete power plant building to be located about 150 feet due south of Tower No. 7 at the penitentiary.

Section C: Complete installation of a suitable Diesel electric generating plant in power plant building.

Certified check 5% required with bid. Specifications obtainable from the office of the secretary of the board at Salem.

PUBLIC BUILDINGS, FIRE HOUSES AND JAILS

Painting Bids Wanted — Bids Open May 10, 2 P. M. (Previously reported May 5)

PAINTING Total Cost, \$5,000,000
SAN FRANCISCO, Van Ness Avenue, Franklin, McAllister and Grove. Painting and decorative painting for Veterans' Building and Opera House.

Owner—City and County of San Francisco (S. F. War Memorial).
Architect—G. A. Lansburgh, 140 Montgomery St., and Arthur Brown Jr., 251 Kearny St., San Francisco.

Mgrs. of Constr.—Lindgren & Swinerton, Inc., 225 Bush St., S. F.
Separate bids will be received for each unit of the work.

SCHOOLS

Bids Rejected.
SCHOOL Cost, \$45,000
SANTA BARBARA, Santa Barbara Co., Calif.

Masonry or frame school (three classrooms, auditorium, offices, dining rooms, etc.; clay tile roof, acoustical plaster, cork and hardwood floors, incinerator, program clocks, etc.)

Owner—Elwood Union School District. Architect—E. Keith Lockard 117 East De La Guerra St., Santa Barbara.

Bids ran high. Plans will be revised and new bids asked at a later date. On previous call for bids the following were submitted:

| | |
|--------------------------------------|----------|
| James Noon, Baldwin Park..... | \$56,860 |
| Carl Swenson, San Jose..... | 59,375 |
| Andv. Jensen, Santa Barbara..... | 61,432 |
| Johnson & Hansen, Santa Barbara..... | 64,853 |
| Nels Oalsen, Santa Barbara..... | 65,960 |
| J. J. Munneman, Santa Barbara..... | 69,980 |
| E. P. Moe, Santa Barbara..... | 74,987 |

Campbell Const. Co., 315 S Western Ave., Los Angeles, submitted low bid of \$42,312 (exclusive of heating, ventilating, electrical work and painting) for the school building only.

FRESNO, Fresno Co., Cal.—Until May 5, 11 A. M., bids will be received by M. A. Hawkes, county purchasing agent, to furnish school supplies for the Elementary Schools and certain other schools of Fresno county for use during the fiscal year 1931-1932. List of materials desired obtainable from the County Purchasing Agent. (\$439)

Preparing Working Drawings.
GYMNASIUM Cost, \$25,600
CHICO, Butte Co., Cal.

One-story reinforced concrete gymnasium (flat roof).

Owner—Chico Union High School Dist. Architect—Chester Cole, First Nat'l Bank Bldg., Chico.

Bids will be asked about July 1st.

BANKS, STORES & OFFICES

Preparing Plans.
OFFICES Cost, \$—
LOS ANGELES, Los Angeles Co., Cal.
SE Wilshire Blvd. and Bronson Avenue.

Eleven-story and basement Class A offices.

Owner—Mrs. Anna L. Stine. Architect—Robert H. Orr, 1300 Corporation Bldg., Los Angeles.

Plans Being Prepared.
OFFICES Cost, \$50,000
SAN FRANCISCO, O'Farrell St., between Powell and Stockton Sts.

Two-story brick and light steel frame offices.

Owner—Development, Inc., 111 Sutter St., San Francisco.

Architect—Edward G. Bolles, 681 Market St., San Francisco.

Engineer—Clarence Seage, 681 Market St., San Francisco.

Contract Awarded.
EXCHANGE Cost approx. \$65,000
MONTEREY, Monterey County, Calif.
Franklin and Pierce Streets.

Two-story Class C concrete telephone exchange (stucco walls, recessed windows, the roof and balconies).

Owner—Pacific Telephone & Telegraph

Co., 140 New Montgomery St., San Francisco.

Plans by Eng. Dept. of Owner (E. V. Cobby in charge).
Contractor—MacDonald & Kahn, Financial Center Bldg., San Francisco.

Dinwiddle Const. Co. submitted second low bid and Barrett & Hilp were third.

Plans To Be Prepared.
STORE Cost, \$50,000
FRESNO, Fresno Co., Calif. 1022-24 Fulton Street.

Remodel present store. Owner—Fisher Glassford Hardware Co., Fresno.

Plans by Eng. Dept. of Lessee. Lessee—W. T. Grant Co., 1441 Broadway, New York City (H. T. Williams, chief engineer).

Plans Being Figured.
LAW SCHOOL Cost, \$350,000
PULLMAN, Washington.

Three-story and basement, 174x53-ft., brick and steel Law School.

Owner—Regents of the University of Washington, Pullman.

Architect—A. H. Albertson, Jos. Wilson and Paul Richardson, associated, Northern Life Tower Bldg., Seattle.

April 23, 1932
Contract Awarded.
NEWSPAPER BLDG. Cost, \$—
LOS ANGELES, Los Angeles Co., Cal.
First and Spring Sts.

Class A steel frame newspaper building (6 stories or more) (24 165 feet); 4 electric elevators, 1 freight elevator, steam heat, sprinkler system.

Owner—Los Angeles Times.

Architect—Gordon B. Kaufmann, Union Bank Bldg., Los Angeles.

Contractor—P. J. Walker Co., 1111 W. M. Garland Bldg., Los Angeles.

THEATRES

Plans Being Refigured.
THEATRE Cost, \$40,000
PITTSBURG, Contra Costa Co., Cal.

SW Seventh and Cumberland Sts. (80x125-ft.)

One-story and balcony Class B reinforced concrete theatre (to seat 750) composition roof.

Owner—Andrew Portland, 230 E 6th St., Pittsburg.

Architect—A. A. Cantin, 544 Market St., San Francisco.

Lessee—P. A. Frease and Louis Tragner.

C. P. W. Jensen, 320 Market Street, San Francisco, is re-figuring the revised plans. No other bids will be accepted.

MISCELLANEOUS CONSTRUCTION

Preparing Preliminary Plans—Contract Awarded.

BALL PARK Cost, \$150,000
SAN JOSE, Santa Clara Co., Cal. 18th and Williams Streets.

Ball park and plunage.

Owner—San Jose Recreational Park, Inc. (A. M. Mortensen, Leon Jackson, Arthur Grey, et al, directors).

Architect—Frederick H. Reimers, 233 Post St., San Francisco.

Contractor—J. Dawson, 1507 Lincoln St., Berkeley.

The plunage will be divided into two sections, one 35 by 100 feet and from one to three feet deep for children, leaving 265 feet of the pool for adults. A modern cafe will also be constructed.

MEMBERS OF THE ASSOCIATED GENERAL CONTRACTORS

PACIFIC COAST AND INTERMOUNTAIN TERRITORY

CALIFORNIA STATE BRANCH

1318 Pershing Square Bldg.—TRinity 9418—Los Angeles

O. C. STRUTHERS, President

E. L. KIER, Vice-President

GEORGE HERZ, Secretary

MELVILLE DOZIER, JR., Manager

SOUTHERN CALIFORNIA CHAPTER

1318 Pershing Square Bldg.—TRinity 9418
Los Angeles, Calif.

C. G. FitzGerald, President
LYNN S. ATKINSON, First Vice-President (Engineering Div.)
WM. A. SIMPSON, Second Vice-President (Building Div.)

The address of the firm is the same city in which is located the Chapter office unless otherwise shown in membership list.

Building Contractors

| | | |
|----------------------------|---|-------|
| Atkinson, J. F. | 1102 Story Bldg., Vandike | 7783 |
| Baruch Corp., Herbert M. | 1015 Lincoln Bldg., TRinity | 5473 |
| Bradley Constr. Co., K. R. | 1833 West Pico, WASHINGTON | 2786 |
| Burgin, W. Jay | 1100 Redondo Ave., Long Beach, L. B. | 81103 |
| Byerts & Dunn | 7908 Santa Monica Blvd., CRestview | 9602 |
| Clinton Construction Co. | 1103 Spring Arcade Bldg., MADison | 2597 |
| Crowell, Wm. C. | 495 S. Bdwy., Pasadena, WAKEfield | 6692 |
| Crowell Co., Weymouth | 2104 E. 15th St., WEstmore | 5708 |
| DeCamp-Hudson Co., Ltd. | 1277 W. 24th St., WEstmore | 3382 |
| Dixon, L. E., Co. | 609 So. Grand Ave., TRinity | 4925 |
| Escherich Bros. | 234 W. 37th Place, ADAMS | 6294 |
| Hall, J. F. | 531 Douglas Bldg., MUTual | 6722 |
| Houghton & Anderson | 143 Rose St., MUTual | 5430 |
| K. P. Lowell & Co., Ltd. | 606 Union Bank Bldg., VAndike | 4072 |
| Macdonald & Driver | 311 Board of Trade Bldg., TUCKer | 6467 |
| McKee, Robert E. | 1128 Central Bldg., TRinity | 0291 |
| Miller, Geo. E. | 401 N. Canon Dr., B. H., OXFord | 7404 |
| Simpson Construction Co. | 1007 Architects Bldg., MUTual | 7261 |
| Snell, Fred C. | 339 N. Beverly Dr., Beverly Hills, OXFord | 6409 |
| Willard-Brent Co. | 254 E. 27th St., RICHmond | 2101 |

Bridges, Foundations

| | | |
|---------------------------|---------------------------------|-------|
| Ledbetter Co., W. M. | Box 1264, Arcade St., CApitol | 13415 |
| Oberg Brothers | 707 San Fernando Bldg., ANgelus | 8759 |
| Raymond Concrete Pile Co. | 1006 Washington Bldg., VAndike | 6536 |

Highways, Paving, Grading

| | | |
|-----------------------------|---|--------|
| Basich Bros. | Torrance, Gardena | 446 |
| Bock, Geo. J. | 1007 S. Harvard, EMpire | 7614 |
| Donovan & Sons, J. G. | 4031 Goodwin Ave., OLYmpic | 0423 |
| Ferry, Peter L. | San Fernando Rd. and Bdwy., Glendale, OL. | 0164 |
| Fleming Construction Co. | Pomona | |
| Griffith Company | L. A. Railway Bldg., WEstmore | 9343 |
| Hall-Johnson Co. | P. O. Box 387, Alhambra, ELiot | 1855 |
| Herz & Co., Geo. | 310 Platte Bldg., San Bernardino, S. B. | 241-42 |
| Heuser, Chas. U. | 316 Allen Ave., Glendale, DOuglas | 3965 |
| Hudson, Chas. H. | 408 Rives-Strong Bldg., VAndike | 3374 |
| Jahn & Bressi | 701 Lane Mortgage Bldg., TRinity | 8674 |
| Lang Transportation Co. | 5501 Santa Fe Ave., JEFFerson | 3104 |
| Lewis Construction Co. | 300 S. Juanita St., WASHINGTON | 1407 |
| Packard & Tanner | 905 W. Latham St., Phoenix, ARiz. | |
| Pearson & Dickerson | 4485 Cypress, Riverside, | 1600 |
| Ross, M. S. | 4011 Goodwin Ave., CApitol | 7603 |
| Wells & Bressler | P. O. Box 596, Santa Ana, | 227 |
| Willis, C. C., & Sons, Inc. | 2119 E. 25th St., LAfayette | 9826 |

Pipe Lines, Water Works

| | | |
|----------------------------|-----------------------------------|------|
| American Concrete Pipe Co. | P. O. Box 1428, Arcade Sta., JE. | 4211 |
| Haverty Co., Thos. | 316 E. 8th St., VAndike | 1171 |
| United Concrete Pipe Co. | Box 1, Station H. L. A., TWinoaks | 9196 |

Subways, Conduits

| | | |
|------------------------|-----------------------|--|
| Delta Construction Co. | P. O. Box 79, Compton | |
|------------------------|-----------------------|--|

General Engineering

| | | |
|--------------------------------|-------------------------------------|------|
| Atkinson, Lynn S. | 609 S. Grand, TRinity | 7451 |
| Bartmus, Peter | Hollywood Riviera, Redondo, Redondo | 6404 |
| Bent Bros., Inc. | 418 S. Pecan St., ANgelus | 7510 |
| Campbell-Reichert Co. | 4000 Whiteside Ave., ANgelus | 0598 |
| Cox, R. L. | 1100 Westminister, ALhambra | 1699 |
| EmSCO Conc. Cutting Corp. | 1517 Santa Fe Ave., VAndike | 7168 |
| Fitz-Gerald Eng. & Constr. Co. | 216 Rowan Bldg., TRinity | 5088 |
| Foley, D. A., Construc. Co. | 716 Grant Bldg., TUCKer | 7814 |
| Kemper Const. Co., Ltd. | 3701 Overland, Los Angeles | |
| Macco Construction Co. | Hynes, JEFFerson | 1148 |
| Merritt-Chapman-Scott Corp. | P. O. Box 507, San Pedro, | 2880 |
| Mittry Bros. Construction Co. | 722 Detwiler Bldg., VAndike | 0210 |
| Morrison-Knudsen Co. | 411 West Fifth St., MUTual | 7684 |
| Robinson-Roberts Co. | 706 Rives-Strong Bldg., TRinity | 2889 |
| Spicer, C. A. | 818 Financial Center Bldg., TUCKer | 9570 |
| Standard Dredging Co. | 325 Central Bldg., TRinity | 3253 |
| Wattson, R. A. | 1026 N. McCadden Pl., GRANite | 4121 |

Affiliates

| | | |
|------------------------------|---------------------------------------|-------|
| Brashears & Co., G. | 501 Security Bldg., TRinity | 5091 |
| Consolidated Rock Prod. Co. | 656 S. Los Angeles St., TRinity | 0241 |
| Gilmore Oil Co. | 2423 E. 28th St., JEFFerson | 1211 |
| Graham Brothers | 1215 W. 7th St., Long Beach, L. B. | 65251 |
| Hartford Accident & Ind. Co. | 548 S. Spring St., MADison | 1471 |
| L. A. Brick Co. | 1078 Mission Road, ANgelus | 5684 |
| Sun Lumber Co. | Crescent Drive, Beverly Hills, OXFord | 6191 |
| Union Oil Co. | Union Oil Bldg., TUCKer | 7211 |

ALAMEDA COUNTY CHAPTER

354 Hobart St., Rm. 410—Glencourt 7400—Oakland, Calif.

S. G. Johnson, President
Geo. J. Maurer, Vice-President

H. J. Christensen, Treasurer
W. E. Hague, Manager

| | | |
|---------------------------|---------------------------------|------|
| Brennan, J. P. (B) | 2820 Regent, Berkeley, BE. | 0346 |
| Christensen, H. J. (B) | 1924 Broadway, Oakland, LA. | 7164 |
| DeVelbiss, C. Dudley (B) | 369 Pine St., S. F., GA. | 3225 |
| Dyer Construction (B) | 337 17th St., Oakland, GL. | 3203 |
| Furlong, Thos. H. L. (B) | 460 Jerome Ave., Piedmont, HU. | 0620 |
| Jacobs & Pattiani (BP) | 337 17th St., Oakland, GL. | 3203 |
| Johnson, S. G. (B) | 4652 Dolores Ave., Oakland, FR. | 6650 |
| Keating, W. C. (B) | 925 Forum Bldg., Sacramento | |
| Lesure, E. T. (B) | 87 Ross Circle, Oakland, OL. | 0389 |
| Littlefield, R. W. (B) | 337 17th St., Oakland, HI. | 0994 |
| Lyons, W. E. (B) | 354 Hobart St., Oakland, HO. | 5325 |
| Maurer, George J. Co. (B) | 50 York Drive, Oakland, HU. | 3457 |
| Nordstrom, David H. (B) | 354 Hobart St., Oakland, GL. | 7400 |
| Pedgrift, James H. (B) | 4106 Broadway, Oakland, HU. | 1300 |
| Petersen, George (B) | 1841 Bancroft, San Leandro, TR. | 2043 |
| Petersen, James B. (B) | 4021 Agua Vista, Oakland, FR. | 9887 |
| Schultz, Herbert (B) | 811 Mendocino, Berkeley, AS. | 2360 |
| Sullivan & Sullivan (B) | 2653 Best Ave., Oakland, AN. | 4724 |
| Thornally, W. G. (B) | 354 Hobart St., Oakland, GL. | 8476 |
| Westlund, Fred J. (B) | 354 Hobart St., Oakland, GL. | 7400 |

Class of Construction: (B) Building; (H) Highway; (P) Public Works; (R) Railroad.

Associate Members

| | |
|-------------------------------------|--|
| Berkeley Building Materials Co. |Masonic and Brighton, BE. 2280 |
| Central Building Material Co. |915 Antonio, TR. 9236 |
| Contra Costa Building Materials Co. |808 Gilman St., BE. 3462 |
| Cowell, Henry, Lime & Cement Co. |81 Franklin, IH. 3398 |
| Davis Co., Jas. A. |517 Fairmont, BE. 9360 |
| Lannom Bros. Mfg. Co. |5th and Magnolia, GL. 3663 |
| Makin & Kennedy, Inc. |101 Fourth St., HU. 0626 |
| Mcrose Building Materials Co. |Tidewater Ave., FR. 5787 |
| Oakland Building Material Co. |5000 Broadway, HO. 6300 |
| Oakland Planning Mill Co. |2nd and Washington, LA. 5503 |
| Pacific Coast Aggregates, Inc. |Broadway and Water, HI. 0770 |
| Powell Bros., Inc. |Harrison and Pearl, ALameda, AL. 0630 |
| Sunset Lumber Co. |400 High St., AN. 1000 |
| Tilden Lumber Co. |Foot of University Ave., BE. 0697 |
| Transite Concrete Co. |401 Water St., TE. 0720 |

SAN DIEGO CHAPTER

Spreckels Theater Bldg.—Main 4289—San Diego, Calif.

| | |
|--------------------------------|---|
| George R. Daley, President | M. A. Mathias, Manager |
| M. H. Golden, Vice-President | |
| Carroll, B. G. |4396 Maryland St., Hillcrest 5274-M |
| Daley Corporation (HP) |4430 Boundary St., Ranchhill 1136 |
| Dennis Constr. Co., V. R. (HP) |Box 183, Sta. A, Hillcrest 8293 |
| Ford, E. Paul (HP) |208 Spreckels Theater Bldg., Franklin 3952 |
| Golden, M. H. (B) |404 California Bank Bldg., Franklin 7983 |
| Grove, Cecil B. |4316 Island Ave., Franklin 7474 |
| Hazard Constr. Co., R. E. (HP) |2508 Kettner Blvd., Franklin 6315 |
| Robbe Constr. Co. (B) |208 Spreckels Theater Bldg., Franklin 3952 |
| Kier Const. Co., W. E. (B) |First National Bank Bldg., Main 2427 |
| Larsen, B. O. (B) |1340 E St., Main 4752 |
| Miracle Constr. Co. (HP) |Box 601, E. San Diego, Main 2295 |
| Penick & Sons, T. B. (HP) |3075 L St., Main 4582 |

NORTHERN CALIFORNIA CHAPTER

206 Sansome St.—Garfield 7107—San Francisco, Calif.

| | |
|--------------------------------------|--|
| C. W. Wood, President | Geo. G. Pollock, Vice-President |
| Floyd O. Booe, Secretary-Manager | |
| Atkinson, Lynn S. (HPR) |1316-17 Edwards & Wilday Bldg., L. A., Tr. 7451 |
| Atkinson, Guy F. Co., Inc. (BHPR) |601 Russ Bldg., S. F., Sut. 3629 |
| Ball, N. M. (HP) |1889 Yosemite Rd., Berkeley, AS. 6722 |
| Basalt Rock Co., Inc. (H) |900 8th St., Napa, Napa 105 |
| Bechtel Co., W. A. (BHPR) |155 Sansome St., S. F., GA. 0780 |
| Bevandia, M. W. (HP) |319 Elks Bldg., Stockton 7470 |
| Bishop, E. B. (HP) |900 Forum Bldg., Sacramento, Capitol 2500 |
| Bodenhamer Const. Co. (HP) |Box 643, 354 Hobart St., Oakland Calif. Const. Co. (BHPR).....715 Standard Oil Bldg., S. F., DO. 4820 |
| Casson, Jack A. (HP) |461 Market St., Hayward, 856 |
| Clark & Henry Const. Co. (HP) |564 Market St., S. F., DO. 2903 |
| Colley, W. C. (HP) |35 Northampton Ave., Berkeley, Ashbury 1323 |
| Conner, J. L. (HP) |P. O. Box No. 86, Monterey 1137-M |
| Connelly, T. E. (BHPR) |461 Market St., S. F., Kearny 6408 |
| Cynes, R. A. (HPR) |1043 38th St., Oakland, Olym. 9391 |
| Currie, James (HPR) |1100 Peninsula Ave., Burlingame, Burl. 3497 |
| Delin, C. M. (HPR) |206 Sansome St., San Francisco, Gar. 7107 |
| Dodge Bros., Inc. (HP) |Fallon, Nevada, Main 1761 |
| Drumm, A. D., Jr. (HP) |Fallon, Nevada, Main 1348 |
| Eaton & Smith (HPR) |715 Ocean Ave., San Francisco, DE. 6700 |
| Fairbanks, A. J. & J. L., Inc. (HPR) |Linden Ave., So. S. F., 436 |
| Fly Improvement Co., The (HP) |Phelan Bldg., S. F., KE. 4884 |
| Fitzmaurice, J. H. (HP) |2857 Hannah St., Oakland, Higate 2490 |
| Force Construction Co. (HP) |70 Bellevue, Piedmont, Calif. |
| Frederickson Bros. (BHP) |First Natl. Bank Bldg., Stockton, 5974 |
| Frederickson & Watson Const. (BHPR) |873 81st Ave., Oakland, SW. 1264 |
| French, George J., Jr. (HP) |P. O. Box No. 675, Stockton, 6676 |
| Gerwick, Ben C., Inc. (HP) |112 Market St., S. F., SU. 8454 |
| Granite Construction Co. (BHPR) |Watsonville, California, |
| Haranahan Co. (HP) |Hobart Bldg., San Francisco, GE. 1639 |
| Harney, Charles L. (HP) |74 New Montgomery St., S. F., GA. 1711 |

| | |
|---------------------------------------|--|
| Heafey-Moore Co. (HP) |344 High St., Oakland, AN. 0466 |
| Hemstreet & Bell (HP) |411 "C" Street, Myrtleville, 453 |
| Hodgman & MacVicar (HP) |714 Plymouth, Pasadena, 1er. 1536 |
| Holland, J. P., Inc. (HPR) |1834 McKinnon Ave., S. F., MI. 5400 |
| Isbell Const. Co. (HP) |Carson City, Nev., Ph. 1754 (Also Fresno) |
| Jenssen, J. A. (HP) |3901 Y St., Sacramento, Capital 442 |
| Jones & King (HPR) |Hayward, Calif. |
| Kaiser Paving Co. (BHPR) |Latham Square Bldg., Oak, HI. 2614 |
| Knepp, J. F. (HPR) |916 Financial Center Bldg., Oak, GL. 1620 |
| Larsen, Eros. (HP) |3901 Y St., Sacramento, Capital 442 |
| Lee, U. B. (HP) |10059 Carpenter St., San Leandro, Sweet. 1717 |
| Le Tourneur, R. G. (HPR) |122 Moss Ave., Stockton, 471 |
| Lord & Bishop (HPR) |Native Sons Bldg., Sacramento, Main 3981 |
| Lovelace, Nate (HP) |3433 "N" St., Sacramento, Capital 1990 |
| Malcom, C. T. (RPH) |Walnut Creek, Calif., W. C. 277 |
| McDonald, D. (HPR) |204 23rd St., Sacramento, Cap. 1006 |
| McGillivray Const. Co. (HPR) |Box 927, Sacramento, Capital 2170 |
| McMillan, W. K. (HP) |2088 Howard St., San Francisco, MA. 3876 |
| Mercer-Fraser Co. (BHPR) |Eureka, Eureka 808 |
| Nevada Contracting Co. (HPR) |Fallon, Nevada, Phone 1851 |
| Nevada Rock & Sand Co. (HP) |Reno, Nevada, Reno 5291 |
| Nightbert, Fred W. (HP) |No. 10 "H" St., Bakersfield |
| Northwest Contracting Co. (HP) |85 Barstow St., S. F., HE. 4178 |
| Pacific States Construction Co. (HP) |Call Bldg., S. F., DO. 0879 |
| Phillips Co., John (HP) |582 Market St., San Francisco, KE. 4471 |
| Pollock, Geo. Co. (HPR) |P. O. Box 903, Sacramento, Main 1457 |
| Roch, J. W. (HP) |4351 Alhambra Ave., Los Angeles |
| Six Companies, Inc. (BHPR) |Financial Center Bldg., San Francisco, BE. 4842 |
| Skells & Graham Co. (HPR) |P. O. Box 576, Roseville, Calif. |
| Siems-Helmers, Inc. (BHPR) |206 Sansome St., S. F., DA. 5235 |
| Telford, J. N. (HP) |Fallon, Nevada, Main 1461 |
| Teichner, A. G. & Sons, Inc. (HP) |1846 37th St., Sacramento, 5816 |
| Tieslaus Bros. (HP) |2819 Grove St., Berkeley, BE. 7709-J |
| Tucker, H. V., Co. (HP) |300 Vermont St., S. F., MA. 7583 |
| Ulrich Const. Co., Geo. J. (BHP) |Modesto, Modesto 921 |
| Valley Paving & Construction Co. (HP) |405 Bank of America Bldg., Fresno, 3-7418 |
| Von der Heilen & Pierson (HPR) |Castaic, Calif. |
| Ward Eng. Co. (HP) |315 Montgomery St., S. F., Dav. 8984 |
| Wick-C. W. (HP) |P. O. Box 1435, Stockton, 8743 |
| Young, Clarence (HP) |5250 Broadway Ter., Oakland, OL. 3743 |
| Young & Son Co., Ltd. (HP) |599 Colusa Ave., Berkeley, Berk 5551 |

Associate Members

| | |
|--|---|
| American Bitumuls Co. (Bitumuls) |200 Bush St., San Francisco |
| Anderson Bros. Supply Co. (Commissary) |Boulder City, Nev. |
| Andrews, F. T., Co. (C. P. A.) |1650 Russ Bldg., S. F., GA. 7712 |
| Associated Builders & Contractors, Inc. |79 N. Mont's St., S. F., KE. 4800 |
| Austin Western Road Machinery Co. (Road Machinery) |435 Brannan St., San Francisco, DO. 2183 |
| Autocar Sales & Service Co. (Autocar Trucks) |326 Howard St., S. F. |
| Bacon, Edward R. Co. (Road Machinery) |Folsom & 17th Sts., San Francisco |
| Blake Bros. Co. (Crushed Rock) |San Francisco |
| Calaveras Cement Co. |315 Montgomery St., San Francisco |
| Calif. Corr. Culvert Co. (Corr. Pipe) |5th & Parker, W. Berkeley |
| Cement Gun Construction Co. (Cement Guns) |59 Sutter St., S. F. |
| Contractors Insurance Agency (Insurance) |406 Paul Ave., San Francisco |
| Cowell Lime & Cement Co. (Cement) |2 Market St., San Francisco |
| Garvis, Norris K. (Equipment) |400 7th St., San Francisco |
| Garfield & Co. (Equipment) |Hearst Bldg., San Francisco |
| Geiger Iron Works (Equipment) |P. O. Box 423, Stockton |
| Granite Rock Co. (Crushed Rock) |Watsonville |
| Harnescheger Sales Corp. (Equip.) |82 Beale St., San Francisco |
| Harron, Rickard & McCone Co. (Equip.) |1600 Bryant St., S. F. |
| Hecht Co. (Equip.) |400 Paul Ave., San Francisco |
| Murray & Ready (Lab. Agency) |784 Howard St., S. F. |
| Northwest Engineering Co. (Northwest Shovels) |23 Main St., S. F. |
| Pacific Coast Aggregates |700 Wells Fargo Bldg., S. F., DA. 7210 |
| Pacific H. B. A. Steel Co., Inc. |540 Brannan St., San Francisco |
| Pacific Portland Cement Co. (Golden Gate) |Hunter-Dulin Bldg., S. F. |
| Pland-Evans (Commissary) |Merchants Ex. Bldg., S. F., GA. 5923 |
| Robinson Tractor Co. (Caterpillar Tractors) |1705-09 E. 12th, Oak. |
| Santa Cruz Portland Cement Co. (Santa Cruz) |Crocker Bldg., S. F. |
| Shell Oil Co. (Shell Products) |100 Bush St., San Francisco |
| Soule Steel Co. (Reinforcing Steel) |1750 Army St., San Francisco |
| Spears-Wells Machinery Co. |9th and Cedar Sts., Oakland |
| Standard Oil Co. of Calif. (Stand. Prod.) |Standard Oil Bldg., S. F. |
| Tranco Service Bureau Co. (Public Service Bldg.) |San Francisco |
| Union Oil Co. of Calif. (Union Products) |L. A. and S. F. |
| United Commercial Co., Inc. |234 Steuart St., San Francisco |

PACIFIC NORTHWEST BRANCH

4134 Arcade Building, Seattle, Wash.

JAS. MURDOCK, President
J. C. CURTISON, Vice-President

H. V. BOGERT, Rec. Secretary

J. B. WARRACK, Treasurer
P. L. CROOKS, Vice-Pres. and Secretary

PORTLAND CHAPTER

Multnomah Hotel Lobby—Atwater 7883—Portland, Ore.

| | |
|--------------------------------------|---------------------------------|
| Paul L. Crooks, President | Philip Hart, 2nd Vice-President |
| Ross B. Hammond, 1st Vice-President | J. A. Lyons, Treasurer |
| G. B. Herington, Executive Secretary | |

| | |
|-------------------------------|-------------------------------------|
| Anderson Construction Co. |682 E. 69th St., N., Gar. 0474 |
| Andrews Construction Co. (BH) |102 N. Broadway, Br. 5521 |
| Atkinson, Guy F. & Co. (BHP) |Yeon Bldg., Atw. 3961 |
| Badraun, J. J. (HP) |681 E. 42nd St., N., Gar. 3945 |
| Baker Construction Co. (BHP) |202 Multnomah Bldg., Atw. |
| Christensen, Fred, Inc. (BHP) |187 E. 34th St., E., 8934 |

| | |
|--------------------------------------|--------------------------------------|
| Cochrane Construction Co. (HP) |65th & Ainsworth, Tr. 5944 |
| Compton, J. C. (HP) |McMinnville, Ore., 106 |
| Crooks, P. L. (HPR) |Henry Bldg., Atw. 7667 |
| Dann, J. J. (PHR) |424 Third St., Atw. 5837 |
| Dougan-Hammond Constr. Co. (B) |307-8 Studio Bldg., Bea. 4444 |
| Douglas, A. R. (HPR) |Kalispel, Montana |
| Edley & Hayward, Co. (HP) |74 California St., Atw. 0990 |
| Endicott, Wm. (HP) |Yachato, Oregon |
| Elliott, L. H. (LPR) |Kamela, Oregon |
| Gilpin Construction Co. (HPR) |Worcester Bldg., Atw. 6220 |
| Grays Harbor Const. Co. (BHPR) |Hoquiam, Wash. |
| Greenwood, A. C. (HPR) |500 N. Front St., Br. 3030 |
| Griffin, K. C. (BHR) |826 E. Caruthers, Lan. 2479 |
| Kuthrie & Co., A. Inc. (BPHR) |525 Sherlock Bldg., Atw. 8316 |
| Hansen Bros. Const. Co. (BHP) |Public Service Bldg., Atw. 2159 |
| Hausler Bros. Construction Co. (PHR) |Multnomah Hotel, Atw. 7441 |

PACIFIC

25
per C

SKILL - INTEGRITY



RESPONSIBILITY

CONSTRUCTOR

CONSOLIDATED WITH

Building and Engineering News

IN THIS ISSUE



MODERN CEMENTS

By Spencer B. Lane

BIDS SCHEDULED FOR STATE HIGHWAY
AND BRIDGE PROGRAM

ECONOMIC PLANNING TOPIC AT CHAMBER
OF COMMERCE OF U. S. MEETING

BUILDERS' EXCHANGE AND A.G.C. BREVITIES

UNIT PRICES — CONSTRUCTION NEWS



The A-C Model "L"

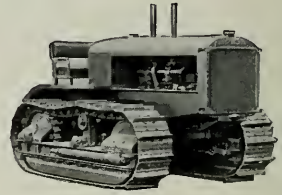
POWER—The Model "L" with its big 6-cylinder engine of Allis-Chalmers design and manufacture is built to handle the heaviest dirt moving equipment.

SPEED—A range of six speeds, 1.9 to 6.5 m.p.h forward, and two in reverse provides the owner of a Model "L" with a speed for every need.

FOOTING—The balance of weight and power is ideal in the Model "L." It will keep its footing on side hills or on road grades while delivering full power.

ACCESSIBILITY—The engine, transmission, steering clutches and final drive are all easily accessible for adjustment and inspection. This feature of the Model "L" pleases ALL tractor men.

Power...Economy...Performance

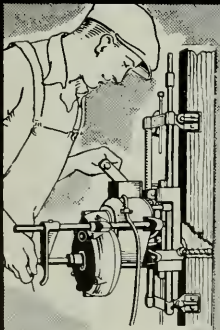


**ALLIS-CHALMERS
TRACTORS and
EQUIPMENT**

**Eby Machinery
Company, Ltd.**

35 MAIN STREET
DOuglas 1068 San Francisco

WAPPAT *Electric* TOOLS



Are Built to Last Longer

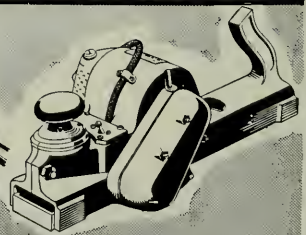
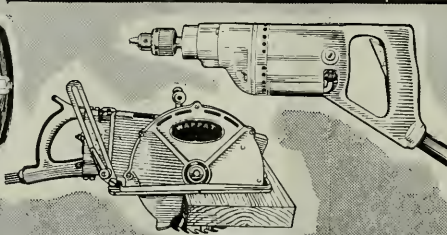
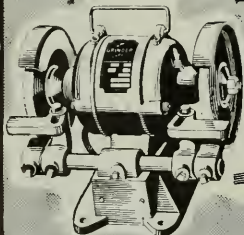
Cuts production costs . . . Speeds up the job . . . Makes for greater efficiency . . .
A size and type for every purpose.

Ask for a Demonstration

M. N. THACKABERRY

228 First Street, San Francisco
KEarny 4467

308 E. Third St., Los Angeles
MUTual 7508



PACIFIC CONSTRUCTOR

With which is Consolidated Building and Engineering News

Official Publication of the Associated General Contractors of America
for the Eleven Pacific Coast States

J. P. FARRELL, *Editor*

SPENCER B. LANE, *Assoc. Editor, Assoc. M. Am. Soc. C. E.*

VOL. 15

SAN FRANCISCO, CALIF., MAY 15, 1932

No. 9

Editorial Comment

The National body of the A. G. C. at Washington is putting up a valiant fight for the passage of the Metcalf Bill—Senate 3847, which amends the present Davis-Bacon law providing that the prevailing rate of wages shall be paid on Government buildings costing in excess of \$5,000. The Metcalf bill provides that the rate of wages to be paid shall be predetermined and specified in the notices calling for bids.

The "gyp" contractor pays no attention to the present law, and if this bill is passed it will go a long way in assisting responsible general contractors in getting government building construction, which, up to the present time has generally gone to irresponsible brokers and not general contractors. The bill has unanimously passed the Senate and its sponsors are hopeful of the same favorable action in the House of Representatives.

For the first time in its history the Chamber of Commerce of the United States is holding its annual convention on the Pacific Coast. Also for the first time it is giving a prominent place on its program to the Construction Industry.

Next Wednesday at the Clift Hotel in San Francisco the Chamber will hold a "Construction Round Table" which is drawing big men from all elements related to our industry. At this meeting there will be addresses by prominent national figures on the following topics—

- 1—Opportunity for National Effort in Construction.
- 2—Community Effort for the Building Industry.
- 3—Eliminating Wastes and Undesirable Practices.
- 4—Community Controls of Construction.

After each address, time will be given for discussion from the floor of these topics, and it is hoped that definite steps will be taken by the Convention looking to the benefit of our industry.

Through many years the Chamber has been urged by Construction interests to assume leadership which would draw all our elements together and make their scattered and unorganized forces effective in developing programs for betterment upon which we can all agree. They have at last met our desire and if we fail now to offer our full cooperation and support, we shall neglect an opportunity which can be made of very great value. Every organization having a direct connection with the construction industry should have representatives in attendance at this meeting.

The "Sierra Way"—800 miles of broad, smooth highway through the most scenic part of the Sierra Nevada—is proposed by S. B. Show, Regional Forester for Cali-

fornia. The project extends in a northerly and southerly direction, mostly through national forests and parks, from the Kern River country in the south to Mt. Shasta in the north. Well improved lateral roads connect with cities and towns on either side of the range.

According to Forest Service officials, along The Sierra Way may be seen many places of historic interest in the early development of the state, with such well known scenic features as Mt. Shasta, Burney Falls, Lassen Volcanic National Park, Lake Almanor, the Feather River country, Donner Lake, Lake Tahoe, Carson Valley, Mono Lake, Kings River Canyon and Yosemite, General Grant and Sequoia National Parks.

Although not yet recommended for general travel, practically the entire route is passable for automobiles. About 35% of the proposed highway is composed of low standard national forest protection roads which will be gradually improved as required; 50% is already constructed to major road standards, and the remaining 15 per cent is now under construction by the Forest Service and other Federal and State agencies.

Regional Forester Show says that within the national forests the roadside will be kept free from objectionable features and the natural scenic conditions will be developed and protected. A similar policy will probably be adopted by owners and administrators of land outside the jurisdiction of the Forest Service, and when completed the road should prove one of the leading scenic attractions of the State.

Activities of the American Road Builders' Association as reported to the annual meeting on April 28 have covered practically all highway activities. The association agreed to join with other groups interested in highways in a Construction Congress to be held this winter.

Work of the various divisions of the association during the past year shows a maximum degree of cooperative effort on a wide variety of subjects relating to road and street activities. Not only has this cooperation been with nationwide organizations such as the American Association of State Highway Officials, United States Bureau of Public Roads, the Associated General Contractors of America, and the United States Department of Commerce, but it has also included effective work with some 19 state associations of county officials and many municipal organizations. In 302 of the 374 cities of more than 25,000 population, intimate contact is maintained through representatives.

In general engineering and committee activities, cooper-

(Continued on Page 4)

Limit Stakes and Levels

By THE EDITOR

A bill to authorize the Secretary of Labor to draw \$200,000 instead of \$100,000 annually from the appropriation for the enforcement of immigration laws, for the enforcement of contract-labor provisions of the immigration act of 1917, has been signed by the President. It does not authorize an increase in appropriations, but permits the Secretary of Labor to use the additional funds to enforce laws pertaining to the employment by American firms of alien labor under contract.

Construction of a superhighway between Washington and San Francisco and three main trunk highways running between northern and southern boundaries promptly dubbed the "hot dog highways" from the plan submitted to pay building costs, was proposed in Congress when Representative Tierney, Democrat, of Connecticut, introduced a bill for that purpose. The message proposes that construction costs shall be met by leasing of concessions along its borders, payment of tolls on a mileage basis, sale of real estate on a front footage plan, all under the direction of a board of directors. Not only does the bill call for the construction of four super de luxe highways but it would have a practically continuous system of landing fields for airplanes parallel the roads.

The House public lands committee has favorably reported the Swing bill providing right of way over Federal lands for the 266-mile aqueduct to be constructed by the Los Angeles metropolitan water district. The \$220,000,000 aqueduct, which is to serve 13 southern California cities is to be constructed over 200 miles of public land. In addition to permitting the construction of the giant tube, the committee also approved the district's application to build roads and trails and power and communication lines. In addition, rights of way yet remain to be secured from private property owners, it was said. The aqueduct extends from a point on the Colorado river near Parker, Ariz., to a point in Riverside county from where distribution pipes will carry it to various cities.

One of the first official acts of the newly reorganized Kansas state highway commission, which met for the first time on April 11, was to decrease personnel and order salary cuts of 10 per cent, or \$221,000 a year. The office of assistant highway director, created a year ago, paying a salary of \$4,800, was abolished, as were more than a score of other offices. Personnel reductions go into effect May 1 and salary cuts will become effective July 1. The salary reductions include a 10 per cent cut in all pay checks of \$150 or more monthly. Those receiving \$90 or less are not affected and a smaller reduction than 10 per cent will be made in the pay of those receiving between \$90 to \$150. Combination of offices of division and construction and maintenance engineers will eliminate six jobs and effect a salary saving of \$18,000.

The American Engineering Council, in conjunction with the American Institute of Architects and Associated Genl. Contractors, is cooperating with the Public Works Section of the President's Organization on Unemployment Relief, in a survey of 1932 public works projects. This work has three important phases. First, the collec-

planned public and semi-public works projects for 1932. It is hoped that this part of the work can be consummated by May 15. The second phase of the work involves checking up on the progress being made. The third and most important work is the stimulation and promotion of such of these planned projects as are delayed or postponed for any reason.

Though boards of supervisors who granted franchises for toll bridges prior to the enactment of the state toll bridge act have continuing jurisdiction over those structures, they have not the power to grant permission for changes in toll bridges which would alter the character of the construction. This opinion was delivered by Attorney General U. S. Webb to C. H. Purcell, state highway engineer and a member of the state toll bridge authority, which now controls all toll bridge construction in the state. The opinion was delivered in connection with a projected private bridge to link Alameda and Marin counties for which a franchise was granted by the Alameda County supervisors in 1928, before the passage of the state act. Purcell contends that a change of plans of the bridge in 1930, purported to meet certain minor requirements of the federal government, actually changed the character of the structure and that in approving them the Alameda supervisors usurped a function which properly rested with the state toll bridge authority.

The Oregon State Board of Control will not use convict labor in competition with free labor on any state construction. The announcement came in reply to protests which have been filed by the State Federation of Labor and the Portland Building Trades Council against the proposal to use prisoners on the common labor involved in the construction of the proposed state-owned power plant on which bids have been requested. Labor generally has protested against the specifications, which call for the use of convict labor on this job. The announced policy, it was explained, would not interfere with the use of convict labor on strictly prison projects.

Editorial Comment

(Continued from Page 3)

ation was effected with a score of trade associations. During the 24 convention sessions devoted to highway research at the annual convention in Detroit this year, there were presented 86 technical reports and papers dealing with current practice. Some 15 of these reports were joint efforts with other associations active in highway work.

The demands for information and service that come to the association office are answered from a long list of printed bulletins and innumerable mimeographed statistical sheets and reports.

Active contacts have been maintained with European and Pan-American countries.

Completing nearly a year and a half of service in Peoria, Ill., as sales manager and Eastern representative for the American Tractor Equipment Co. of Oakland, Calif., N. G. Livingston has returned to the coast to represent ATECO in the Pacific Southwest, according to an announcement by Edward R. Bacon, president of the company. He will have operating headquarters in Los Angeles. Mr. Livingston is well known in the Southwest, where he has been associated for many years with the placing of tractor and earth-moving equipment and in

Modern Cements

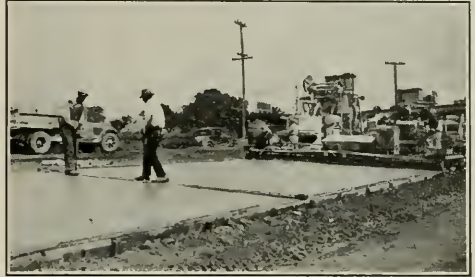
By SPENCER B. LANE

CEMENT manufacturers are today developing many new types of portland cements to meet changing modern conditions. More has been done in this direction during the past ten years than was done during the hundred years preceding. The contractor is interested in knowing what these new cements are, what they will do, and how they should be handled to secure the best results, rather than in the process of manufacture.

Interest lies along the lines of the true portlands; cements which fulfill the requirements of the United States Bureau of Standards and the American Society for Testing Materials. The standard brands are now very carefully tested at the plants of the manufacturers; they have reached a very high degree of reliability and uniformity. The new developments are being made along three lines: Securing high strength as quickly as possible without damage to the concrete, developing colors or suitable bases for colors, and increasing plasticity and the ability to resist water.

Many manufacturers of cement throughout the country are today furnishing high early strength cements. In

slightly higher than standard cements. That second trip through the kiln adds to the costs of manufacture. The early strength of concrete may be increased by increasing the amount of standard cement used and pouring the concrete very dry. This additional amount of standard ce-



—Courtesy Pacific Portland Cement Co.
Finishing slab at 4 P. M., April 9, 1932.



—Courtesy Pacific Portland Cement Co.
Pouring concrete on Bayshore Highway, between Redwood City and Palo Alto, at 3 P. M., April 9, 1932. Basich Bros. general contractors. Golden Gate 24-hour cement used.

thirty-six hours these cements develop a strength equal to that of standard cement after a period of twenty-eight days. The processes of the different manufacturers vary, but the general practice for the manufacture of the better grades is to run the material through the kiln twice. The same materials are used as for the manufacture of standard cement, and the kiln temperatures are the same. The second passage through the kiln rearranges the chemical constituents. It is also usual, although not universal, to grind high early strength cements somewhat finer than the standard cements. This practice must not be carried too far, as a cement which has been ground too fine is likely to cause excessive shrinkage of the concrete and set up undesirable internal stresses.

These high early strength cements are, when properly made, even more reliable and uniform than the standard grades. Not only do they produce a concrete with a greater strength than that made from a standard cement at the end of thirty-six hours, but their strength is still greater than that of a similar mix using standard cement at the end of a twenty-eight day period. The same water-cement ratios apply for the better grades on high early strength cements as apply to standard cements.

High early strength cements usually command a price

ment may make the concrete cost more than it would if high early strength cement were used; it is certain to make it cost more if enough additional cement is used to develop the same strength at the end of a twenty-eight day period as would have been obtained with the special cement.

Highway paving is a large field for high early strength cement. Traffic is frequently turned over a pavement laid with such cement twenty-four hours after the concrete is poured. This is very important on a heavily traveled highway, particularly when there is no convenient detour available. It is also of importance to the contractor; it saves him the expense of curing the slab for twenty-eight days, and of maintaining the detour for the same period. Any contractor engaged in such work might find it well worth his while to make a careful investigation of high early strength cements.



—Courtesy Pacific Portland Cement Co.
Pavement open for traffic at 9 A. M., April 11, 1932. Cores tested on the afternoon of April 10—24 hours after being laid—showed a compression strength of over 2000 pounds per square inch. Six-sack mix was used.

In all cities the street pavements are frequently torn up by public utilities in maintaining or extending their underground facilities. When there is a portland cement concrete pavement, or pavement base, a certain amount of time is necessary for the patch to set before the street

PACIFIC CONSTRUCTOR

Consolidated with
BUILDING AND ENGINEERING NEWS

J. P. FARRELL, Editor SPENCER B. LANE, Assoc. Editor
Assoc. Mem. Am. Soc. C. E.

H. BAILY BRUNS, Advertising Manager

Publication Office: 545-547 Mission St., San Francisco
Telephones: GARfield 8744-8745

PACIFIC CONSTRUCTOR is the official publication of the Associated General Contractors of America for the eleven Pacific Coast states. Issued on the first and fifteenth of each month. Printed and published by the Stark-Rath Printing and Publishing Co., 545-547 Mission Street, San Francisco. Subscription Price: \$5.00 per year, payable in advance. Single copies, 25c.

can be cleared for traffic. Delays are expensive to the company doing the work as well as annoying to traffic. Some public utility companies are experimenting to determine the best way to reduce the time of setting to the minimum. This matter of keeping the entire width of streets open for traffic is an increasingly important matter.

One public utility in the bay district is now experimenting along these lines. The company has a considerable amount of such work where there is a bituminous pavement laid on a six-inch portland cement concrete base. By handling the work carefully and by tamping thoroughly, this company has been able to lay the bituminous pavement twenty-four hours after the portland cement concrete base was poured.

The concrete for the pavement base is poured very dry; there is practically no slump. When the initial set has begun—usually from two to three hours after the concrete is poured—the concrete is tamped with air tampers. These tampers have an area of about 30 square inches. This tamping is repeated twice, at 15 minute intervals. This tamping does not reduce the ultimate strength of the concrete; in fact it seems to increase it. This company is experimenting to determine whether the addition of an extra quantity of standard cement or the use of the standard amount of high early strength cement is the more economical. The matter of shrinkage during setting is not of importance in this case; it is reduced to a minimum by the tamping operation. While these experiments have not been completed, enough work has been done to demonstrate that it is entirely feasible to lay the bituminous pavement on the concrete twenty-four hours after it has been poured. It is hoped that this twenty-four hour period will be materially reduced when the experiments have been completed.

The contractor using any of the high early strength cements should remember that he is using a high grade of the same cement he has been accustomed to use. It is a cement made by additional refinements of manufacture, not by the addition of some "trick" chemical.

Today color has spread from flags and neckties through automobiles and bath tubs to the ladies' fingernails. For over a century cement wore its original gray uniform. Today it is breaking away.

The coloring of standard cement concrete by the addition of coloring pigments has never been entirely satisfactory. The cement itself is a pigment; gray-green before it is hydrated and light gray afterwards. White cements are available in the east, but none are made on the Pacific Coast. Recently, however, the Pacific Portland Cement Company has developed a tan cement. It is being manufactured by a process discovered by the company, on which they have applied for a patent. It meets all of the standard tests for portland cement, and sells for the same

price as standard gray cement. It is a true portland, not the old gray cement with coloring added.

Concrete made from this cement is light tan in color; a pleasant base from the old familiar gray. It is also an excellent base for the addition of different color pigments. It becomes almost white when hydrated lime is added to it. It can be used wherever the standard gray cement can be used, but it is peculiarly adapted to use in stucco. It would appear to have many possibilities.

Concrete from standard cement may be made water-proof if it is properly mixed, carefully handled, and thoroughly tamped. In practice, however, there are likely to be voids which cause leakage. Such substances as diatomaceous earth are frequently added to cement to reduce any leakage. This is important where the exterior of a concrete which contains steel reinforcing is exposed to water or to the weather.

A special tan cement is manufactured, at a slightly higher price, to meet this difficulty. The cement is more plastic than ordinary tan cement; concrete made from it flows more readily into the forms and fills voids.

There are many different plastic cements on the market. It is quite impossible to describe them all. Such cements are usually made by adding some material to the cement during grinding. The tan plastic is a recent development, so a brief description will show the methods used to produce such cements today.

Tan plastic is made by mixing a mineral clay with tan cement during grinding. This clay has water resisting qualities. It renders the cement itself water resistant, and makes the concrete made from it quite plastic. It requires special handling when mixing by hand, but can be mixed mechanically in the usual manner. It has the advantage of preventing the rusting of steel mesh in the stucco or reinforcing steel in concrete when properly handled and placed without cracks.

SUGAR CANNOT BE USED IN PORTLAND CEMENT MORTARS

Through an Associated Press release, considerable newspaper publicity has recently been given to the increase in tensile strength of lime mortar briquettes by the addition of sugar to the mixing water. The basis for this was a report by Gerald J. Cox and John Metschl, of the Sugar Fellowship, Mellon Institute of Industrial Research, presented at the April, 1932, American Chemical Society convention in New Orleans.

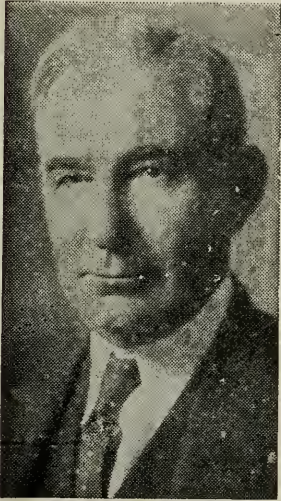
The results of tension tests on lime mortar briquettes at the age of six months were reported. A 60 per cent increase was obtained in the tensile strength of lime mortar by means of sugar additions up to 6 per cent, by weight of the lime putty.

A number of different newspapers have rewritten this Associated Press release so that it implies that the addition of sugar to all types of mortars is beneficial. Mr. Cox specifically states, "The description of our work and our recommendations apply only to lime-sand mortar. Our search of the literature has revealed about 70 reports on the effect of the addition of sugar to portland cement. The authors are unanimous in their findings that cane sugar ruins concrete made from portland cement, and must not be used."

In view of its recognized harmful effect in portland cement mixtures, the addition of sugar in any quantities to the commonly used portland cement-lime mortars, 1-1-6 and 1-1-4 mixes, should not be attempted.

Bids Scheduled For Highway And Bridge Program For State

COLONEL Walter E. Garrison, director of the Department of Public Works, announces that the Division of Highways plans to advertise sixteen major projects, for construction on State highways, at an estimated cost of more than \$2,600,000. These bid calls will be issued during this month.



COL. W. E. GARRISON

The projects include ten road jobs and six bridges. The road projects cover work on some 71 miles of State highway, amounting to approximately \$1,874,000, and the proposed bridges are estimated to cost about \$730,000. The work is distributed well over the State from San Diego to Siskiyou counties, and involves work in 14 counties.

Description of the more important new projects follow:

In Contra Costa county an important improvement is to be made to the State highway, leading from the San Francisco Bay area to the Napa and Sacramento valleys between the town of San Pablo and the Carquinez bridge. This project involves placing a new 30 foot asphalt concrete pavement over the entire distance with the exception of some 1100 feet in the business section of the town of Pinole already paved, and improving the alignment and grade. One major change involves relocation of the highway within the town of San Pablo and up the slopes of the first range of hills. Another radical change in alignment between Hercules and Rodeo leaves the existing road at Refugio Creek and cuts through the Hercules Powder Farm to the town of Rodeo in a nearly straight line, saving more than one mile in distance.

A project of great interest to thousands of Southern California motorists will be put under way when work is begun on the easterly end of the new Pomona-Los Angeles lateral. In its construction the State will carry forward the work which has been started by the Los Angeles County Road Department. The project involves construction on this new route over the six miles westerly from Pomona of a portland cement concrete pavement 30 feet wide on a graded roadbed 50 and 80 feet wide.

In Siskiyou County where the Pacific Highway crosses Cottonwood Creek, about 21 miles north of Yreka, the new 120 foot reinforced concrete bridge has just been completed and the construction of the approaches is now to be started. The approaches will be about 0.8 of a mile in length and follow the improved alignment upon which

the new bridge was placed. The new approaches will consist of a graded roadbed 31 feet wide surfaced with untreated crushed rock 22 feet wide with a bituminous treated crushed rock wearing course 20 feet in width. This improvement will replace the light 80 foot steel truss with 21 foot roadway built some 16 years ago by the county.

The six bridges included in the projects proposed for advertising during May include the following major structures:

Where the Coast Route crosses the Ventura River at the northerly city limits of Ventura a new structure will replace the existing concrete and girder bridge with a 20 foot roadway built by the county in 1912. The proposed bridge will be of the reinforced concrete girder type and will consist of 19 spans having a total length of 1233 feet; the roadway will be 44 feet wide with two sidewalks. This modern improvement to the heavily traveled coast arterial connecting Los Angeles and San Francisco, will tie in with the reconstruction of the route through the city of Ventura.

Further improvement to the scenic San Simeon-Carmel Highway, in Monterey and San Luis Obispo counties,

(Continued on Page 8)

STATE LICENSE STAFF HOLDS 3-DAY MEET IN SAN FRANCISCO

A three-day session of the field staff of the Registrar of Contractors, State Department of Professional and Vocational Standards, charged with enforcement of the contractors' license law, was held in San Francisco, April 28, 29 and 30, closing with a banquet at the Elks' Club on Saturday night.

Col. Carlos W. Huntington, registrar, presided at the meetings with Glenn Slater, Deputy Registrar at Sacramento; Orman Lutz, District Supervisor at San Francisco, and Ralph S. Bowdle, District Supervisor at Sacramento.

The meetings are held by the State Department twice a year with a view to having district inspectors exchange opinions in connection with enforcement of the contractors' license law. The recent three-day session proved highly educational, both from the standpoint of the district supervisors and the inspectors in the field.

Among those attending the meeting were: Ralph S. Bowdle, District Supervisor, Sacramento; Inspectors—Russell Sweeney, Sacramento; Harry H. Hill, Santa Rosa; Fred J. Rich, Fresno.

Hal G. Stiles, District Supervisor, Los Angeles; Inspectors—Frank Cordano, Los Angeles; L. F. Danforth, Los Angeles; T. L. Glenn, Santa Barbara; Adam Haberland, Los Angeles; Chas. Hansmann, Long Beach; Roy S. Hayden, San Diego; Ray G. Hilsinger, Los Angeles; Patrick Lawson, Alhambra; John V. McGinnis, Los Angeles; Ed. P. Ruoff, Los Angeles.

Orman Lutz, District Supervisor, San Francisco; Inspectors—Michael Dwyer, San Francisco; James Fellom, San Jose; Walter W. Krauter, San Francisco; Antone Lettich, San Francisco; Melville C. Levy, Berkeley; Herbert K. Schulz, Oakland.

BIDS SCHEDULED FOR HIGHWAYS AND BRIDGES BY STATE

(Continued from Page 7)

will be made by the construction of a bridge across Wild Cat Creek at "The Highlands," a few miles south of Carmel. This new reinforced concrete structure will be 164 feet in length and have 3 stonefaced arches and a clear roadway width of 34 feet and two four foot sidewalks on either side. This bridge will replace the existing narrow timber trestle.

In San Joaquin County the old three span steel truss bridge across Paradise Cut between Tracy and Stockton, on the Oakland-Stockton lateral will be replaced by a modern structure composed of ten steel stringer spans on reinforced concrete piles. The new bridge will be 440 feet long with a 34 foot roadway, as against the 18 foot roadway on the existing 24 year old structure. The alignment upon which the proposed bridge is to be placed coincides with the alignment recently constructed between Banta and Mossdale.

At the county line between Stanislaus and San Joaquin counties the bridge across the Stanislaus River at Ripon,

on the Golden State Highway, is to be reconstructed. The reconstruction includes the widening of the two 103 foot arch spans and replacing the timber approach spans with 23 reinforced concrete and steel girder spans, each 44 feet long, giving a total length of 1218 feet for the new structure. The new roadway width will be 24 feet.

In San Diego county an overhead crossing will be built over the tracks of the Atchison, Topeka and Santa Fe Railway in Sorrento Canyon, just north of the city limits of San Diego. This structure will consist of 13 reinforced concrete spans with a total length of 553 feet and provide a clear roadway width of 44 feet. This overhead is located on the new alignment of the highway between Sorrento Creek and Del Mar which is now being constructed by the State.

The following summary and detailed list of projects planned for advertising during May show the scope of the proposed work which will carry forward the 1932 State highway construction program:

| COUNTY | LOCATION | ROUTE | MILES | TYPE |
|------------------------|--------------------------------------|---------------------|-------|-----------------------|
| Ventura | Montalvo to Oxnard | Coast Highway | 2.4 | A. C. & P. C. C.* |
| Contra Costa | San Pablo to Carquinez Bridge | Pacific Highway | 30.6 | A. C. & P. C. C.* |
| Yolo | Swingle to Yolo Causeway | Pacific Highway | 1.7 | P. C. C.* |
| Los Angeles | Barranca St. to Pomona | L. A.-San Bdo. | 6.0 | P. C. C. |
| Del Norte | Crescent City to Madrona | Redwood Highway | 6.9 | B. T. C. R.* |
| San Luis Obispo | Cambria to San Simeon | San Simeon-Carmel | 9.7 | B. T. C. R.* |
| San Bernardino | Halloran Summit to Mt. Pass | Arrowhead Tr. | 16.5 | B. T. C. R.* |
| Sacramento | McConnell to Sacramento | Golden State | 11.9 | B. T. C. R.* |
| Siskiyou | At Cottonwood Creek | Pacific Highway | 0.8 | B. T. C. R.* |
| Amador | Drytown to Martell | Mother Lode | 4.8 | B. T. C. R.* |
| San Luis Obispo | Across San Simeon Creek | San Simeon-Carmel | 2 | Steel and Concrete |
| Monterey | Across Wild Cat Creek | San Simeon-Carmel | | Stone Arch |
| San Joaquin-Stanislaus | Across Stanislaus River | Golden State | | Concrete and Steel |
| San Joaquin | Across Paradise Cut | Santa Cruz-Stockton | | Steel Stringer |
| Ventura | Across Ventura River | Coast Highway | | R. C. Girder |
| San Diego | Across A.T.&S.F.Ry. at Sorrento Can. | Coast Highway | | R. C. Girder Overhead |

*A. C. & P. C. C.—Asphalt Concrete and Portland Cement Concrete Pavement. (13.00 miles.)

*P. C. C.—Portland Cement Concrete Pavement. (7.7 miles.)

*B. T. C. R.—Bituminous Treated Crushed Rock Surfacing. (50.6.)

\$750,000,000 TO ELIMINATE

GRADE CROSSINGS IS URGED

Because the California motorist is careless or in a hurry, J. G. Hunter, transportation engineer of the State Railroad Commission, recommends the state spend \$750,000,000 in separating railroad and highway crossings.

Hunter predicted that eventually every crossing in the state would be protected, either by a separation or by a mechanical warning signal. He said the commission had ordered many crossings separated and that during the last year 25 grades had been separated at a cost of slightly more than \$2,500,000.

"Of course it is impossible, considering economic conditions, to order many crossings separated which undoubtedly should be," Hunter said, "because neither the community nor the railroad can afford expenditure for improvements unless they are absolutely necessary. However, progress is being made, and mechanical warning signals have been installed on virtually every crossing on the main highways."

Hunter said there were 180 deaths at grade crossings last year, but that 30 per cent of accidents at crossings resulted in motorists colliding with standing or moving trains. To show the outlook was not as gloomy as it might appear, he said, there was but one accident for every 900 motorists registered, and one grade accident for every 5,500,000 miles traveled by automobiles in the state.

Railroads last year spent \$3,000,000 in grade crossing protective devices and \$1,000,000 for their operation and maintenance.

EL CAPITAN AND BIG PINE

CANYON-DAM CONTRACTS LET

H. W. Rohl Co., 4351 Alhambra Ave., Los Angeles, and T. E. Conolly, 461 Market St., San Francisco, at \$2,332,860, were awarded the contract by the San Diego City Council to construct El Capitan Dam. It will be an earth and rock fill structure, with concrete core wall and heavy rock embankment slopes, and will be 197 feet high above stream bed with foundations about 25 feet below, and a 20-foot freeboard, giving a total overall height of 250 feet. The length of the structure across the top will be 1160 feet.

Rent Bros., Inc., 418 S. Pecan St., Los Angeles; Winston Bros., Minneapolis, Minn., and Wm. C. Crowell, Co., 495 S. Broadway, Pasadena, at \$2,407,311.70, joint bid, were awarded the contract by the Pasadena City Directors to construct the Pine Canyon Dam and appurtenant works, located in the San Gabriel Canyon, about four miles north of Azusa. Plans provide for a concrete gravity section dam, approximately 245 feet high above stream bed, with a crest length of approximately 750 feet.

PACIFIC CONSTRUCTOR invites correspondence from members of the construction industry. Your ideas, criticisms and various problems are very welcome, and in return we shall cheerfully render you the most profitable expression and the best service in our power.

Economic Planning To Be Topic At Commerce Meeting

POSSIBILITIES of stabilization in the construction industry through closer co-ordination of effort on the part of the sixty odd producing units which have to do with phases of building will be discussed at the twentieth annual meeting of the Chamber of Commerce of the United States, to be held in San Francisco, May 17-20.

Arthur S. Bent, of Los Angeles, president of Bent Bros., will preside at the meeting to be devoted exclusively to the construction industry. The meeting will be held at the Clift Hotel.

For many years Mr. Bent has been endeavoring to get the United States Chamber of Commerce to establish a separate construction section or division of the chamber, and much effort along this line has also been put forth by the national office of the Associated General Contractors. Construction as an industry will occupy a very prominent place in all deliberations of the national meeting of the United States Chamber, and those affiliated directly with construction feel that if a proper showing is made through attendance of the construction interests, the United States Chamber will forthwith establish the separate construction industry division.

The subject of economic planning, to meet immediate problems of all branches of industry, will be a dominant note running through the three days' meeting of the chamber. Business leaders from all parts of the country will explore the possibilities of planning in manufacturing, distribution, insurance, agriculture, lumbering and other fields of business enterprise.

Construction stabilization and other problems of pressing concern to the building industry will be considered at a special group session. Leading figures in the industry will participate in the discussions.

The program arranged for the construction group session includes four general subjects:

- (1) Opportunity for National Effort.
- (2) Community Effort for the Building Industry.
- (3) Eliminating Wastes and Undesirable Practices.
- (4) Community Control of Construction.

Discussion of these general subjects involves the answering of such questions as:

What are the essentials of successful co-operation between organized groups concerned with construction; can bid peddling be eliminated, inspection practices improved, faulty credit practices remedied, better standardization effected; and is regularization of over-building and under-building in communities a practical possibility?

The difficulties that stand in the way of stabilization

in the construction industry are put forward by Silas H. Strawn, president of the National Chamber, for the consideration of this group session.

"Every construction project," he says, "presents its own individual problems, complicated by varying conditions in each community. Does the construction industry lack the degree of unified control, co-ordination and precision essential to success in the manufacturing industries?"

"What can be done nationally and locally to overcome any such hardship? Is there need for developing a combined business judgment on practical procedures for the solution of common and basic problems in the construction field? If such procedures are agreed upon, will they be utilized by contractor, architect, engineer, banker, manufacturer of building materials and others?"

"What will be gained by increased efficiency in the construction industry and by prevention of the excesses of real estate and building booms and the depressing after effects on employment and property values?"

"These are important and far-reaching questions, and they must be answered before there can be any stabilization in the construction industry."

The Board of Directors of Northern California Chapter, Associated General Contractors, has changed the date of its regular meeting from May 20 to the morning of May 18, with a view to attending this meeting.

RAYMOND

EVERY RAYMOND CONCRETE PILE is poured into a spirally reinforced steel shell, and each shell is left in the ground in order to preserve the "green" concrete pile column from ground pressure, foreign materials, or pressure of closely adjacent pile driving.

Raymond Concrete Pile Co.

New York: 140 Cedar St. Chicago: 111 W. Monroe St.
1008 Washington Bldg., Los Angeles
2024 Hunter-Dulin Bldg., San Francisco
RAYMOND CONCRETE PILE CO., LTD.
Montreal, Canada

BRANCH OFFICES IN ALL PRINCIPAL CITIES

"A Form for Every Pile—A Pile for Every Purpose"

United Commercial Co., Inc.

All Our Used Machinery, Second-hand
Shovels at Less Than Cost

234 Steuart Street

San Francisco

AIRPORT DRAINAGE AND SURFACING REPORT ISSUED BY DEPT. OF COMMERCE

Design and construction of airport landing area surfaces so that they will most efficiently meet the needs of aircraft operations present a number of problems which are discussed in the "Report of Committee on Airport Drainage and Surfacing," which has just been issued in printed form by the Aeronautics Branch of the Department of Commerce.

It is pointed out in the report that each airport presents its own peculiar drainage and surfacing problems, which should be entrusted to specialists qualified to work out proper solutions meeting the engineering and economic considerations involved.

Although not intended as a textbook on the general subject of drainage and surfacing, the report does offer detailed suggestions as to methods of providing the facilities that are needed in this connection for operation of aircraft. Basic factors affecting the design of landing area surfaces are discussed and consideration is given to grading, drainage, design of drainage systems and preparation of various types of surfaces, including turf, hard surfaced runways, transition strips, taxiways, aprons and warming-up platforms.

The committee, organized by Col. Clarence M. Young, Assistant Secretary of Commerce for Aeronautics and working under the chairmanship of Harry H. Blee, Director of Aeronautic Development of the Department of Commerce, was composed of representatives of the Aeronautics Branch, the American Engineering Council and the American Road Builders' Association.

With regard to the scope of its studies, the committee reported:

"Many considerations enter into the design of a landing area. Before preparing a design for any structure or engineering work a thorough study and analysis of the special service for which it is intended should be made. This applies with particular force to airport design, for there is little background of experience in this new field of engineering.

"As time goes on, and air transport expands, the efficiency of an airport will come to be measured by its ability to accommodate traffic. Some of the terminal airports are already congested at certain peakload periods. Indications are that within a few years this congestion will have become acute at numerous other terminal airports. It is obvious that unless plane movements are speeded up, more airports will be needed or air transportation will be restricted.

"The preparation of an airport surface should be based upon data regarding the static weight and impact loads of airplanes, density of traffic to be accommodated, and climatic and soil conditions. It is the purpose of this report to outline the present landing-area requirements of transport landplanes and the probable trend in design; to discuss the problems of airport drainage and surfacing; and to present material and suggestions which may be of assistance to engineers in the solution of these problems."

Copies of the report may be obtained free upon request from the Aeronautics Branch, Department of Commerce, Washington, D. C.

GAS TAX DIVERSION

It can be said that the diversion of gasoline tax money is insignificant at present, but political forces are gathering here and there with the intent of conducting raids on heretofore untouched funds. Unless defensive steps are taken, the future may see extensive inroads made on gasoline tax money. During 1930 approximately \$15,500,000 in gasoline tax money was diverted to purposes that had no relation whatsoever with roads or with motorists as a group.

The strangest use of gasoline tax money occurs in an eastern state. Last year that state paid out \$75,000 of gasoline tax money to the State Department of Conservation for oyster propagation. More than one-fourth of the gasoline money collected by a southern state in 1930, \$3,780,000, was diverted to the erection of school buildings and the support of schools. In another state in the south \$2,200,000 of gasoline tax money went for the same purpose. In another state \$7,000,000 is diverted annually for school purposes.—Roads and Streets.

Thos. E. Collins & Co., St. Louis, Mo., announces Edward R. Bacon Co. of San Francisco and the Brown-Ing-Ferris Machinery Co. of Dallas, Texas, have been added to its list of distributors. These distributors are handling the complete line of Redteco and Yelteco accident prevention equipment.

Walter H. Nourse has joined the staff of the Cleveland Tractor Co. in the Pacific Northwest. Mr. Nourse's title is logging engineer. He will make his headquarters with "Cap" Hannam, 313 Weatherly Building, Portland, Ore., cooperating with the Cletrac distributors on tractor-logging problems.

Hotel Sacramento

The
Contractor's
Home
while at the
California
State
Capital



Where every guest feels at home and where he finds the comforts and service of the most cosmopolitan hotel.

Just a short block from all the State Buildings and in the heart of the city.



V. ST. CLOUD and A. H. ANDERSON
Proprietors

SUCONEM

Super Concrete Emulsions

Limited

—for Better Concrete 3710 S. ALAMEDA ST., Los Angeles

District Offices

308 Stock Ex. Bldg.,

Portland, Ore.

216 Walker Bldg.,

Seattle, Wash.

46th Ave. and
Clement St.
Oakland, Calif.



Here To There And Back Again



THAT LAST ISSUE

On this page in the last issue, we attempted to tell all about prohibition and the depression—or something!

You probably read and understood all on the page—but what has happened since is an entirely separate story.

First, the **POUSHKAROFF CHUTUK** page was re-printed, the proof presented to Colonel Huntington and copies to all his deputies, assistants and serving-men. These copies were presented during a dinner which the Colonel gave to his field forces.

Some brave soul among those present stated that he did not believe the Editor's Note that all the words were proper names of Licensed Contractors of California.

As usual, we worked this big blabber mouth of ours overtime, and we made the statement that we would pay 25c per word for any words found not in accordance with our smart aleck speech. We were immediately "called" by ORMAN LUTZ—and now look what has happened!

WHAT HAPPENED TO US?—just **MARIE DADY!** And, mister, when she happens, they move in the riot squads!

Marie took our page and the Directory, and sat up many nights. She found a number of words she questioned, but they were names other than the index names of co-partnerships.

She found **FOUR** typographical errors, and we admit them to be as such. She also called us on "St. Mark"—when we had meant that as two words. The "Saint" from one page and the "Mark" from another.—Oh, well, that was rather close, so we will give her credit.

The Publishers are mailing Marie a check for **FIVE** admitted errors, amounting to \$1.25. We are glad it isn't more—as it comes out of our monthly stipend!

About Marie. She is a San Franciscan. Born here, graduated from the High School of Commerce, and "joined up" with the Department of Professional and Vocational Standards shortly after it was organized. In Service, Marie is the oldest "she" employee in the San Francisco District.

Upon inquiry, Marie states that her success in life is due to proper home surroundings, the fact that she has studied hard, worked faithfully and has been under the benign influence of her Chief, **ORMAN LUTZ.**

(Despite all that, it costs us \$1.25!)

Then come **TWO** letters. The first from Colonel Huntington, which you may read:

My dear "Touring Carr":

I have just received my copy No. 1 of the Pacific Constructor, dedicated to the banquet of the Contractors' Section, held in San Francisco at the Elks' Club on April 30. I certainly am highly pleased at your thoughtfulness in so kindly remembering me, and wish to compliment you upon the unique and splendid composition of the magazine. I am going to take a course in Swedish, Esperanto and Czecho-Slovakian so that I can sit down in my leisure moments and glean the knowledge and wisdom that I know lurks within the pages, but which now, with my limited education, is closed to me except what I can read between the lines. I may add a dash of Arabic to my list of languages, and only regret that the Tower of Babel was completed according to specifications before the printing of this particular issue of the Pacific Constructor.

With every good wish and kindest regards, and assuring you that I have had many a hearty laugh over that unique publication, I remain,

Very sincerely yours,
CARLOS W. HUNTINGTON.

The next letter is a little bit sour, and perhaps it is just as well that you do not read it, but it is from **FLOYD BOOE**, Secretary-Manager of the Northern California Chapter, A.G.C. Floyd stands right up in open meeting and wants to know if this **PACIFIC CONSTRUCTOR** is the Official Organ of the A.G.C., or if it is a publicity sheet for the State Department of Professional & Vocational Standards!

That slowed us up, and we read Genesis 11:1-9.

If Carlos Huntington had been the Registrar of Contractors forty-two hundred years ago, the **TOWER OF BABEL WOULD HAVE BEEN BUILT**—and we would have no depression today! Carlos could have supplied masons and hod-carriers **IN ANY LANGUAGE!!!**

Oh, well, what matters? A good time was had by all!



SUPREME COURT DENIES WRIT SEEKING TO HALT SALT LAKE STORM SEWER

Work on the east side storm sewer project for Salt Lake city, undertaken for the purpose of unemployment relief, can be resumed at once. This is the gist of a unanimous supreme court decision in the case of P. Schulte against Salt Lake City, which denied a permanent writ of prohibition.

This decision of the supreme court settles one of the most interesting and far-reaching legal questions submitted to it for some time, involving the point of whether city officials in awarding a contract may use their discretionary power or follow the usual procedure of awarding contracts for public works to the lowest responsible bidder.

The litigation arose when Salt Lake City commissioners awarded Ryberg brothers of Salt Lake a contract for the construction of the west and east side storm sewer units and a writ of prohibition was asked of the supreme court. Since the bid of Ryberg brothers for the west side was low, E. A. Walton, attorney for the plaintiff, filed an amendment to his original complaint eliminating any reference to the west side and seeking a permanent injunction on the east side, where the Ryberg brothers' bid was \$267.36 higher than that of the American Concrete and Steel Pipe Company of California, which submitted a bid of \$117,691.48.

The decision points out that in no place does the statute direct that the board of commissioners award the contract to the lowest bidder. The general principle deduced in the opinion written by Justice Elias Hanson in which all members of the court concurred, is that "where there is no statutory limitation upon the power of the proper officers of a city to let contracts for public improvement, such officers have a broad discretion. Courts refuse to interfere with their control of the matter so long as they do not exceed the power delegated to them, or invade private rights or act in bad faith or palpably abuse their discretion."

The decision points out that the difference in the two bids was small. Both companies were of good reputation and proven responsibility. In the light of the small amount of money involved, the commissioners "may well have honestly believed that the best interests of the public were served by awarding the contract to the local firm," it is stated. The decision also points out that the commission may well have believed it "to be a distinct advantage to have the local firm on hand to make repairs." Since the record does not support the plaintiff's claim that the defendants were influenced by the residences of the bidders in awarding the contract, the writ was denied.

A wagon track designed to fit any make of track wagon, new or old, has been announced by the tractor division, of Allis-Chalmers, Milwaukee. A four-point support is provided for each track by two end wheels and two truck wheels. The load is moved easily with minimum power because it is moved over tracks like railway truck wheels rolling on rails. The track unit is mounted midway between the end wheels and truck wheels, and is free to pivot about the axles.

LOW COST HIGHWAYS ARE FEATURED IN NEW BOOKLET

"Oil Mix Surfaces on Low Cost Highways" is the latest booklet published by The Asphalt Institute, 206 Sansome Street, San Francisco.

The booklet contains a paper given by Mr. T. H. Dennis, maintenance engineer, California Division of Highways, at the recent annual meeting of the County Engineers' Association.

It details certain of the tests necessary to ascertain the resistance of various oiled materials to traffic and to moisture.

Mr. Dennis discusses both road mix and plant mix types, involving the use of heavy asphalt oils and E grade asphalt, cut back to workable viscosities. He explains that either process permits the most economical use of local aggregates and provides a surface which will satisfactorily care for traffic up to a thousand vehicles a day.

The question of maintenance is also discussed and in reviewing a 1929 job in a desert region, Mr. Dennis shows that on 180 miles of plant mix surfacing, carrying a daily traffic of 400 vehicles, the yearly maintenance cost for the past two years has amounted to only \$170 per mile.

The booklet also contains a table indicating a method of ascertaining surface area equivalents on coarse aggregates, which information, when used in conjunction with a bitumen index chart, also given, develops the oil requirements for all grading combinations.

Mr. Dennis' experience and knowledge of this subject makes this a booklet of considerable value to engineers who are concerned with the problem of adding to the highway system within their jurisdiction in the face of economic demands by the taxpayers. Copies may be obtained from The Asphalt Institute.

Cypress Lawn Memorial Park

COLMA, SAN MATEO CO., CALIFORNIA
Executive Office—995 Market St., San Francisco



VIEW OF NEW MEMORIAL COLUMBARIUM
(Largest and most beautiful Columbarium ever erected)

WE HAVE FACILITIES FOR:
Earth Interment Cremation
Mausoleum Entombment Columbarium Inurnment

Cypress Lawn is adequately protected by a
PERPETUAL CARE FUND.

"VISIT CYPRESS LAWN MEMORIAL PARK"

NOrmandie 4303

NOrmandie 7715

LEO HONEK

EXCAVATING CONTRACTOR
CONCRETE PAVEMENT BREAKING
Compressed Air Equipment

2941 Denby Avenue

Los Angeles, Calif.

N. Y. BUILDING EMPLOYERS WIN IN WAGE CONTROVERSY

The battle over building trades wages in metropolitan New York came definitely out in the open last week when the Building Trades Employers Association of Long Island started open shop operations at wages 33 1/4% below union scales. This action followed a similar move against painting trades, which on March 7, were declared on an open-shop basis at \$1 an hour.

In both instances, according to Business Week, employers' action came with the termination of contracts with the unions, followed months of fruitless negotiations.

With the acceptance of new low scales by Chicago building trades a few weeks ago, New York, Boston and St. Louis remain the only large cities in which unions have successfully withstood the pressure for lower wages usually on the basis of a 33 1/4% cut.

In New York, where most union agreements expire May 1, little progress has been made toward a compromise. Cuts which union leaders will accept and those wanted by employers are still far apart. Employers now seem determined to settle 25 1/4% cuts when present agreements expire, whether unions agree or not, and operate on the same basis as Long Island. With employment low and wage sniping rampant the unions are in a bad spot.

About 2,000 workmen are affected by the Long Island action. They must decide to break with their unions or their jobs. If they follow their union leaders, their jobs are gone, perhaps permanently. Employers claim that there are plenty of building craftsmen eager to work at the new scales.

In Boston, the Building Trades Council has recommended that all unions affiliated with it accept a 15% reduction in wage scales for one year from April 1. Employers are skeptical; doubt whether many individual unions will accept the advice; are not at all sure that a 15% cut would be enough to satisfy employers.

4-YARD DIRT HAULING UNIT

Designed for use on dirt-hauling jobs where tractive ground conditions permit the use of wheels, the Koehring Wheel Dumptor provides low-cost operation at high speed. Built by the Koehring division of the National Equipment Corp., Milwaukee, Wis., it has a load-carrying capacity of 4 cu. yds. Features of the new Dumptor are the concentration of a relatively small load on large tires with excess motor power, a short wheelbase, instantaneous front gravity dump and spreading type body. The rig has three speeds forward and three speeds reverse, permitting shuttle operations on most hauls. The 85-inch wheelbase permits turning on a 13-foot radius. The hopper dumps at an angle of 90 degrees, and an automatic kick-out pan insures clean dumping. Steel wheels 24 inches in diameter, may be interchanged with the pneumatic lug type tractor tires. The entire machine is designed to withstand the rigors of dirt hauling.

TRUCK OWNERS TARGET FOR ILL-ADVISED LEGISLATION

By J. D. DAVIS, *Public Relations Counsel,*
Allied Truck Owners

Owners of trucks in the past have been the target at which all sorts of ill-advised legislation has been aimed and truck owners have been forced to fight their way year after year to the position that they now maintain before the public. It is a wonder that there has been any progress made owing to the many obstacles that have been placed in front of the operators and it is to their credit that they have traveled evenly on their way and overcome everything that has been placed before them to surmount.

All of the legislation of the past that has been enacted or attempted to be converted into laws pales in significance to the proposed amendment to the constitution which it is expected will be voted upon November 8th. The proponents of this amendment fully realized that if they had taken their proposal to the state legislature, it would have no chance of passage, due to the confiscatory nature and the absolutely rabid regulations placed upon truck operations. These proponents realized that even railroad legislators, so-called, would hesitate to take a favorable stand on any bill that would pass to the scrap heap millions of dollars worth of equipment owned by citizens of California.

The proposed amendment does not favor any particular class of truck operation, on the contrary it includes everything from the privately owned small truck to the levathans that are used in heavy duty service whether operated by certificated or contract carrier, contractor, truck farmer, bakery, dairy, ice, citrus fruit, or other operator. Therefore in order to combat a measure that has such a wide reaching aim, it is necessary for an organized and well directed campaign to be conducted for the enlightenment of the public and point out where the public will be mulched to the extent of millions of dollars a year in the added cost of distribution of state products and merchandise.

Allied Truck Owners is not a promotional scheme, but is an organization owned, controlled and directed by truck owners themselves, and such employes as are now on the payroll are subject at all times to the direction of the real owners of trucks. That truck owners realize the great necessity of such an organization as Allied Truck Owners is well evidenced by the steady increase in membership and the loyal and enthusiastic support that is being extended in every section of the state. There are 51 districts and 21 regional sites in the setup of the organization and of these nearly 50 have their regional and district boards and officers and are functioning at the present moment, and each week sees additional districts and regions, naming those who are to guide their ship in its campaign for the protection of trucks on the highway and the capital that is invested in equipment.



HERCULES EXPLOSIVES

THE CONTRACTORS' FAVORITE

HERCULES POWDER CO.



Standard Oil Building

San Francisco

DOuglas 2330

AMENDMENT TO PREVAILING WAGE LAW IS PROPOSED

An amendment providing for the predetermination of wages was added to the prevailing-wage law by the Senate on April 18, according to Paul Wooton, Washington correspondent for Engineering News-Record.

Before becoming finally effective this amendment must be accepted by the House.

According to members of the House committee that deals with labor legislation, action in that body is somewhat doubtful. Under the amendment, the Secretary of Labor is directed to determine the wage rates existing in the various sections before contracts are let by the executive departments. The amendment further provides that the advertised specifications for all contracts in excess of \$5000 for building construction work shall contain a statement of the wages to be paid. If the work contemplated by the contract requires more than three months for its completion, the Secretary of Labor is instructed, upon the request of interested parties, to re-examine the wage scale to see whether or not adjustments up or down are necessary. Adjustments in the wage scales that may be ordered by the government would be accompanied by corresponding adjustments in payments to the contractor.

Opposition was expressed by representatives of the American Federation of Labor during committee hearings. They asserted that predetermination would amount to fixing wages in private industry, and would therefore be unconstitutional. In this connection, it was stated that an Illinois law providing for predetermination of wage rates was declared to be unconstitutional immediately after enactment.

In support of the measure, representatives of contractors and other witnesses who testified, cited numerous instances in which there has been confusion under the present prevailing-wage law, which does not require the determination of wages until after there has been a dispute following the award of a contract. Col. George B. Walbridge, chairman of the legislative committee of the Associated General Contractors, told the committee from his own experience about the uncertainties of the present law. He stated that he had been awarded a contract for the foundations of the post office building in Detroit. After work was started on the wage scale as agreed to by labor organizations, the government ordered an increase. It is business suicide to work under such conditions, he stated. In reply to the statement that the Illinois law providing for predetermination was held unconstitutional by the courts, Mr. Walbridge stated that this action was taken, not because of the wage provision that was written into it, but because of its indefiniteness.

QUICK ROAD REPAIR AT HAND WITH ARC WELDING

In recent road improvement operations near Pittsburgh, a small truck pulled up to a stalled giant tractor and unleashed it. Its tool was electricity—its method was



Arc Welding Reclaims a Worn Traction Gear on a Tractor.

arc welding. Many times were a shovel or tractor placed in operation by a speedy welding repair.

Broken gears and other parts on these machines prevented their operation until their repair could be effected. A job welder nearby brought an arc welding outfit consisting of a Westinghouse gas engine driven welder, mounted on a small truck. Speedy repair was made possible by this modern maintenance tool.

STEEL EXPANSION JOINTS FOR CONCRETE PAVEMENTS

An entirely new type of steel expansion joint for concrete pavements has been developed by the "Pave Cure" Corp., 2549 State St., San Diego, Calif., and is designated as the Air-Flex expansion joint. The company is also manufacturing a line of "Pave Curve" steel transverse contraction joints and longitudinal construction joints. The Air-Flex expansion joint is pre-molded and held in place during pouring of the concrete by stakes and an inner form. Briefly, it consists of two parallel steel plates, flanged at the bottom and about 2 in. from the top of the slab. After the concrete has been poured but before it has reached final set the stakes are pulled and the inner form raised slightly to assure removal later. The next day the inner form is pulled and a mastic is poured along the bottom of the groove between the two plates to a depth of 1 in. Then the tops of the plates are pulled together with a special tool and a V-shaped steel cap is placed over the tops of the plates, with a tongue projecting downward. A mastic seal is then poured to fill the slot remaining above the cap.

COLTON CEMENT



Uniform Quality : Service : Satisfaction

Manufactured by

CALIFORNIA PORTLAND CEMENT COMPANY

1228 PACIFIC MUTUAL BUILDING

Mills at Colton, California

TR. 1271

Los Angeles

THE LEGAL PAGE FOR CONTRACTORS

By GEORGE N. CROCKER, Counsel for Associated General Contractors of America, California Branch

Member of the legal firm of Travers, Landels, Weigel and Crocker
Russ Bldg., San Francisco—Central Bank Bldg., Oakland, Calif.

A RECENT DECISION OF INTEREST TO BUILDERS

THE Supreme Court of California, in a decision recently handed down in the case of Katz v. Helbing Company, et al, imposed a liability upon a building contractor which has caused considerable comment.



The suit was one for damages for personal injuries sustained by the plaintiff. The contractor, at the time the plaintiff was injured, was engaged in erecting a building in the City of San Francisco. Pursuant to a city ordinance, he obtained a permit from the Board of Public Works to place building materials on the sidewalk. While the plastering work was being done, he placed, partly on the sidewalk and partly on the street, a wooden box about 8 feet long, 5 feet wide and 5 feet deep. This box was used to hold caustic lime, which was delivered on the job al-

ready mixed. One evening after working hours the plaintiff was riding on a streetcar past the building. Two boys, twelve years of age, were throwing lime at streetcars, and one of their missiles struck the plaintiff in the right eye, causing a severe burn, which resulted ultimately in the removal of the eye. The trial court awarded the plaintiff a large amount of damages, and the award was sustained by the Supreme Court.

The decision is of particular interest by reason of the fact that the injury was caused, in large part at least, by the actions of third parties, to-wit, the small boys, who had no connection whatsoever with the defendant contractor. The grounds of the decision will appear from the following excerpts from the court's opinion:

"It must be conceded that building materials are commonly left standing on the sidewalk and border of the street fronting on buildings in the course of construction, and that wet lime and mortar are frequently mixed in boxes placed upon the sidewalk or street area, to be from there carried into the building for use. This practice, under ordinary circumstances, is recognized as lawful by custom and judicial decision. But if experience had demonstrated that the placing of building materials in public streets and sidewalks was likely to be attended by accidents to persons lawfully using said streets and sidewalk, whether by virtue of wrongful acts of interference of young

children or otherwise, we might expect to find the matter regulated by statute, and in the absence of statutory prohibitions it would be the duty of courts and juries to declare such conduct wrongful if a reasonably prudent man would have foreseen that injury would probably result, for the acts of a defendant are deemed the proximate cause of such consequences as a reasonably prudent man would anticipate as likely to result therefrom. . . . Intervening wrongful acts of third persons, but for which injuries complained of would not have been received, ordinarily break the chain of causation, because they are not to be anticipated as probable consequences, but are occasional and exceptional results. But this is not always the case, especially where the acts of children of a non-responsible age are involved. . . .

"Tested by these principles, we think the record sufficiently supports the jury's verdict against the defendants. The box containing the lime was on the sidewalk and street, unguarded and practically uncovered. There were no warning signs on or near it, and there was no watchman at the building. The two boys testified that they had played there and had thrown lime at street cars on several different days prior to August 25; that other boys had done the same; that they had never been told to stay away from the box; and that they did not know that the material was dangerous. . . .

"In our opinion, however, it is not essential to the liability of any of the defendants that they have had actual knowledge of the activities of the children. We think there is no doubt that the conduct of the parties who were responsible for allowing this highly dangerous material to remain on the sidewalk uncovered, unguarded, and with no precautions taken to prevent injury to members of the public, was negligent. We think it may also be said that the box with its material was attractive to small boys, and that defendants were charged with notice of the possibility of boys being allured by it, and using it in a manner dangerous to others. Even if defendants knew nothing of the acts of the children in the instant case, they should have known, both from general experience and from the fact the children had played with the material for days prior to the accident. Under all of the circumstances, the jury might certainly find, as may be implied from the verdict, that the consequences in this case should have been foreseen."

It is apparent from this decision, and from many others of a similar nature, that the mere fact that intervening acts of third parties have contributed in some way toward causing the injury does not necessarily relieve the contractor of liability where it can be shown that the contractor knew that such acts were being committed or could reasonably have foreseen them. This is particularly so where the acts of children are involved. The maintaining of devices or conditions which by general experience are attractive to children and tend to lure them into dangerous play, should be avoided by builders unless reasonable precautions are taken to guard against injuries. It is, of course, impossible for the builder to prevent, at his peril, all possible injuries which may be caused by the acts of trespassers or meddlers or otherwise. In the last analysis, the courts apply a rule of reason. In the case above quoted, the court held that the keeping of a box containing caustic lime upon the sidewalk in front of a building under construction without an adequate cover upon it and without any warning sign to label it as dangerous material and without any watchman being kept at the building after working hours, constituted negligence upon the part of the contractor sufficient to fasten a liability upon him for damages caused under the circumstances above stated.

Phone TRinity 0241 for —
Rock-Sand-Gravel-Plaster
Cement-Mixed Mortar-Stucco
Lath-Lime Putty-Reinforcing Steel

**Consolidated Rock
Products Co.**

656 S. Los Angeles St.

Los Angeles, Calif.

An Important Communication

(NOTE: The following communication from Clyde W. Wood, President, Northern California Chapter, to Mr. Charles H. Segerstrom, Regional Director, State Chamber of Commerce, clearly outlines the A.G.C. policy with reference to wage scales on public works construction, gas tax diversion and the proper necessity of a properly handled program as an important factor for the Depression Cure. Mr. Wood's letter follows:)

Mr. Charles H. Segerstrom,
Regional Director,
State Chamber of Commerce,
Sonora, California.

Dear Sir:

I was privileged to attend the recent meeting of the Regional State Chamber of Commerce at Hotel Stockton, and was very pleased to note the efficient handling of the many problems that have been facing you, the serious thought you have given them, and the apparent harmony that existed. The earnest effort of all to seek the way out and back to normal times was very evident. You are to be congratulated upon your splendid spirit.

Your resolution dealing with the minimum wage scale for women in canneries, together with your earnest discussion of the tax problem, and your desire to see the tax dollar stretched to do the maximum duty, prompts me to call to your attention the workings of the prevailing wage law on public works, as now in force on public work, and recently declared constitutional by the State Supreme Court.

The law states that all labor on public work shall be paid the *prevailing wage in that community* for the class of work, and makes it obligatory that the awarding body determine and set that scale forth in its advertisement for bids. At the request of the Department of Public Works, a year ago, the California State Branch of the Associated General Contractors of America collected all the data possible from all general contractors operating on state work, from all the division highway engineers, and from many of the county governments, to determine what were the prevailing scales of wages for the various crafts. This information, together with our own recommendations, was presented to the State Department of Public Works. The scales finally adopted by the state were considerably higher than those shown by the records and recommended by us. In fact, they were more nearly that asked by the unions together, and imposed upon us the added burden of time and a half for overtime, and double time for Sunday work. The cheapest labor you can now hire to wet down your concrete on a Sunday is \$8.00 for the day.

Since it has become popular for the unions and others to voluntarily cut the wage scales, we have called the attention of the officials of the state to the economic necessity of effecting wage adjustments on public work in keeping with the times, but have been informed that the policy of the administration is that the state should *not take the lead* in this matter.

Theoretically it should not make any difference what a

contractor has to pay for labor as long as his competitor has to pay the same, and we shouldn't worry about it. In practice you cannot beat the old law of supply and demand, and the unscrupulous find ways and means of beating the law in times like these; also too high a wage forces our industry to use more and more machinery to the further embarrassment of labor.

I do not believe it is wise to set up an aristocracy of labor on public works, and to protect them to the detriment of all others, though no one wants to see other than decent wages prevail. The farmer, the merchant, the manufacturer, and all other industries, have had to take their licking in this period of readjustment, and we cannot expect to maintain the good will of the public in the support of the gas tax for highway development and other moneys for needed public improvement, unless we can convince the public they are getting value received.

It is going to be hard to show a farmer paying his tractor driver \$4 for ten hours, why similar employees of the public works contractor are worth \$7 and \$8 for eight hours' work, driving the same kind of tractor just across the fence.

In my judgment, the only class of labor in danger of being exploited is the common laborer, and no one should object to a minimum living wage for him.

Your chamber has also repeatedly gone on record as favoring the adoption and continuation of the ten-year highway program, realizing as business men that a conservative program, continuously pursued, will give you the maximum results for moneys expended, and will insure a normal development of the state's resources. You have also repeatedly gone on record as being unalterably opposed to any diversion of the gas tax funds, for any purpose other than that for which they are intended. In this respect I am in hearty accord with your chamber, as I believe your reasoning to be fundamentally good, sound economics.

Furthermore, I believe the continuation of needed highway development and other necessary public improvements in times like these, will not only insure to the public the maximum amount of improvements for their dollar, but construction work, if properly handled, will play a big part in the readjustment necessary to the return of normal business. It is estimated that 85% of every dollar spent in construction work goes for labor in some form. Lumber, steel, oils, iron, cement, sand, gravel, brick, tile, glass, hardware, etc., are the basic commodities entering into new construction, and if we are to use construction work to expedite the return of normal times, I also believe that we must see to it that these construction dollars are efficiently and economically expended, so that as large part of that dollar as possible can find its way back into construction material, and thus into the hands of those producers, so as to stimulate a general recovery of all business, instead of just the construction business—which happens to be my business.

During the past two winters a great hysteria has swept

(Continued on Page 18)

SMITH BROS. TRUCK CO.

"TRANSPORTATION SPECIALISTS"

Portable Crane Service—Rigging

1704 E. 16th St.

Los Angeles

WEStmore 3271

Pacific Clay Products

General Offices: 650 Chamber of Commerce Bldg.,

1151 SOUTH BROADWAY

Los Angeles, Calif.

Construction Materials and Equipment

TRADE NOTES—PERSONALS

GAS SHOVELS OPERATED IN HIGH ALTITUDES LOSE POWER

Contractors contemplating road building or other construction work in mountainous territory at high altitude, should not overlook that gasoline engines lose power at the rate of 3.1% for each 1000 feet above sea level



Link-Belt Gas Shovel Working at High Altitude.

On a road widening job on leveling grade, on the road of the California Highway Department into Yosemite Park, the Contractors, Robinson-Roberts Co., of Los Angeles, were working their Link-Belt 1½-yard shovel at elevations up to 9,000 feet above sea level. At this elevation the power loss would be about 28%.

While power losses due to altitude can be partly compensated for by equipping the engine with special heads, nevertheless it means that a shovel that scarcely has any reserve power at normal levels of operations, surely cannot be expected to function at 8,000 or 9,000 feet above sea level.

Reserve engine power is valuable even at normal levels of operation, but at high altitude it becomes a necessity, if the size of the bucket and therefore the handling capacity, are not to be reduced.

For example, a shovel that is normally rated 1½ yards, may actually be able to handle only a 1¼-yard bucket, or smaller, at high altitudes. It all depends upon how conservatively the shovel manufacturer has "rated" the machine and its engine power.

Another need for reserve engine power on Robinson-Roberts Company's job was the fact that the shovel had to work in boulders and rock slides almost entirely.

AIR COMPRESSOR MOUNTED ON LIGHT TRACTOR

The Cleveland Tractor Co., Cleveland, Ohio, an-

nounces a new air compressor unit mounted on a tractor without interfering with the use of the tractor for pulling purposes. A model 15 air-cooled Davey compressor has been mounted on a standard model 15 Cletrac tractor. The compressor is a vertical two-cylinder type with a 6-inch bore and 6-inch stroke. It is rated at 142-cu. ft. capacity at 725 r. p. m. The weight of the compressor mounting is 890 lbs., making the combined weight of tractor and compressor 6,890 lb. The compressor is so mounted as to permit the tractor to tip at an angle of 40 deg. All water jackets and piping are eliminated by the air-cooled feature of the compressor. The compressor is powered by the tractor engine.

HIGH LIFT HYDRAULIC BULLDOZER

A hydraulic-operated bulldozer with a lift of 33 in. above ground level is announced by La Plant-Choate Mfg. Co., Inc., Cedar Rapids, Iowa. A new type H-beam frame also permits the blade to be dropped 18 in. below track line. An outstanding feature of the bulldozer is a double-acting hydraulic jack which forces the blade into the ground as well as providing the high lift. The design of the bulldozer leaves the tractor drawbar entirely in the clear and does not interfere with hauling operations. Power for lifting is supplied by a hydraulic gear pump operated by the tractor engine. The blade is 46 in. high and 9 ft. 10½ in. long. Fitted for attachment to a Caterpillar 60 tractor, the bulldozer weighs 7,765 lb.

Aqua Products Co., Bristol, Conn., has announced a compression hydrant guard designed to give positive protection against breakage of hydrants from being struck, sidwiped, backed into or skidded into by vehicular traffic. The guard consists of two channel boxes of 1½-in. boiler plate, each containing three eleven-coil steel compression springs of 3-8-in. stock, 6 in. long and 3 in. in diameter. These channel boxes are the compression chambers, the front plate of which is so designed that it absorbs the shock through the compression springs. The guards do not interfere with the use of the hydrant.

Schramm, Inc., West Chester, Pa., has announced a complete line of portable engine-driven welders in four sizes designed to meet the exacting requirements of welding in the construction industry. These four sizes, 200-, 300-, 400- and 600-amp. units, contain the latest improvements in welders of this type and are capable of welding successfully over a wide range of current. The generator unit is designed for rapid voltage recovery. A transforming reactor automatically steadies and regulates the arc. Any type of mounting for portable use can be supplied, such as spring trailer, highway trailer, two wheel pneumatic tired, rubber-tired wheels, steel wheels, or skidded or for mounting on all standard makes of motor trucks.

Contractors Machinery Exchange

Rentals a Specialty

1135 · 57th Avenue

OAKLAND, CALIF.

FRUITVALE 0715

CALIFORNIA STATE CODE WITH REGARD TO EXCAVATIONS

Published herewith is a copy of the revised California State Code with regard to excavations, not generally understood to be now in effect:

Chase's California Code, 1931

Section 832—Lateral Support From Adjoining Owner—Each coterminous owner is entitled to the lateral and subjacent support which his land receives from the adjoining land, subject to the right of the owner of the adjoining land to make proper and usual excavations on the same for the purpose of construction or improvement, under the following conditions:

1. Any owner of land or his lessee intending to make or permit an excavation shall give reasonable notice to the owner or owners of adjoining lands and of buildings or other structures, stating the depth to which such excavation is intended to be made, and when the excavating will begin.

2. In making any excavation, ordinary care and skill shall be used, and reasonable precautions taken to sustain the adjoining land as such, without regard to any building or other structure which may be thereon, and there shall be no liability for damage done to any such building or other structure by reason of the excavation, except as otherwise provided or allowed by law.

3. If at any time it appears that the excavation is to be of a greater depth than that of the walls or foundations of any adjoining building or other structure, and is to be so close as to endanger the building or other structure in any way, then the owner of the building or other structure must be allowed at least thirty days, if he so desires, in which to take measures to protect the same from any damage, or in which to extend the foundations thereof, and he must be given for the same purposes reasonable license to enter on the land on which the excavation is to be or is being made.

4. If the excavation is intended to be or is deeper than the standard depth of foundations, which depth is defined to be a depth of twelve feet below the adjacent curb level, at the point where the joint property line intersects the curb, and if on the land of the coterminous owner there is any building or other structure the wall or foundation of which goes to the standard depth or deeper, then the owner of the land on which the excavation is being made, shall, if given the necessary license to enter on the adjoining land, protect the said adjoining land and any such building or other structure thereon without cost to the owner thereof, from any damage by reason of the excavation, and shall be liable to the owner of such property for any damage, excepting only for minor settlement cracks in buildings or other structures.

1972, 1874, p. 221, 1931 ch. 776.

1 Cal. J. 405-415; 1 C. J. 1212, 1232, 1 R. C. L. 380, 394; A. Dig. Adjoining L. Sec. 2.

Sullivan Machinery Co., Chicago, Ill., announces the appointment of the following new distributors: San Jose Hardware Co., San Jose; The Crook Co., Los Angeles. At each of these two points Sullivan air compressors, rock drills, concrete breakers, clay spaders, drill sharpeners, portable hoists, together with their parts and supplies, will be carried in stock. Both of these distributors report direct to the San Francisco office of the company, Perry W. Olliver, manager, at 582 Market St. A. L. Naylor is associated with The Crook Co. as local Sullivan engineer. The Crook Co. has just moved into new and larger quarters at 2900 Santa Fe Ave., Los Angeles.

An Important Communication

Continued from Page 16)

over this country of ours, to create jobs for the unfortunate. Great pressure has been brought to bear on all governing bodies, and they have done the expedient thing by sticking a pick and shovel into every man's hand possible. While it effected a great relief from untold suffering, it did not solve the problem of starting the wheels of industry. Millions and millions of dollars were thus spent, and as far as good economics were concerned, it constituted only a dole. During the war we did not send all of our men to the front line trenches, but we put every industry to work to supply the materials and ammunition to the man up front, and why try now to put every man on a pick and shovel—on the front line?

I say let's stretch these construction dollars so as to help every possible line of industry; the farmer, merchant and manufacturer, instead of wasting them in ineffective hand methods.

So with this rather lengthy preamble, I wish to solicit your support and aid in first obtaining a prevailing wage scale on public works commensurate with the times; a scale that will ENCOURAGE and not DISCOURAGE the use of labor; and, second, the efficient handling of construction work by adhering to the practice of competitive bidding, so as to insure the taxpayer obtaining maximum results, and general business its just share of the construction dollar.

Let's have "BUSINESS AS USUAL THROUGH USUAL BUSINESS CHANNELS."

Respectfully submitted,

C. W. WOOD, *President,*

Northern California Chapter, Associated General Contractors of America.

BOOKLET ON AIRPORTS

Much valuable information on airport construction and landing field requirements is given in a recently released report of the joint committee on airport drainage and surfacing, representing the Aeronautics Branch, Department of Commerce; the American Engineering Council and the American Road Builders' Association.

Basic needs of the landing area are set forth, and development of a master plan discussed. Gradients, fills, operating requirements and site selection for proper drainage are other subjects. Discussion of the influence of natural conditions on the design of drainage systems is followed by summing up the data necessary for such design; the type, location, size and construction of drains. The chapter on surfacing deals with types, characteristics, construction and maintenance costs.

The printed report may be obtained through the Foreign Construction Division, Bureau of Foreign & Domestic Commerce, Washington, D. C.

The Northwest Engineering Co., Chicago, Ill., announces that R. W. Cornelisen has joined the organization as field sales manager. Mr. Cornelisen has a long and enviable record behind him. He is a graduate of civil engineering from Illinois. In 1919 he entered the service of the Lakewood Engineering Co. at Cleveland, becoming manager of the construction equipment department, a position he held until 1930. He was then made assistant general sales manager of both the Lakewood Co. and the Jaeger Co.

A. G. C. Chapter Activities

SECRETARIES OF A.G.C. CHAPTERS THROUGHOUT THE PACIFIC COAST ARE REQUESTED TO SUBMIT ITEMS FOR PUBLICATION IN THIS DEPT.

OAKLAND, CALIF.—Alameda County Chapter, Associated General Contractors of America, has adopted a resolution endorsing the scale adopted by the San Francisco Builders' Exchange which provided for a 20 per cent reduction in the wages of all crafts employed in the building trades, exclusive of those in the shops.

The resolution reads as follows:

Whereas: The San Francisco building trades employers have adopted a wage scale reducing the wages of all building trades mechanics approximately 20 per cent, effective April 18, and

Whereas: We have already endorsed a wage reduction of 20 per cent for carpenters, and we believe such reduction an economic necessity in all crafts at this time, therefore,

Be It Resolved: That Alameda County Chapter of the Associated General Contractors of America hereby endorses the scale as set up in San Francisco,

Further Resolved: That we recommend the adoption of this reduced scale by all employers and employers organizations of the building industry throughout the East Bay District.

"In endorsing the scale and recommending its adoption by all employers and employer organizations in the East Bay district, it is felt that a definite step toward stabilization will have been taken," says Wm. E. Hague, secretary of Alameda County Chapter.

"The Chapter took a very definite stand in favor of a downward revision before the Impartial Wage Board last October, and has been credited with having submitted an economically sound brief in support of its contentions," Hague continued.

"While this wage reduction is not likely to bring much immediate results in promoting construction under the present generally bad conditions in the business, yet the members of Alameda County Chapter think it will surely have its effect on the building public and will at least pave the way for a definite improvement as soon as conditions permit by having established the economic adjustment which is, in any event, essential at this time.

"To peg the wage at this scale and bring about its strict enforcement is now the question before the building business. To reduce the scale 20 per cent and not enforce it alike on all might easily mean a further downward movement and a thoroughly demoralized condition in the industry under which the skilled mechanic could not make a living nor the contractor a profit," Hague said.

SALT LAKE CITY, UTAH.—The Utah State Road Commission has withdrawn from the highway oiling business and proposes to turn over the entire 1932 oiling program to private contractors, Mark Tuttle, manager for the Intermountain Branch, A.G.C., reports. The decision is the result of a meeting held by Mr. Tuttle with the road commission. The budget of the commission provides for an expenditure of \$772,000 on oiling projects this year. Plans call for the surfacing of 221 miles.

Tuttle also reports a meeting with the Secretary of State relative to diversion of the gasoline tax. In a published statement the day following the meeting, Secretary of State Welling advised that he is absolutely opposed to any diversion of the tax for any purpose other than highway construction.

SEATTLE, WASH.—Consolidation of the Western Public Works Contractors' Association and the Mountain-Pacific Chapter, A. G. C., is being considered. The consolidation is looked favorably upon by the public works unit. A committee has been appointed to study the matter further and report at a meeting to be held in the immediate future.

The Public Works Association has requested the Seattle city council to withdraw the present ordinance governing wage scales on city work and substitute one making an adjustment to present conditions. It is felt that the present scarcity of public works construction is due in large part to the high cost.

SEATTLE, WASH.—John W. Rumsey, president of Mountain-Pacific Chapter, A. G. C., reports a growing membership, keeping pace with increased construction activities in the Pacific Northwest. At a recent meeting of the Chapter ways and means to offset unwise attempts by politicians and others to divert the gas tax from road construction were discussed and a plan of procedure outlined to combat efforts to use the tax for purposes other than those for which the tax is provided.

Headquarters of Mountain-Pacific Chapter are located in the new Washington Hotel, Seattle.

The Rottler Boring Bar Co., Inc., Seattle, Wash., has developed the Rottler boring bar, which will re bore cylinders in from four to six minutes without removing the block from the chassis. The unit is powered by a motor built into the machine. The cutter heads of the unit can be set to any diameter in a few seconds and the blades can be adjusted without removing the head from the machine. The units are available in sizes from 4 to 10½ in. maximum diameter.

American Tractor Equipment Co., Oakland, Calif., has just issued an ATECO Bulldozer Bulletin (Bulletin No. C-132) completely describing and picturing the operation of ATECO's new "Hidden Power" bulldozer. Although a recent development embodying several unique features of bulldozer design, the new unit has already showed its worth in actual field work.

A new bending roll, designed for the bending of reinforcing bars up to 1½ in. in size has recently been developed by the Buffalo Forge Co., Buffalo, N. Y. The machine, powered by a 5-hp. electric motor or 7½-hp. gasoline engine, will bend 1½-in. bars at the rate of 70 ft. per minute. The diameter range varies from 20 in. up. The weight of the machine, including the motors, is 1,825 lb.

To meet increasingly rigid specifications for clean gravel and stone, the Hardinge Co., York, Pa., has developed a conical scrubber for washing these materials. The scrubber is a large conical drum rotated on trunnion bearings. Feed enters at one end and is discharged at the other end into a revolving trommel screen. Only sufficient water to coat the material is introduced at the feed end. The scrubber is built in seven standard sizes, with a capacity range of 8 to 600 tons per hour.

Around The Builders' Exchanges

SECRETARIES OF BUILDERS' EXCHANGES THROUGHOUT THE PACIFIC COAST ARE REQUESTED TO SUBMIT ITEMS FOR PUBLICATION IN THIS DEPARTMENT

STATE EXCHANGE—A directors' meeting of the California State Builders' Exchange, Ltd., will be held at Pasadena, June 18, it is announced by Frederic Sanford, executive secretary. The Sixth Annual Convention of the State body will be held at Stockton, September 30 and October 1.

ORANGE COUNTY—A directors' meeting of the Orange County Builders' Exchange, with headquarters at Santa Ana, was held at the Santa Ana Cafe on May 9, following which it was voted to hold a similar meeting on May 27. A general membership meeting will be held at Fullerton on June 7.

E. W. Morrison, plastering contractor of Santa Ana, has been reinstated as a member in the exchange.

Frederic Sanford, exchange secretary, announces a new department in his 8-page bulletin giving the high lights on the doings of other organizations as well as conditions in general throughout the industry. It is known as the "Builders' Digest Page."

PASADENA—The Builders' Exchange of Pasadena is considering adoption of the Sacramento Plan for Bidding. Features of the Sacramento plan, aimed to promote better relations and more profitable results for all crafts, will be reviewed in these columns shortly.

LONG BEACH—The regular monthly membership meeting of the Long Beach Builders' Exchange was held May 9, at the Masonic Temple. Optimistic talks, good fellowship contacts with competitors and an entertainment were features of the evening. Chas A. Gummere was the principal speaker.

H. Grundy and Co., termite control specialists, and Hector MacPherson, plastering contractor, have been added to the membership roll of the Long Beach Exchange.

SAN FRANCISCO—Wm. H. George, president of the San Francisco Builders' Exchange and A. H. Wilhelm will represent that organization at the Twentieth Annual Meeting of the Chamber of Commerce of the United States to be held in San Francisco, May 17-20.

Tyler Building Material Company has been admitted to membership.

Organized Contracting

Evidence that organized contracting has applied itself industriously to daily tasks in a depressing year was conclusively shown in the report of the managing staff of the Associated General Contractors at their convention last January in Milwaukee. Laboring under the handicaps of a curtailed financial budget and a reduced working force, the organization yet maintained its established activities in full strength. Though new undertakings could not be entered upon, the current work of promoting construction and of dealing with problems of legislation, contract simplification, insurance, bonding, bidding practices and lien law reform has progressed.

All told, organized contracting has done well indeed in keeping its existence intact and its daily work accomplished. But its tasks are growing day by day; in the coming years it must do more, if its opportunities for usefulness are to be realized. Clear recognition of this fact was an encouraging feature of the Milwaukee convention.

In its dual activity as the purchaser of the machinery and materials of construction and as the responsible agency for using them to reproduce the owner's and engineer's plans in material form, contracting occupies a coordinating position in the construction industry which gives it large possibilities for leadership. Obviously it can realize its opportunities only by exercising the foresight, deliberative judgment, initiative and executive ability of leadership. This leadership implies something far beyond the mere performance of the current tasks of the day.

TRIAL
SUBSCRIPTION BLANK



Daily
Construction Reports

PACIFIC CONSTRUCTOR,
545 Mission Street,
San Francisco, Calif.

.....1932

Dear Sirs:

Send me WITHOUT COST for a period of one week, sample copies of PACIFIC CONSTRUCTOR DAILY NEWS SERVICE covering up-to-the-minute tips on work contemplated, bids wanted, bids opened and contracts awarded for all types of engineering construction, materials and equipment.

Name.....

Address.....

City.....

CROSETED PILES AND LUMBER

LOS ANGELES, Cal.—Bids for furnishing croseted piles and lumber under Spec. No. 2793, received by city purchasing agent, Thomas Cughton, May 2, follow:

- (1) 250 pieces, approx. 14,500 lin. ft. of Douglas fir;
- (1)-A) total bid of item 1;
- (2) price of crosette per gallon;
- (3) 250 pieces approx. 14,500 lin. ft. Southern pine;
- (3-A) total bids of item 3;
- (4) price of crosette per gallon;

| | (A) | (B) | (C) | (D) | (E) | (F) |
|-------|---------------|---------------|---------------|---------------|---------------|---------------|
| (1) |\$.50 |\$.5125 |\$.52 |\$.52 |\$.48 |\$.48 |
| (1-A) |7,250.00 |7,431.25 |7,540.00 |7,540.00 |6,960.00 |6,960.00 |
| (2) |15 |15 |15 |15 |16 |16 |
| (3) |53 |53 |53 |53 |56 |56 |
| (3-A) |7,685.00 |7,685.00 |7,685.00 |7,685.00 |8,120.00 |8,120.00 |
| (4) |11 |11 |11 |11 |11 |11 |
| (5) |48.50 |40.00 |38.00 |38.00 |42.00 |42.00 |
| (6) |48.50 |40.00 |38.00 |38.00 |43.00 |43.00 |
| (7) |325.92 |268.80 |255.36 |255.36 |284.16 |284.16 |
| (8) |1.00 |1.00 |1.00 |1.00 |2.00 |2.00 |

- (5) 20 pieces, Douglas fir, non-incised, 12x12-in. S1S, 20-ft.;
- (6) 10 pieces do 16-ft.;
- (7) estimated total;
- (8) alternate for incised material, add per M. B. M.

The bidders are:
 (A) J. H. Baxter Company.
 (B) Charles R. McCormick Lbr. Co.
 (C) Texas Croseting Company.
 (D) Texas Croseting Co., alternate bid, pre-treated.
 (E) Consolidated Lumber Company.
 (F) H. A. Browning Lumber Co.

BIDS OPENED

SAN RAFAEL, Marin Co., Calif.—Petataluma Const. Co., 110 Mt. View Ave., Petataluma, at \$3160.50 submitted lowest regular bid to county supervisors to construct a reinforced concrete bridge between Fallon and Two Rocks, located at Fallon Corners, involving:

- (1) 165 cu. yds. Class A Portland cement concrete;
 - (2) 15,000 lbs. reinforcing steel.
- Complete bids follow:
 (A) Petataluma Const. Co., Petataluma \$3160.50.
 (B) Louis Lambretti, Mill Valley, \$3,209.25.
 (C) Whited & Whited, Santa Rosa, \$3244.20.
 (D) Geo. Owens, Petataluma, \$3540.00.
 (E) Ed. Jackson, San Rafael, \$3,633.15.
 (F) Helwig Const. Co., Sebastopol, \$3643.50.
 (G) A. T. Howe, Santa Rosa, \$3705.00.
 (H) Main & Hoskinson, San Anselmo, \$3817.50.
 (I) O. H. Smith, San Rafael, \$3982.65.
 (J) *Cattano & Co., San Rafael, \$2,996.25.

*Bid rejected because contractor is an alien.

Unit bids follow:

| | (1) | (2) |
|-----|--------------|--------------|
| (A) |\$15.70 |\$.038 |
| (B) |15.95 |0385 |
| (C) |16.48 |035 |
| (D) |18.00 |038 |
| (E) |18.51 |0386 |
| (F) |18.90 |035 |
| (G) |19.00 |038 |
| (H) |19.50 |04 |
| (I) |20.61 |0388 |
| (J) |14.75 |0375 |

Bids held under advisement.

MORAGA ROAD—CULVERT WORK

OAKLAND, Cal.—Following bids received by city council to construct culvert in Moraga Road, under two alternate propositions, as follows:

- ALTERNATE A
- (1) 128 lin. ft. 48-in. mono. reinf. conc. culvert;
 - (2) 303 lin. ft. 30-in. do;
 - (3) 191 lin. ft. 27-in. do;
 - (4) 195 lin. ft. 12-in. mono. reinf. conc. pipe culvert;
 - (5) 248 lin. ft. 15-in. do;
 - (6) 71 lin. ft. 12-in. do;
 - (7) 4 brick and concrete manholes, cast iron tops;
 - (8) 1 do;
 - (9) 3 storm water inlets 34-in. opening.
- ALTERNATE B
- (1) 148 lin. ft. 48-in. extra strength reinf. conc. pipe culvert;
 - (2) 303 lin. ft. 30-in. do;

- (3) 103 lin. ft. 24-in. do;
- (4) 88 lin. ft. 24-in. reinf. conc. pipe culvert;
- (5) 195 lin. ft. 21-in. do;
- (6) 249 lin. ft. 15-in. do;
- (7) 71 lin. ft. 12-in. do;
- (8) 4 brick and concrete manholes, cast iron tops;
- (9) 1 do;
- (10) 3 storm water inlets 34-in. opening.

Complete list of bidders follows:
 (A) Williams & Casquero, Oakland.
 (B) Martin Murphy, Berkeley.
 (C) Lee J. Immel, Berkeley.
 (D) W. J. Tobin, Oakland.
 (E) R. B. McNair, Oakland.
 (F) Schnoor Bros., Oakland.
 (G) Oakland Sewer Const. Co., Oakland.

Unit bids follow:

ALTERNATE A

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) |
|-----|--------------|---------------|---------------|--------------|--------------|---------------|---------------|
| (1) |\$ 9.45 |\$ 10.00 |\$ 10.00 |\$ 8.00 |\$ 9.00 |\$ 10.50 |\$ 10.15 |
| (2) |4.25 |6.00 |5.50 |5.50 |5.70 |5.80 |5.00 |
| (3) |3.80 |5.00 |5.00 |4.00 |5.20 |5.63 |4.80 |
| (4) |3.70 |4.00 |4.00 |4.00 |3.50 |4.07 |3.61 |
| (5) |2.00 |2.00 |2.75 |2.00 |2.50 |2.30 |1.82 |
| (6) |2.00 |2.00 |4.00 |2.00 |3.00 |5.03 |2.40 |
| (7) |145.00 |200.00 |200.00 |170.00 |200.00 |168.00 |180.00 |
| (8) |54.00 |60.00 |60.00 |90.00 |60.00 |65.50 |50.00 |
| (9) |55.00 |50.00 |50.00 |65.00 |60.00 |55.20 |50.00 |

ALTERNATE B

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) |
|------|---------------|---------------|---------------|---------------|-----------|-----------|-----------|
| (1) |\$ 10.50 |\$ 12.00 |\$ 12.70 |\$ 11.00 |\$. |\$. |\$. |
| (2) |5.50 |6.00 |7.55 |7.00 | ..... | ..... | ..... |
| (3) |4.70 |5.00 |6.00 |5.48 | ..... | ..... | ..... |
| (4) |3.00 |5.00 |4.10 |4.48 | ..... | ..... | ..... |
| (5) |3.70 |4.00 |4.00 |4.00 | ..... | ..... | ..... |
| (6) |2.00 |2.00 |2.60 |3.00 | ..... | ..... | ..... |
| (7) |2.00 |2.00 |4.00 |2.00 | ..... | ..... | ..... |
| (8) |145.00 |200.00 |200.00 |170.00 | ..... | ..... | ..... |
| (9) |65.00 |60.00 |60.00 |90.00 | ..... | ..... | ..... |
| (10) |55.00 |50.00 |50.00 |65.00 | ..... | ..... | ..... |

BIDS OPENED

SANTA CRUZ COUNTY, Cal.—J. E. Ely, 1235 Robinson St., Oroville, at \$28,900 submitted low bid to the State Highway Commission Sacramento, to clear and grub about 5.1 mi. of highway right-of-way bet. Inspiration Pt. and Vine Hill Road, involving:

- (7)85 acres clear and grub right-of-way.
- Complete bids follow:
 J. E. Ely, Oroville (Unit) \$340,000;
 (Total) \$28,900.
 Moore and Washburne, Santa Cruz \$400; \$34,000.
 A. Mitchell, Sacramento \$490; \$41,650.
 Meyer Rosenberg, San Francisco \$482; \$41,820.
 L. C. Seidel, Oakland, \$558 \$47,430.

AWARD

SAN RAFAEL, Marin Co., Calif.—Helwig Const. Co., 115 E Main Street, Sebastopol, at \$18,620.50 awarded contract by county supervisors for surfacing and treating with emulsified asphalt and screenings portions of the county highway from Marshall to the Sonoma county line on the Marshall-Valley Ford Road, excepting one-half mile in the town of Tomales, a distance of 11.7 miles, involving 1,115,000 sq. ft. emulsified asphalt and screenings in place.

- Complete bids follow:
 Helwig Const. Co., Sebastopol (Unit) \$,0167 (Total) \$18,620.50.
 Jack Cannon, Hayward, \$,01749; \$19,501.35.
 George Peres, Richmond, \$,0177; \$19,735.50.
 Highway Builders, San Anselmo, \$,19; \$21,185.00.
 Main and Hoskinson, San Anselmo, \$,019; \$21,185.00.
 Contract on this project previously awarded on April 12 to Geo. Peres, Richmond, who asked to be released, claiming error in bid.

TOPEKA PAVE.—STATE HARBOR COMMISSION

SAN FRANCISCO.—Eaton & Smith, 715 Ocean Ave., at \$2,705.75 awarded contract by State Board of Harbor Commissioners for paving in connection with the extension to Pier No. 38. Work involves:

- (1) 35,000 sq. ft. 1½-in. Topeka wearing surface;
- (2) 240 tons Topeka mix for fill;
- (3) 4,225 sq. ft. 1-in. Topeka wearing surface;

- (4) 20 sets of door grooves.
- Following is a complete list of the total bids:
 (A) Eaton & Smith.....\$2,705.75
 (B) Pacific Pave. Co., Ltd.....\$3,118.10
 (C) Pacific States Const. Co.....\$3,343.94
 (D) Theo. Cohn.....\$3,386.12
 (E) A. J. Raisch.....\$3,765.00
 (F) Fay Improvement Co.....\$3,853.18

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) |
|-----|--------------|--------------|---------------|--------------|-------------|--------------|
| (1) |\$.037 |\$.038 |\$.0425 |\$.045 |\$.05 |\$.048 |
| (2) |3.10 |4.50 |3.95 |5.19 |5.40 |5.67 |
| (3) |03 |036 |0375 |029 |04 |055 |
| (4) |27.00 |27.80 |37.50 |22.15 |27.50 |29.00 |

BRIDGES—LOS ANGELES COUNTY—STATE

LOS ANGELES COUNTY, Calif.—Dimmitt & Taylor, 815 E 59th Street, Los Angeles, at \$47,478.25 submitted the low bid to State Highway Commission Sacramento, to construct 2 bridges at points between four and eight miles south of Gorman Station, involving:

- (1) 700 cu. yds. rdwy. excav. without class;
- (2) 2490 cu. yds. struc. excav.;

- (3) 1445 cu. yds. Class "A" Port. conc. (struc.);
 - (4) 55 cu. yds. Class "A" Port. conc. (slope paving);
 - (5) 145,000 lbs. bar reinf. steel;
 - (6) 135,000 lbs. new struc. steel;
 - (7) 1 lot plate girder spans;
 - (8) 990 lin. ft. solid timber railing;
 - (9) 180 lin. ft. bank protection fence;
 - (10) 110 cu. yds. rock backfill;
 - (11) 1 lot misc. items of work.
- State will furnish three plate girder spans.

- Complete bids follow:
- (A) Dimmitt & Taylor, Los Angeles, \$47,478.25.
 - (B) Morrison & Knudsen, Boise, and MacDonald & Kahn, San Francisco \$54,644.00.
 - (C) Lynch-Cannon Eng. Co., Los Angeles, \$56,572.50.
 - (D) Berg Bros., Los Angeles, \$61,997.00.
 - (E) Byerts & Dunn, Los Angeles, \$62,109.50.
- Unit bids follow:

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) |
|----------|-------|--------|---------|---------|-------|--------|----------|--------|--------|--------|--------|
| (A)..... | \$.50 | \$1.25 | \$15.75 | \$ 9.00 | \$.03 | \$.042 | \$600.00 | \$.80 | \$4.00 | \$2.50 | \$ 475 |
| (B)..... | .48 | 1.20 | 17.70 | 11.50 | .04 | .054 | 6265.60 | .50 | 3.60 | 3.24 | 800 |
| (C)..... | .50 | 3.50 | 18.00 | 12.00 | .03 | .0425 | 5500.00 | 1.00 | 4.00 | 5.00 | 500 |
| (D)..... | 1.00 | 2.00 | 23.00 | 14.00 | .03 | .043 | 5475.00 | 1.00 | 3.75 | 2.70 | 2200 |
| (E)..... | .60 | 3.00 | 18.00 | 18.00 | .0325 | .0475 | 6000.00 | 1.25 | 4.00 | 3.00 | 5022 |

HIGHWAY WORK—ARIZONA STATE

ARIZONA STATE—All-Arizona Engineering & Construction Co., Clifton, Ariz., submitted low bid to the State Highway Commission, Phoenix, April 21, at \$125,520.42, for the construction of highway on the Holbrook-Winslow Highway F.A.P. 40—fifth reopening. The work, which begins at a point approximately 11 miles east of Winslow and extends easterly toward Holbrook approximately 19 1/2 miles, consists of the grading, draining and placing of subgrade stabilizer, and is to be completed on or before Dec. 31, 1932, involving:

- (1) 32,485 cu. yds. rdwy. excav. (un-class.);
- (2) 10,264 cu. yds. drainage do;
- (3) 1736 cu. yds. structural do;
- (4) 81,710 cu. yds. borrow do;
- (5) 447,541 sta. yds. earthwork overhaul;
- (6) 56,741 cu. yds. subgrade stabilizer
- (7) 133,821 cu. yd. mi. subgrade stabilizer haul;
- (8) 558 cu. yds. Class A concrete (including cement);

- (9) 194 cu. yds. Class B do;
- (10) 42,657 lbs. reinf. steel (C.I.P.);
- (11) 676 lin. ft. 24-in. Bit. Ctd. C.M. P. (C.I.P.; excluding excav);
- (12) 376 lin ft. 30-in. do;
- (13) 438 lin. ft. 3-in. do;
- (14) 69,527 lin. ft. standard line fence (C.I.P.);
- (15) 70,065 lin. ft. reconstruct line fence (C.I.P.);
- (16) 350 lin. ft. type B rail bank protection (C.I.P.);
- (17) 2500 cu. yds. excav. of old roadway fill;
- (18) 2000 M. gals. water applied to roadway;
- (19) 1000 hours rolling fills and subgrade stabilizer;
- (20) 45 cu. yds. removal of old conc.;
- (21) 2696 cu. yds. drainage excavation (un-class.);
- (22) 957 cu. yds. structural do;
- (23) 12 cu. yds. subgrade stabilizer;
- (24) 18 cu. yd. mi. subgrade stabilizer haul;
- (25) 854 cu. yds. Class A concrete (including cement);

- (26) 84,680 lbs. reinf. steel (C.I.P.).
- The total bids were:
- (A) All-Arizona Eng. & Const. Co., Clifton, Ariz., \$125,520.42.
 - (B) Hodgman & MacVicar, Winslow, Ariz., \$130,322.31.
 - (C) Skeels & Graham Co., Tucson, Ariz., \$135,632.23.
 - (D) Phoenix-Tempe Stone Co., Phoenix, \$137,173.22.
 - (E) Everly & Allison, Albuquerque, N. M., \$137,445.36.
 - (F) Ralph Pleasant Const. Co., Phoenix, \$143,166.15.
 - (G) Packard & Tanner, Phoenix, \$143,414.68.
 - (H) R. H. Martin, Tucson, \$147,925.19.
 - (I) Southern California Roads Co., L. A., \$148,410.35.
 - (J) F. D. Shufftebarger, Albuquerque, N. M., \$160,336.41.
 - (K) C. G. Willis & Sons, Los Angeles, \$196,243.07.

The unit bids were:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) |
|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| (1)..... | \$.21 | \$.20 | \$.27 | \$.35 | \$.30 | \$.32 | \$.40 | \$.35 | \$.32 | \$.36 | \$.60 |
| (2)..... | .24 | .20 | .20 | .30 | .20 | .185 | .16 | .30 | .27 | .24 | .60 |
| (3)..... | .50 | .90 | .85 | 1.00 | .80 | 1.00 | .75 | .50 | 1.30 | 1.00 | 1.50 |
| (4)..... | .21 | .18 | .22 | .21 | .20 | .185 | .19 | .20 | .27 | .29 | .50 |
| (5)..... | .006 | .01 | .01 | .005 | .01 | .015 | .015 | .0075 | .012 | .02 | .02 |
| (6)..... | .43 | .50 | .525 | .51 | .45 | .51 | .51 | .63 | .60 | .60 | .55 |
| (7)..... | .09 | .09 | .09 | .09 | .10 | .085 | .085 | .10 | .12 | .10 | .09 |
| (8)..... | 20.00 | 20.00 | 19.50 | 20.00 | 23.50 | 24.00 | 24.00 | 20.00 | 20.00 | 20.50 | 27.50 |
| (9)..... | 20.00 | 20.00 | 19.50 | 20.00 | 23.50 | 24.00 | 24.00 | 20.00 | 18.00 | 20.50 | 25.00 |
| (10)..... | .04 | .0375 | .04 | .04 | .05 | .04 | .04 | .045 | .04 | .043 | .05 |
| (11)..... | 2.25 | 3.50 | 2.75 | 2.75 | 2.20 | 2.50 | 2.50 | 3.00 | 2.30 | 2.30 | 2.75 |
| (12)..... | 2.75 | 4.50 | 3.50 | 3.25 | 2.65 | 3.25 | 3.25 | 4.00 | 2.80 | 2.80 | 3.25 |
| (13)..... | 4.00 | 6.75 | 4.50 | 5.00 | 3.90 | 4.90 | 4.90 | 5.50 | 4.30 | 4.30 | 5.00 |
| (14)..... | .07 | .05 | .06 | .05 | .05 | .06 | .06 | .07 | .065 | .05 | .07 |
| (15)..... | .05 | .04 | .055 | .04 | .02 | .05 | .05 | .045 | .043 | .03 | .03 |
| (16)..... | 1.75 | 2.00 | 2.50 | 4.00 | 3.50 | 2.00 | 2.00 | 3.00 | 1.40 | 3.50 | 3.00 |
| (17)..... | .24 | .12 | .25 | .25 | .30 | .32 | .32 | .20 | .30 | .50 | .35 |
| (18)..... | 1.50 | 2.00 | 2.00 | 2.50 | 3.00 | 1.75 | 1.75 | 2.50 | 1.13 | 4.00 | 2.50 |
| (19)..... | 3.00 | 4.00 | 2.50 | 3.00 | 2.00 | 4.00 | 4.00 | 3.00 | 1.13 | 4.00 | 2.75 |
| (20)..... | 4.00 | 3.00 | 5.00 | 5.00 | 4.00 | 6.00 | 6.00 | 5.00 | 3.40 | 10.00 | 6.00 |
| (21)..... | .24 | .20 | .30 | .30 | .20 | .185 | .185 | .30 | .27 | .24 | .60 |
| (22)..... | .80 | .90 | .85 | 1.00 | .80 | 1.00 | 1.00 | .80 | 1.30 | 1.00 | 1.50 |
| (23)..... | .43 | .50 | .525 | .51 | .50 | .51 | .51 | .63 | .60 | 1.00 | .45 |
| (24)..... | .09 | .09 | .09 | .09 | .10 | .085 | .085 | .10 | .12 | .10 | .09 |
| (25)..... | 20.00 | 20.00 | 19.50 | 20.00 | 23.50 | 24.00 | 24.00 | 20.00 | 20.00 | 20.50 | 27.50 |
| (26)..... | .04 | .0375 | .04 | .04 | .05 | .04 | .04 | .045 | .04 | .043 | .05 |

DAILY PACIFIC BUILDER

Features in every issue a summary of the developments in the construction field; work contemplated, bids wanted, bids opened and contracts awarded for all types of building and engineering construction. The subscription price is \$1.50 per month or \$15.00 per year when paid in advance. Send for sample copy. Daily Pacific Builder, 545 Mission St., San Francisco, or phone GARfield 8744.

GRADE—CEM. CONC. PAVE.—ORANGE COUNTY

- ORANGE COUNTY Calif.—Daley Corp., 4430 Boundary St., San Diego, at \$282,681.80 submitted low bid April 27 to State Highway Commission to grade and pave with Portland cement concrete 4 1/2 miles between Laguna Beach and Dana Point, involving:
- (1) 253 sta. clear and grub right-of-way;
 - (2) 277,000 cu. yds. rdwy. excav. without class;
 - (3) 2,760,000 sta. yds. overhaul;
 - (4) 6700 M. gals. water (embank);
 - (5) 3600 cu. yds. struc. excav.;
 - (6) 17,510 cu. yds. Class "A" Port. cem. conc. (pave.);
 - (7) 1705 cu. yds. Class "A" Port. cem. conc. (struc.);
 - (8) 575 cu. yds. Class "A" Port. cem. conc. (curbs);
 - (9) 1400 cu. yds. Class "A" Port. cem. conc. (bridge);
 - (10) 70 cu. yds. Class "A" Port. cem. conc. (tremie);
 - (11) 1100 cu. yds. Class "E" Port. cem. conc.;
 - (12) 10 cu. yds. Class "E" Port. cem. conc.;
 - (13) 654,000 lbs. bar reinf. steel;
 - (14) 1800 cu. yds. saliv. surf. (shoulders and gutters);
 - (15) 86,900 sq. yds. subgrade for pave;
 - (16) 10,500 lbs. misc. iron and steel (struc.);
 - (17) 570 lin. ft. lam. timber guard rail
 - (18) 220 lin. ft. temporary timber guard rail and wheel guards;
 - (19) 854 lin. ft. 18-in. stand. reinf. conc. pipe;
 - (20) 585 lin. ft. 24-in. do;
 - (21) 105 lin. ft. 30-in. do;

- (22) 160 lin. ft. 18-in. corr. metal pipe;
 - (23) 260 lin. ft. 24-in. do;
 - (24) 57 culvert markers complete in place;
 - (25) 18 M. ft. b. m. creosoted Douglas fir timber, struc. grade;
 - (26) 1080 lin. ft. steel piles;
 - (27) 1850 lin. ft. furnish Douglas fir piles, incl. test piles;
 - (28) 59 drive Douglas fir piles, incl. test piles;
 - (29) 75 cu. yds. conc. remove from exist. bridge;
 - (30) 15 cu. yds. dry rubble wall;
 - (31) 1260 bbls. fuel oil (shoulders);
 - (32) 1230 tons broken stone (bit. nac. surf.);
 - (33) 110 tons Grade "E" asph.;
 - (34) 253 sta. finish rdwy;
 - (35) 54 move and reset monuments.
- State will furnish corrugated metal pipe.
- Complete bids follow:
- (A) Daley Corp., San Diego \$282,681.80
 - (B) Griffith Co., Los Angeles, \$283,-587.50.
 - (C) Jahn & Bressi, Los Angeles, \$289,-577.75.
 - (D) Fredrickson & Watson, Oakland, \$302,185.65.
 - (E) Mitty Bros. Const. Co., Los Angeles, \$311,391.40.
 - (F) United Concrete Pipe Corp., Los Angeles, \$314,763.65.
 - (G) Sharp & Fellows Const. Co., Los Angeles, \$324,822.30.
 - (H) Van der Hellen & Pierson and Dimmitt & Taylor, Los Angeles, \$336,516.25.

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) |
|-----------|---------|---------|---------|---------|---------|----------|---------|---------|
| (1)..... | \$ 3.00 | \$ 2.00 | \$ 2.00 | \$ 1.50 | \$ 2.50 | \$ 10.00 | \$ 3.00 | \$ 2.50 |
| (2)..... | 19 | 17 | 18 | 13 | 21 | 20 | 235 | 25 |
| (3)..... | .004 | .004 | .0025 | .003 | .004 | .005 | .006 | .0025 |
| (4)..... | .25 | .40 | .35 | .50 | .50 | .50 | .70 | .72 |
| (5)..... | .50 | 1.00 | .75 | .45 | .80 | .80 | 1.25 | 1.25 |
| (6)..... | 6.45 | 6.00 | 6.28 | 6.90 | 6.30 | 6.60 | 6.41 | 7.00 |
| (7)..... | 9.25 | 13.00 | 11.50 | 13.00 | 15.00 | 13.00 | 13.00 | 12.75 |
| (8)..... | 10.35 | 12.00 | 12.50 | 13.00 | 10.00 | 11.44 | 13.00 | 12.50 |
| (9)..... | 9.70 | 14.00 | 13.50 | 17.50 | 15.00 | 16.00 | 18.20 | 19.00 |
| (10)..... | 13.00 | 15.00 | 10.00 | 14.00 | 18.00 | 13.00 | 12.00 | 10.00 |
| (11)..... | 8.00 | 9.50 | 10.00 | 10.00 | 12.00 | 8.78 | 8.50 | 7.85 |
| (12)..... | 6.00 | 60.00 | 70.00 | 35.00 | 55.00 | 75.00 | 60.00 | 75.00 |
| (13)..... | .038 | .03 | .03 | .032 | .036 | .03 | .03 | .04 |
| (14)..... | .93 | 1.25 | .50 | 1.00 | .90 | 1.60 | 1.00 | 1.00 |
| (15)..... | .05 | .06 | .06 | .065 | .07 | .09 | .07 | .07 |
| (16)..... | .08 | .07 | .10 | .06 | .045 | 1.10 | .07 | 1.10 |
| (17)..... | .70 | .80 | .60 | 1.00 | .90 | 1.50 | 1.00 | .75 |
| (18)..... | 1.05 | .75 | 1.00 | 1.00 | .75 | 1.20 | 1.00 | .90 |
| (19)..... | 1.70 | 2.00 | 1.80 | 2.00 | 2.00 | 3.00 | 1.80 | 1.75 |
| (20)..... | 2.10 | 2.50 | 2.40 | 2.75 | 2.75 | 3.50 | 2.30 | 2.40 |
| (21)..... | 3.70 | 4.00 | 3.25 | 3.50 | 3.25 | 4.50 | 3.80 | 3.50 |
| (22)..... | .35 | .30 | .40 | .30 | .60 | .30 | .25 | .40 |
| (23)..... | .35 | .40 | .50 | .30 | .75 | .35 | .35 | .30 |
| (24)..... | 1.50 | 2.00 | 2.00 | 2.50 | 2.00 | 2.00 | 2.00 | 2.00 |
| (25)..... | 65.00 | 70.00 | 75.00 | 61.00 | 80.00 | 70.00 | 70.00 | 75.00 |
| (26)..... | 1.60 | 1.50 | 2.00 | 2.00 | 2.45 | 3.00 | 2.25 | 1.85 |
| (27)..... | .25 | .25 | .23 | .25 | .30 | .55 | .24 | .20 |
| (28)..... | 57.75 | 15.00 | 12.00 | 10.00 | 10.00 | 21.00 | 15.00 | 11.50 |
| (29)..... | 10.50 | 5.00 | 4.00 | 2.50 | 2.50 | 5.50 | 4.00 | 4.00 |
| (30)..... | 7.75 | 10.00 | 5.00 | 10.00 | 3.00 | 9.00 | 14.00 | 7.50 |
| (31)..... | 1.70 | 1.80 | 1.50 | 1.75 | 2.10 | 1.70 | 2.00 | 1.80 |
| (32)..... | 2.40 | 1.75 | 2.00 | 2.50 | 2.50 | 2.20 | 1.60 | 2.25 |
| (33)..... | 12.60 | 15.00 | 16.00 | 10.00 | 18.00 | 13.00 | 13.50 | 14.00 |
| (34)..... | 3.00 | 5.00 | 5.00 | 4.00 | 5.00 | 6.00 | 3.50 | 5.00 |
| (35)..... | 2.00 | 1.50 | 2.00 | 2.50 | 1.60 | 1.10 | 1.50 | 1.00 |

BIDS OPENED

- CALAVERA AND ALPINE COS., Cal.—Consumers Oil Co., 4601 E 52nd Drive, Los Angeles, at \$3787 submitted low bid to District Engineer, Sacramento, to treat with fuel oil as a dust palliative about 20.2 miles between Big Trees and Lake Alpine, involving:
- (1) 350 bbls. light fuel oil.
 - (2) 1600 bbls. heavy fuel oil.
- Complete bids follow:
- (A) Consumers Oil Co., L. A.\$3787.00
 - (B) E. A. Peres, Richmond..... 4223.00
 - (C) Basalt Rock Co., Napa..... 4290.00

- (D) Tiffany-McReynolds-Tiffany San Jose 4610.00
 - (E) A. Teichert, Sacramento..... 4680.00
 - (F) C. W. Wood, Stockton..... 4699.50
 - (G) A. Mitchell, Sacramento..... 5409.50
- Unit bids follow:
- | | (1) | (2) |
|----------|--------|--------|
| (A)..... | \$1.86 | \$1.96 |
| (B)..... | 2.10 | 2.18 |
| (C)..... | 2.20 | 2.20 |
| (D)..... | 2.20 | 2.40 |
| (E)..... | 2.40 | 2.40 |
| (F)..... | 2.41 | 2.41 |
| (G)..... | 2.93 | 2.74 |

BIDS OPENED

- KERN COUNTY, Cal.—Offields Trucking Co., Box 2168, Taft at \$11,970 submitted low bid to State Highway Commission, Sacramento, to treat with asphaltic road oil as a dust palliative about 30.7 miles of existing roadbed, between Weldon and Junction of Routes 57 and 23, involving 7000 bbls. asphaltic road oil. Complete bids follow:
- Offields Truck Co., Taft, \$17.71; total, \$11,970.
 - F. W. Nighbert, Bakersfield, \$1.80; total, \$12,600.
 - Stewart & Nuss, Fresno, \$1.87; total \$13,990.
 - Faulsen & March, Los Angeles, \$1.94 total, \$13,580.
 - C. A. Ladeveze, Los Angeles, \$2.00; total, \$14,000.
 - John Jurkovich, Fresno, \$2.10; total \$14,700.
 - C. W. Wood, Stockton, \$2.10; total, \$14,700.
 - J. G. Donovan & Sons, Los Angeles, \$2.15; total, \$15,050.
 - Pacific Tank Lines, Inc., Los Angeles, \$2.24; total, \$15,680.

BIDS OPENED

- ALBANY, Alameda Co., Cal.—Oakland Sewer Const. Co., 10003 82nd Ave. Oakland, at \$5580.80 submitted low bid to city council to construct sanitary sewer connection between the Albany North Outfall Sewer and the Stege Sanitary Outfall Sewer, involving:
- (1) 2048 lin. ft. 18-in. sewer;
 - (2) 75 cu. yds. foundation rock;
 - (3) 800 lin. ft. redwood sleepers;
 - (4) 2000 lin. ft. timber piles;
 - (5) 500 lin. ft. timber foundation;
 - (6) 30 lin. ft. concrete reinforcing;
 - (7) 4 manholes.
- Bidders follow:
- (A) Oakland Sewer Const. Co.
 - (B) L. L. Page, Richmond.
 - (C) M. B. McGowan, San Francisco.
 - (D) Lee J. Immel, Berkeley.
 - (E) W. J. Tobin, Oakland.
 - (F) R. B. McNair, Oakland.

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) |
|----------|--------|--------|--------|--------|--------|--------|
| (1)..... | \$1.85 | \$2.59 | \$4.08 | \$1.70 | \$2.25 | \$3.32 |
| (2)..... | 1.56 | 2.79 | 7.40 | 2.50 | 4.00 | 3.25 |
| (3)..... | .40 | .50 | .83 | .30 | 1.50 | .30 |
| (4)..... | .55 | .60 | .45 | .60 | 1.70 | .50 |
| (5)..... | .55 | .75 | .87 | .80 | .25 | .75 |
| (6)..... | 2.00 | 3.00 | 5.13 | 6.00 | 4.00 | 10.00 |
| (7)..... | 50.00 | 50.00 | 171.00 | 60.00 | 80.00 | 75.00 |

- Total bids will be published shortly.
- HILLSBOROUGH, San Mateo Co., Cal.—Union Paving Co., 624 Call Bldg. San Francisco, at \$11,890 awarded contract by city council to improve portions of Jackling Drive, Baileyana Road, Oakdale Road, Glen Way and Eden Way, involving:
- (1) 500 cu. yds. grading backfill;
 - (2) 54,000 sq. ft. 3-in. asph. concrete wearing surface;
 - (3) 15,000 sq. ft. oil and screenings surface;
 - (4) 3,000 lin. ft. gutter;
 - (5) 5,200 lin. ft. concrete shoulders;
 - (6) 1,000 ft. 12-in. concrete pipe;
 - (7) 60 ft. 18-in. concrete pipe;
 - (8) 7 storm water catchbasins;
 - (9) 800 ft. headboard.

- Complete bids follow:
- (A) Union Paving Co., San Francisco, \$11,890.00.
 - (B) Pacific Pave. Co., San Francisco, \$13,205.92.
- Unit bids follow:
- | | (A) | (B) |
|----------|--------|--------|
| (1)..... | \$1.00 | \$3.30 |
| (2)..... | .075 | .10 |
| (3)..... | .05 | .04 |
| (4)..... | .50 | .56 |
| (5)..... | 2.20 | 1.54 |
| (6)..... | 1.50 | 1.57 |
| (7)..... | 2.50 | 1.85 |
| (8)..... | 70.00 | 66.56 |
| (9)..... | .10 | .17 |

GOVERNMENT WORK—FORT MASON

SAN FRANCISCO.—Following bids received by Quartermaster Supply Officer, Fort Mason, to furnish:

(1) One Tractor, wide gauge track, with 4-cylinder, 4-cycle water cooled engine, 1250-r.p.m., 23 brake horsepower. Width of grouser track 13-in., spaced 50-in. bet. track centers; similar and equal to wide gauge model Caterpillar "New Twenty" tractor.

(2) One Grader, straight wheel, equipped with 7 ft. x 3/8-inch thick blade, flat tires and steerable tractor pole and draft cable with suitable connections for use with above tractor; equal and similar to Caterpillar "New Twenty" grader.

(3) One Backsloper, flat bottom type 16-in. bottom blade, 43-in. wing blade, equipped with suitable connections for use with above grader; equal and similar to Caterpillar "New Twenty" backsloper.

(4) One Attachment, scarifier, 48-in. east steel block, 12 teeth 2 1/2x1-in., 10 feet clearance, equipped with suitable connections for use with above grader; equal and similar to Caterpillar "New Twenty" scarifier.

(5) One Harrow, disc, regular, 7-ft. wide with 24 heat treated discs, 20-in.

dia., complete with backing hitch; equal and similar to No. 176 H Killefer.

(6) One Scraper, revolving, 22 cu. ft. capacity, 5 ft. width of bowl, with reversible blades bolted on. One extra blade to be furnished; equal and similar to No. 27 Killefer.

(7) Two Harrows, spiked tooth, 25 teeth, sections to be fully rigged to hitch to above Killefer disc harrow; equal and similar to "Bandera."

(8) One Plow, disc, tractor, with 3 heat treated discs, 26-in. dia. with universal scrapers reducible to two discs; equal and similar to No. 103 John Deere.

Bidders follow:

- (A) Austin Western Road Machine Co.
- (B) Edward R. Bacon.
- (C) Caterpillar Tractor Company.
- (D) Cleveland Tractor Company.
- (E) Concrete Machinery & Supply Co.
- (F) Crook Company.
- (G) Eby Machinery Company.
- (H) Tallner Mfg. Corp.
- (I) International Harvester Co.
- (J) Killefer Mfg. Corp.
- (K) Pacific Commercial.
- (L) West Coast Tractor.

Complete bids follow:

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|----------|---------|----------------|---------|----------|--------|---------------|------------------|--------|
| (A)..... | \$ | \$661.00 | \$90.00 | \$230.00 | \$ | \$131.75 | \$ alt. \$146.50 | |
| (B)..... | 1347.30 | 610.25 | 60.00 | 98.70 | | 172.50 | | |
| (C)..... | 1811.79 | 601.35 | 68.87 | 170.73 | | | | |
| (D)..... | 1285.00 | | | | | | | |
| (E)..... | 1250.00 | | | | | | | |
| (F)..... | | | | | 203.91 | | | |
| (G)..... | 1569.00 | 618.10 | 81.00 | 100.00 | | | 386.00 | |
| (H)..... | | | | | 178.50 | (alt. 142.50) | | |
| (I)..... | 1350.00 | | | | 155.00 | | 20.00 | 207.00 |
| (J)..... | | | | | 239.60 | 175.50 | | |
| (K)..... | 1611.75 | (2-3-4 830.95) | | 290.00 | 176.50 | 10.00 | | 294.00 |
| (L)..... | | | | | 160.00 | | | |

WIDEN UPPER PARK BLVD.—OAKLAND

OAKLAND, Cal.—Meyer Rosenberg, 1755 San Bruno Ave., San Francisco, at \$32,334 submitted low bid to city council to widen upper Park Blvd. between Estates Drive and Mountain Blvd., involving:

- (1) 122,000 cu. yds. excavation;
- (2) 792 lin. ft. 12-in. reinf. conc. pipe conduit;
- (3) 85 lin. ft. 15-in. reinf. pipe conduit
- (4) 520 lin. ft. 18-in. do;
- (5) 9 storm water inlets, 34-in. opening;
- (6) 3 manholes with inlet tops, 34-in.;
- (7) 2 manholes with standard tops;
- (8) 33,175 yd. ml. overhaul.

Three lowest total bids follow:

| | |
|--|----------|
| (A) Meyer Rosenberg, S. F..... | \$32,334 |
| (B) Fredrickson & Watson, Oakland..... | 33,397 |

- (C) Contoules Const. Co., S. F..... 35,644
- (D) Force Const. Co., San Francisco.....
- (E) W. H. Hauser, Oakland.....
- (F) J. R. Reeves, Sacramento.....
- (G) Young & Sons, Berkeley.....
- (H) R. P. Easley, Antioch.....
- (I) J. L. Connor, Richmond.....
- (J) Earl W. Heple, San Jose.....
- (K) Kennedy Const. Co., San Francisco.....
- (L) L. C. Seidel, Oakland.....
- (M) Heafey-Moore Co., Oakland.....
- (N) Joe Catucci, Oakland.....
- (O) R. G. Oakley, Salinas.....
- (P) Delta Dredging Co., Pittsburg.....
- (Q) Lee J. Immel, Berkeley.....
- (R) S. H. Palmer, San Francisco.....
- (S) W. A. Kettlewell, Oakland.....
- (T) Ariss-Knapp Co., Oakland.....

Unit bids follow.

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|----------|-------|--------|--------|--------|---------|----------|---------|-------|
| (A)..... | \$.23 | \$1.36 | \$1.65 | \$1.94 | \$32.50 | \$ 69.00 | \$45.00 | \$.05 |
| (B)..... | .21 | 1.75 | 2.00 | 2.50 | 60.00 | 100.00 | 50.00 | .12 |
| (C)..... | .23 | 2.10 | 2.40 | 2.80 | 45.00 | 133.00 | 70.00 | .10 |
| (D)..... | .33 | 1.50 | 1.85 | 2.40 | 42.50 | 80.00 | 47.50 | .10 |
| (E)..... | .28 | 1.60 | 1.85 | 2.35 | 45.00 | 75.00 | 50.00 | .13 |
| (F)..... | .38 | 2.81 | 3.02 | 3.29 | 30.00 | 30.00 | 50.00 | .14 |
| (G)..... | .275 | 2.10 | 2.05 | 3.47 | 62.70 | 119.00 | 55.00 | .13 |
| (H)..... | .419 | 6.60 | 7.10 | 7.60 | 75.00 | 75.00 | 70.00 | .10 |
| (I)..... | .33 | 1.55 | 1.75 | 2.20 | 50.00 | 50.00 | 50.00 | .10 |
| (J)..... | .27 | 1.75 | 2.00 | 2.50 | 40.00 | 75.00 | 75.00 | .15 |
| (K)..... | .285 | 1.60 | 1.90 | 2.30 | 60.00 | 100.00 | 75.00 | .05 |
| (L)..... | .288 | 1.75 | 1.90 | 2.50 | 40.00 | 70.00 | 60.00 | .08 |
| (M)..... | .27 | 1.47 | 1.57 | 1.95 | 45.00 | 75.00 | 65.00 | .09 |
| (N)..... | .389 | 1.70 | 2.00 | 2.50 | 40.00 | 65.00 | 45.00 | .13 |
| (O)..... | .30 | 2.25 | 2.75 | 3.50 | 25.00 | 140.00 | 70.00 | .10 |
| (P)..... | .30 | 1.25 | 1.75 | 2.75 | 40.00 | 70.00 | 50.00 | .10 |
| (Q)..... | .32 | 2.00 | 2.20 | 2.70 | 60.00 | 100.00 | 60.00 | .12 |
| (R)..... | .26 | 1.90 | 1.87 | 2.25 | 57.00 | 100.00 | 50.00 | .09 |
| (S)..... | .35 | 2.00 | 2.00 | 2.25 | 60.00 | 100.00 | 50.00 | .15 |
| (T)..... | .395 | 2.25 | 2.35 | 2.75 | 50.00 | 65.00 | 75.00 | .10 |

Complete total bids to be published shortly.

BIDS OPENED

STOCKTON, San Joaquin Co., Cal.—Willard & Biasotti, 40 West Clay St. at \$4844 submitted low bid to county supervisors to improve Canal Blvd. in Road District No. 3 from Oak Ave. to Berry Ave., 1.27 miles, involving:

- (1) 6000 cu. yds. grading;
- (2) 2400 tons 2 1/2-in. road gravel;
- (3) 1200 tons 1 1/2-in. do;
- (4) 100 tons asphaltic oil;
- (5) 6700 ft. mixing (67 sta.);
- (6) 2 install pipe.

Engineer's estimate, \$6590. Complete bids follow:

- (A) Willard & Biasotti, Stockton, \$4,844.00.
- (B) Pereira & Reed, Tracy, \$5036.20.
- (C) C. W. Wood, Stockton, \$5970.00.

Unit bids follow:

| | (A) | (B) | (C) |
|----------|-------|-------|-------|
| (1)..... | \$.14 | \$.15 | \$.15 |
| (2)..... | .77 | .75 | .95 |
| (3)..... | .72 | .65 | 1.00 |
| (4)..... | 8.75 | 11.00 | 9.00 |
| (5)..... | 6.00 | 6.60 | 10.00 |
| (6)..... | 7.50 | 7.00 | 10.00 |

Bids held under advisement.

BIDS OPENED

FORT BRAGG, Mendocino Co., Cal.—Rocca & Caletti, Toll Road, San Rafael, at \$7.99 sd. yd. submitted low bid to U. S. Engineer Office, Customhouse San Francisco, for mixing, transporting and placing concrete in jetty at Noyo River, 1 1/2 miles south of Fort Bragg in Mendocino County. Project involves 1,000 cu. yds. mass concrete.

Following is a complete list of bids: Rocca & Caletti, San Rafael..... \$7.99
A. T. Howe, Santa Rosa..... 9.25
C. R. Perkins, Fort Bragg..... 9.50
O. G. Ritchie, San Francisco..... 9.58
Mercer-Fraser Co., Eureka..... 9.97
W. F. Saxton, Willits..... 9.983
J. F. Maurer, Eureka..... 10.25
Baldwin & Butler, Berkeley..... 10.35
J. V. Galbraith, Petaluma..... 11.98
A. W. Kitchen, San Francisco..... 16.62
M. E. McGowan, San Francisco..... 17.63
Healy-Thibits Const. Co., S. F..... 17.85
Bids held under advisement.

BIDS OPENED

MONO COUNTY, Cal.—Basalt Rock Co., 900 8th St., Napa, at \$18,777.10 submitted low bid to State Highway Commission, Sacramento to treat with fuel oil about 18.3 miles of existing roadbed between the foot of Conway Grade and two miles west of Bridgeport involving: (1) 5245 bids heavy fuel oil.

Complete bids follow:
Basalt Rock Co., Napa, (Unit) \$3.58; (Total) \$18,777.10.
Oilfields Trucking Co., Taft, \$3.75 \$19,668.75.
George Herz, San Bernardino, \$4.04 \$21,189.80.

C. W. Wood, Stockton, \$4.30 \$22,553.50.
C. A. Ladeveze, Los Angeles, \$4.38 \$22,973.10.
Southwest Paving Co., Los Angeles \$4.83; \$25,333.25.

BIDS OPENED

MENDOCINO COUNTY, Cal.—Chas. Kuppinger, Box 356 Lakeport, at \$3600 submitted low bid to District Engineer, State Highway Commission, San Francisco, to treat with fuel oil as a dust palliative about 15 miles between McDonald and Flynn Creek, involving 2000 lbs. of fuel oil. Complete bids follow:

Chas. Kuppinger, Lakeport, \$1.80; total, \$3600.
E. A. Peres, Richmond, \$1.82; total \$3640.
Basalt Rock Co., Napa, \$1.88; total \$3760.
C. F. Frederickson & Sons, Lower Lake, \$2.14; total, \$4280

GRADE—CONC. PAVE.—SOLANO COUNTY—STATE

SOLANO COUNTY, Calif.—C. W. Wood, P. O. Box 1435, Stockton, at \$23,926 submitted low bid to the State Highway Commission, Sacramento, to grade and pave with Portland cement concrete about 0.8 mile at Rio Vista, involving:

- (1) 9 trees remove and dispose of;
- (2) 21,000 cu. yds. rdwy. excav. without class.;
- (3) 215,000 sta. yds. overhaul;
- (4) 132 cu. yds. struc. excav.;
- (5) 8500 sq. yds. subgrade for pave.;
- (6) 60 cu. yds. salv. mac. surf.;
- (7) 360 tons untr. cru. gravel or stone surf.;
- (8) 75 tons cru. gravel or stone (bit. treated surf.);
- (9) 4 tons cut back asphalt.;
- (10) 1750 cu. yds. Class "A" Port. cem. conc. (pave.);
- (11) 10 cu. yds. Class "A" Port. cem. conc. (struc.);
- (12) 40,750 lbs. bar reinf. steel (pave and struc.);
- (13) 110 lin. ft. 18-in. corrn. metal pipe

| | (A) | (B) |
|------|---------|---------|
| (1) | \$ 1.00 | \$ 1.50 |
| (2) | .20 | .20 |
| (3) | .005 | .005 |
| (4) | 1.00 | .25 |
| (5) | .08 | .09 |
| (6) | .60 | .20 |
| (7) | 1.65 | 1.60 |
| (8) | 3.00 | 3.15 |
| (9) | 12.50 | 20.00 |
| (10) | 8.00 | 8.50 |
| (11) | 18.00 | 20.00 |
| (12) | .04 | .0375 |
| (13) | .50 | .50 |
| (14) | .50 | .50 |
| (15) | .50 | .50 |
| (16) | 100.00 | 400.00 |
| (17) | 400.00 | 425.00 |
| (18) | 12.00 | 12.00 |
| (19) | 1.00 | .50 |
| (20) | 2.50 | 2.00 |
| (21) | 1.00 | 1.05 |
| (22) | 4.00 | 5.00 |
| (23) | 3.00 | 3.00 |

BIT. TREATED SURFACE—SAN MATEO COUNTY

SAN MATEO COUNTY, Calif.—Basich Bros., 20550 Normandie Ave., Torrance at \$112,910 submitted low bid April 27 to State Highway Commission to surface with bituminous treated crushed gravel or stone 7.3 miles between San Mateo and Redwood City, involving:

- (1) 9,350 cu. yds. imp. burrow;
- (2) 53,690 tons crushed gravel or stone (bit. treated surf.);
- (3) 17,140 tons crushed run base;
- (4) 710 tons screenings (surf. treatment);
- (5) 2,685 tons cut back asphalt (bit. treated surf.);
- (6) 940 lbs. light fuel oil (surf. treatment);
- (7) 387 sta. finish roadway.

Complete bids follow:
 (A) Basich Bros., Torrance, \$112,910.
 (B) Hanrahan Co., S. F., \$129,934.
 (C) Granite Construction Co., Watsonville, \$131,870.90.

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
|-----|-----|--------|-------|-------|--------|--------|------|
| (A) | .45 | \$1.35 | \$.80 | \$.80 | \$7.00 | \$1.70 | 4.00 |
| (B) | .50 | 1.40 | 1.10 | 2.00 | 10.00 | 1.10 | 5.00 |
| (C) | .65 | 1.52 | .94 | 1.40 | 9.45 | 1.30 | 1.25 |
| (D) | .60 | 1.50 | 1.10 | 2.00 | 9.46 | 1.50 | 2.90 |
| (E) | .50 | 1.79 | 1.00 | 1.20 | 7.50 | 1.25 | 2.00 |
| (F) | .35 | 1.65 | 1.00 | 1.60 | 10.00 | 1.20 | 1.50 |
| (G) | .75 | 1.64 | 1.05 | 2.25 | 9.00 | 1.40 | 3.00 |
| (H) | .45 | 1.67 | .67 | 1.35 | 12.90 | 1.30 | 4.00 |
| (I) | .55 | 1.85 | .65 | 1.50 | 10.40 | 1.30 | 5.00 |
| (J) | .47 | 1.81 | 1.10 | 1.60 | 9.10 | 1.30 | 3.00 |
| (K) | .71 | 1.85 | .87 | 2.50 | 10.00 | 1.75 | 2.00 |
| (L) | .50 | 1.95 | 1.15 | 2.00 | 8.00 | 1.50 | 3.00 |
| (M) | .40 | 2.15 | .95 | 1.90 | 8.50 | 1.40 | 2.00 |
| (N) | .54 | 2.04 | 1.37 | 1.55 | 8.47 | 1.45 | 3.55 |
| (O) | .63 | 2.00 | 1.60 | 1.75 | 9.00 | 1.40 | 3.00 |

- (14) 274 lin. ft. 24-in. do;
- (15) 40 lin. ft. salv. exist. culverts;
- (16) 0.36 mi. move and reset fences;
- (17) 1.08 mi. new hog tight property fence;
- (18) 6 gates complete in place;
- (19) 105 cu. yds. Port. cem. conc. remove from exist. pave.;
- (20) 22 bbls. light fuel oil;
- (21) 18 M. gal. water apply to surf.;
- (22) 58 sta. finish rdwy.;
- (23) 13 monuments complete in place.

State will furnish corrugated metal pipe.
 Complete bids follow:
 (A) C. W. Wood, Stockton, \$23,926.00
 (B) N. M. Ball, Berkeley, 24,818.97
 (C) Hein Bros. Basalt Rock Co., and J. V. Galtraith, Petaluma, 28,249.05
 (D) Delta Dredg. Co., Pittsburg, 28,778.42
 (E) Valley Paving & Const. Co., Fresno, 29,797.00
 (F) S. M. McGaw, Stockton, 31,847.90

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) |
|------|---------|---------|---------|---------|---------|---------|
| (1) | \$ 2.00 | \$ 1.00 | \$10.00 | \$ 1.00 | \$ 1.00 | \$ 1.00 |
| (2) | .21 | .21 | .30 | .30 | .30 | .30 |
| (3) | .005 | .005 | .007 | .01 | .01 | .01 |
| (4) | .50 | .50 | 1.00 | .70 | .70 | .70 |
| (5) | .07 | .10 | .07 | .10 | .07 | .10 |
| (6) | .50 | 1.00 | .50 | 1.50 | .50 | 1.50 |
| (7) | 1.90 | 1.70 | 1.70 | 3.00 | 3.00 | 3.00 |
| (8) | 3.05 | 3.50 | 3.00 | 4.00 | 4.00 | 4.00 |
| (9) | 15.00 | 15.00 | 20.00 | 10.00 | 10.00 | 10.00 |
| (10) | 9.95 | 10.00 | 9.50 | 9.50 | 9.50 | 9.50 |
| (11) | 20.00 | 16.00 | 20.00 | 15.00 | 15.00 | 15.00 |
| (12) | .038 | .045 | .04 | .05 | .05 | .05 |
| (13) | .25 | .40 | .50 | .70 | .70 | .70 |
| (14) | .35 | .45 | 1.00 | 1.00 | 1.00 | 1.00 |
| (15) | .40 | .50 | 1.00 | 1.00 | 1.00 | 1.00 |
| (16) | 200.00 | 200.00 | 200.00 | 300.00 | 300.00 | 300.00 |
| (17) | 425.00 | 450.00 | 500.00 | 400.00 | 400.00 | 400.00 |
| (18) | 11.00 | 15.00 | 15.00 | 20.00 | 20.00 | 20.00 |
| (19) | 1.00 | .75 | 4.00 | 2.00 | 2.00 | 2.00 |
| (20) | 3.00 | 3.00 | 2.00 | 4.00 | 4.00 | 4.00 |
| (21) | 1.50 | 2.0 | 3.00 | 3.00 | 3.00 | 3.00 |
| (22) | 3.00 | 4.00 | 4.00 | 5.00 | 5.00 | 5.00 |
| (23) | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 |

- (D) F. W. Nighbert, Bakersfield, \$134,003.10
- (E) Union Paving Co., San Francisco, \$136,026.50.
- (F) Peninsula Paving Co., San Francisco, \$138,695.50
- (G) Tieslau Bros. and A. Mitchell, Sacramento, \$141,300.60.
- (H) Heafey-Moore Co., Oakland, \$143,718.60.
- (I) Jack Casson, Hayward, \$147,756.
- (J) Jones & King, Hayward, \$148,379.90.
- (K) Clark & Henry, S. F., \$151,920.80.
- (L) Preckrington & Watson, Oakland, \$154,552.50.
- (M) C. W. Wood, Stockton, \$161,718.
- (N) Valley Paving & Constr. Co., Fresno, \$164,753.80.
- (O) A. Teichert Sons, Sacramento, \$169,046.50.

Unit bids follow:

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
|-----|-------|--------|-------|-------|--------|--------|------|
| (A) | \$.45 | \$1.35 | \$.80 | \$.80 | \$7.00 | \$1.70 | 4.00 |
| (B) | .50 | 1.40 | 1.10 | 2.00 | 10.00 | 1.10 | 5.00 |
| (C) | .65 | 1.52 | .94 | 1.40 | 9.45 | 1.30 | 1.25 |
| (D) | .60 | 1.50 | 1.10 | 2.00 | 9.46 | 1.50 | 2.90 |
| (E) | .50 | 1.79 | 1.00 | 1.20 | 7.50 | 1.25 | 2.00 |
| (F) | .35 | 1.65 | 1.00 | 1.60 | 10.00 | 1.20 | 1.50 |
| (G) | .75 | 1.64 | 1.05 | 2.25 | 9.00 | 1.40 | 3.00 |
| (H) | .45 | 1.67 | .67 | 1.35 | 12.90 | 1.30 | 4.00 |
| (I) | .55 | 1.85 | .65 | 1.50 | 10.40 | 1.30 | 5.00 |
| (J) | .47 | 1.81 | 1.10 | 1.60 | 9.10 | 1.30 | 3.00 |
| (K) | .71 | 1.85 | .87 | 2.50 | 10.00 | 1.75 | 2.00 |
| (L) | .50 | 1.95 | 1.15 | 2.00 | 8.00 | 1.50 | 3.00 |
| (M) | .40 | 2.15 | .95 | 1.90 | 8.50 | 1.40 | 2.00 |
| (N) | .54 | 2.04 | 1.37 | 1.55 | 8.47 | 1.45 | 3.55 |
| (O) | .63 | 2.00 | 1.60 | 1.75 | 9.00 | 1.40 | 3.00 |

BIDS OPENED

SAN FRANCISCO—Western Pipe & Steel Co. of California, 444 Market St., at \$25,778.85 submitted low bid to the Public Utilities Commission to construct the Crystal Springs Aqueduct Supply Pipe Line. The project involves

- (1) 1,000 lin. ft. fur. and install 48-in. welded steel pipe, 3/4-inch plate;
- (2) 50 lin. ft. do 7/16-in. plate;
- (3) 12 lin. ft. fur. and install 54-in. in. welded steel pipe, 7/16-in. plate;
- (4) 1 furnish and install 48-in. dia. special tee and taper c. l. flange;
- (5) 1 furnish and install cast steel manhole;
- (6) 1 furnish and install 48-in. bumper head, 1/2-in. plate;
- (7) 1 furnish and install 8-in. blow-off;
- (8) 70 courses, furnish and install double courses for 48-in. pipe;
- (9) 25 courses, furnish and install leveled courses for 54-in. pipe;
- (10) 2,500 cu. yds. excavation trench for pipe line including back-filling, tamping, replacing road pavement and fences;
- (11) 20 cu. yds. concrete for pipe anchorages;
- (12) 460 lin. ft. install 54-in. pipe, furnished by the city.

Montague Pipe and Steel Co. only other bidder at \$27,849. Complete list of unit bids follows:

| | Western Pipe | Montague Pipe |
|------|--------------|---------------|
| (1) | \$ 10.56 | \$11.33 |
| (2) | 12.02 | 12.85 |
| (3) | 13.00 | 14.00 |
| (4) | 670.80 | 702.00 |
| (5) | 198.00 | 200.00 |
| (6) | 92.00 | 90.00 |
| (7) | 129.00 | 130.00 |
| (8) | 56.73 | 65.32 |
| (9) | 56.87 | 67.00 |
| (10) | 2.55 | 2.40 |
| (11) | 30.00 | 28.00 |
| (12) | 3.27 | 3.76 |

BIDS OPENED

FLUMAS CO. Cal.—F. H. Neilson, 96 St. Orland, at \$237.40 submitted low bid to District Engineer, Division of Highways, Redding, to construct a reinforced concrete girder bridge across Western Pacific Railroad Tunnel near Keddie, consisting of one 40-ft. span on concrete abutments, involving:

- (1) 78 cu. yds. Class A Port. cement concrete;
- (2) 2,400 lbs. reinf. steel in place;
- (3) 12,000 lbs. reinf. steel in place;
- (4) 50 lin. ft. solid timber railing;
- (5) 600 lbs. cast steel rockers and bearings.

Complete bids follow:
 (A) F. H. Neilson, Orland, \$237.40
 (B) Whited & Whited, Santa

| | |
|------------------------------|---------|
| Rosa | 2477.00 |
| (C) J. P. Brennan, Redding | 2642.00 |
| (D) Rolla Arbuckle, Anderson | 2845.00 |
| (E) Chigris & Sutcos, S. F. | 2882.53 |
| (F) John Burlinger, Orland | 3655.00 |
| (G) J. W. Haltemar, Willows | 3731.00 |

Unit bids follow:

| | (1) | (2) | (3) | (4) | (5) |
|-----|---------|---------|---------|--------|--------|
| (A) | \$18.40 | \$0.175 | \$0.471 | \$1.50 | \$2.20 |
| (B) | 23.50 | .015 | .04 | 1.00 | .13 |
| (C) | 21.50 | .0175 | .06 | 1.20 | .25 |
| (D) | 24.50 | .02 | .06 | 1.40 | .16 |
| (E) | 23.00 | .04 | .04 | 1.25 | .15 |
| (F) | 35.50 | .03 | .06 | 2.00 | .25 |
| (G) | 32.00 | .02 | .08 | 2.50 | .17 |

ENGINEERING NEWS

BRIDGES

OAKLAND, Cal.—Until May 19, 6 P. M., bids will be received by W. W. Chappell, city Clerk, to construct 8th street culvert extension and Lake Merritt control house and gates, consisting of 8 concrete boxes, approximately 53 ft. long and 6x6 ft., a concrete, steel and tile control house and steel control gates. For complete details of this work see item under "Waterworks" in this issue.

SALINAS, Monterey Co., Cal.—Until May 20, 10 A. M., bids will be received by C. F. Joy, county clerk, to construct five bridges over the Cholame Creek near Parkfield in Supervisor District No. 4, involving:

- (1) 3650 lin. ft. steel H section piling in place;
- (2) 73 drive steel piles;
- (3) 161,500 lbs. struc. steel in place;
- (4) 32,922 lbs. steel 15-in. I beams;
- (5) 166,600 lb. L. m. lumber in place;
- (6) 47 cu. yds. Class B concrete;
- (7) 2425 lbs. square formed reinf. bars;
- (8) 2 erect steel spans;
- (9) 49 cu. yds. struc. excav.;
- (10) 15,289 sq. ft. asph. covers on floor

Specifications obtainable from above office on deposit of \$10, returnable. Howard Cozzens, county surveyor.

STOCKTON, San Joaquin Co., Cal.—Until May 23, 11 A. M., bids will be received by Eugene D. Graham, county clerk, to construct the Garwood Ferry bridge, involving:

- (1) 1100 cu. yds. excavation;
- (2) 4 cast piles (timber) 80-ft. long;
- (3) 160 piles 65-ft. long;
- (4) 13,200 lin. ft. piling (protection);
- (5) 90,000 L. m. timber protection work
- (6) 855 cu. yds. concrete Class A;
- (7) 460 cu. yds. concrete Class B;
- (8) 5 cu. yds. concrete Class E;
- (9) 56 tons reinf. steel;
- (10) 270 tons struc. steel.

Engineer's estimate, \$35,000. Specifications obtainable from office of J. B. Manthey, county surveyor. Certified check or bond payable to Chairman of Board of Supervisors, 10%, required with bid.

SAN JOSE, Santa Clara Co., Cal.—Plans and specifications have been submitted to the city council by the Southern Pacific Railroad, 65 Market St., San Francisco, for the proposed San Carlos Street Viaduct. Preliminary estimates place the approximate quantity of materials involved, as follows:

- 1,300 cu. yds. mass concrete;
- 3,600 cu. yds. reinforced concrete;
- 450,000 lbs. reinforcing steel;
- 390,000 lbs. structural steel;
- 35,000 sq. ft. concrete paving;
- 800 piles.

SACRAMENTO, Calif.—Sacramento and Yolo County organizations have demanded that the state construct a new bridge over the Sacramento river at Y street, paying the cost from the gasoline tax funds. In a joint resolution the organizations offered to turn over rights-of-way to the state valued at \$1,000,000, if the state will undertake such construction. The bridge is estimated to cost \$1,000,000. The offer is being considered by the State Department of Public Works.

SANTA BARBARA, Calif.—County supervisors will provide \$50,000 in new budget to finance repairs to 6 bridges in various sections of the county.

SAN JOSE, Santa Clara Co., Cal.—Plans and specifications have been submitted to the city council by the Southern Pacific Railroad, 65 Market St., San Francisco, for the proposed Julian Street Subway. The plans provide for a structure 23-ft. in width which has not been accepted by the city. The city, it is understood, desires to increase this width. Under the plans submitted the project would involve:

- 8,900 cu. yds. excavation;
- 450 cu. yds. mass concrete;
- 1,550 cu. yds. reinforced concrete;
- 70 cu. yds. concrete (handrail);
- 13,000 sq. ft. concrete paving;
- 1,350 lin. ft. concrete curb;
- 165,000 lbs. reinforcing steel;
- 230,000 lbs. structural steel;
- drainage system, including pumps;
- electrical work;
- 300 piles.

OREGON STATE.—Until May 18, 10 A. M., bids will be received by State Highway Commission, Multnomah Hotel, Portland, for highway construction as follows:

Douglas County

Three bridges on the Umpqua Highway about 3 1/2-, 4 1/2- and 5 1/2-miles respectively, east from Reedsport, involving 4,900 lin. ft. Port Orford cedar piling, 72 MFBM Port Orford cedar lumber, 108,000 lbs. structural steel and 400 lin. ft. Port Orford cedar trestle superstructure.

Marion and Linn Counties

Bridge over Santiam River on the Pacific Highway at Jefferson, involving 2,100 cu. yds. excav., 4,240 cu. yds. conc., 630,000 lbs. metal reinf., and 1,620 lin. ft. conc. rail.

Sherman County

Widen existing bridge over Fulton Canyon on the Columbia River Highway about 1 1/2 miles east from the Wasco-Sherman County line, involving 95 cu yds. excav., 58 cu. yds. conc., 6,000 lbs. metal reinf., 10,500 lbs. struc. steel and 76 lin. ft. conc. handrail.

Specifications obtainable from State Highway Commission Office, Room 322, State Office Bldg., Salem upon deposit of \$5.

SNOHOMISH COUNTY, Washington.—Pacific States Const. Co., Lloyd Bldg., Seattle, at \$91,511 awarded contract by Highway Dept., Olympia, for construction of a steel bridge 572-ft. over the Skykomish River and Great Northern Railway Company tracks on State Road No. 15, near Gold Bar, consisting of one 380-ft. cantilever span and three 60-ft. steel approach spans with 24-ft. roadway and two 4-ft. sidewalks. General Const. Co., Seattle, second low at \$94,128; Strong & MacDonald, Tacoma, third low at \$94,888.

YREKA, Siskiyou Co., Cal.—J. W. Holteman, Willows, at \$1,665 awarded contract by county supervisors to construct two four panel wooden pile bridges across the East and West channels of Lost River on the East and West Tule Lake Road, in Klamath Road District, Siskiyou County. Complete bids follow:

| | |
|--|---------|
| J. W. Holteman, Willows..... | \$1,665 |
| A. Young, Yreka..... | 1,758 |
| G. W. Loosley, Tule Lake..... | 1,948 |
| J. W. Hoopes, Sacramento..... | 2,280 |
| R. B. McKenzie, Red Bluff..... | 2,500 |
| Carl Gentry, Tule Lake..... | 2,650 |
| Clinton - Stephenson Const. Co., San Francisco..... | 2,763 |
| J. Berlinger, Orland..... | 3,424 |

CALIFORNIA.—Bids will be asked shortly by the State Highway Commission, Chas. H. Purcell, State highway engineer, shortly for the following bridge construction:

Over the Ventura river at the north city limits of Ventura, replacing the present structure; will be of reinforced concrete girder type and will consist of 19 spans having a total length of 1235-ft. Roadway will be 44-ft. wide with two sidewalks.

Bridge over Wildcat Creek at "The Highlands", near Carmel. Reinforced concrete structures, 164-ft. in length having 3 stonefaced arches and a clear roadway width of 34-ft. sidewalks in either side. This bridge will replace the existing narrow timber trestle.

Over Paradise Cut between Tracy and Stockton on the Oakland-Stockton lateral, to replace the present 3-span steel truss bridge. A bridge composed of ten steel stringer spans on reinforced concrete piles; will be 440-ft. long with a 34-ft. roadway.

At county line between Stanislaus and San Joaquin Counties a bridge over the Stanislaus River at Ripon, on the Golden Gate Highway, is to be reconstructed. The reconstruction includes the widening of the two 103-foot arch spans and replacing the timber approach spans with 23 reinforced concrete and steel girder spans, each 44-ft. long, giving a total length of 1218-ft. for the new structure. The new roadway width will be 24-ft.

Overhead crossing in San Diego County over the tracks of the A. T. & S. F. Railway in Sorrento Canyon just north of the city limits of San Diego. Structure will consist of 15 reinforced concrete spans with a total length of 553-ft. and provide a clear roadway width of 44-ft. This overhead is located on the new alignment of the highway between Sorrento Creek and Del Mar which is now being constructed by the State.

SKILSAW Portable Electric Hand Saws (four models).

SKILSAW Portable Electric Sander.

SKILSAW Radial Arm Attachments.

SYNTRON Portable Electric Hammer (four models, motorless).

MALL Flexible Shaft Machines (50 models).

Electric Drills, Grinders, Buffers, Routers, Lock Mortisers.

Peter H. Nelson

Labor Saving Portable Electric Tools

1246 Mission St., San Francisco
Underhill 7662

SALES : SERVICE : RENTALS

OREGON STATE.—Following contracts awarded April 28 by the State Highway Commission, Multnomah County Courthouse, Portland for highway construction as follows:

Baker County

R. H. Jones, Baker, at \$3,481 for construction of three bridges on Durkee-Gales Section of Old Oregon Trail requiring 240 cu. yds. excavation, 146 cu. yds. concrete and 16,600 lbs. metal reinforcement.

Douglas County

Tom Lillebo, Reedsport, at \$15,206 for construction of a bridge over Paradise Creek on Umpqua Highway 8 miles west of Elkton, involving: 550 cu. yds. excav., 570 cu. yds. concrete, 96,000 lbs. metal reinforcement and 410 lin. ft. concrete handrail.

Multnomah County

Barham Bros., Salem, at \$8,709.50 to construct bridge over O. W. R. R. & N. Co. railway tracks on North Portland Road (Secondary State Highway No. 120) near north city limits of Portland, involving: 100 cu. yds. excavation, 1,000 lin. ft. concrete piling, 250 cu. yds. concrete, 55,000 lbs. metal reinforcement and 254 lin. ft. concrete handrail.

Wasco County

Barham Bros., Salem, at \$11,251.60 to widen concrete bridge over O. W. R. R. & N. Co. railway tracks on Columbia River Highway at Dillon, involving 220 cu. yds. excav., 500 lin. ft. concrete piling, 295 cu. yds. concrete, 58,000 lbs. metal reinforcement and 360 lin. ft. concrete handrail.

DREDGING, HARBOR WORKS & EXCAVATIONS

SAN DIEGO, Cal.—Until 11 A. M., May 19, bids will be received by the Public Works Officer, 11th Naval District, San Diego, for fill-back of quay wall at Marine Railway at the Naval Operating Base (Destroyer Base), San Diego. Spec. No. 6812. The work will consist of the excavation of 6700 cu. yds., more or less, from the area indicated and the disposal and grading of the excavated material back of the new quay wall north of the marine railway in the location and to the elevation indicated. Plans obtainable from Public Works Officer, on deposit of \$10, payable to Chief of the Bureau of Yards and Docks.

SAN FRANCISCO.—Until June 3, 3 P. M., bids will be received by U. S. Engineer Office, 401 Custom House, for dredging in San Rafael Creek, involving:

- (1) 21,747 cu. yds. Sections A and B;
- (2) 207,041 cu. yds. Sections C and D.

Specifications obtainable from the above office.

SANTA MONICA, Los Angeles Co., Cal.—Chester L. Coffin, city attorney of Santa Monica, has announced that the \$690,000 bond issue, voted for the breakwater project, will be advertised for sale as soon as the ordinance concerning the existing franchise is signed by F. A. Helton, commissioner of finance. The money will probably be available within the next sixty days. Work on the core borings has been started and as soon as these borings have been completed the city engineer will be able to complete the final plans and specifications.

LONG BEACH, Cal.—Paul & Tompkins, 18th and Pennsylvania Avenue, Santa Monica, awarded contract by Merritt-Chapman & Scott Corp., San Pedro, to furnish services of trucks for use on Union Pacific harbor cut-off railway, about 8 miles in length.

The trucking contract will require between 50 and 80 trucks of 3-ton and 5-ton capacity. The Paul & Tompkins firm is in the market for truck on a rental basis. The work will be supervised by George Paul.

SACRAMENTO, Cal.—A American Dredging Co., 255 California St., San Francisco, at \$974 awarded contract by U. S. Engineer Office, Sacramento, for dredging approximately 1,496,500 cu. yds. of material in the Stockton 26-foot channel prism (San Joaquin River) from a point near the El Dorado pump, Robert's Island, to a point approximately 0.6 mile downstream from Black Slough, a distance of approximately 2.4 miles.

STREET LIGHTING SYSTEMS

SUNNYVALE, Santa Clara Co., Cal.—NePage-McKenny Co., 7 Front St., San Francisco, at \$62,887 awarded contract by Bureau of Yards and Docks, Washington, D. C., for the underground electric distributing system, including concrete manholes, transformer vaults, conduit encased in concrete, concrete lighting standards, light power, telephones and street lighting cables, transformers and accessories, all at the Naval Air Station, Sunnyvale.

ALAMEDA, Alameda Co., Cal.—U. S. Bureau of Public Roads, Captain A. E. Brown, 461 Market St., San Francisco, is preparing plans and bids will be asked in about sixty days to install ornamental street lighting system at Government Island, involving:

- 19 to 27 street lighting standards.
- 12 fence light standards.
- 6 brice light standards.

QUARRY HEIGHTS, Panama Canal Zone.—See "Government Work and Supplies," this issue. Bids wanted by Constructing Quartermaster, Panama Canal Department, for excavation, curbs, walks, water distribution and fire protection systems, storm and sanitary sewers, street lighting, etc.

OAKLAND, Cal.—Until May 27, 7:30 P. M., bids will be received by John H. Kimball, secretary, East Bay Municipal Utility District, 512 16th St., to furnish and deliver:

- (1) one 4-wheel trailer, gross weight with load 10-tons, to be furnished under Proposal No. 395.
- (2) One motor truck chassis, gross weight with load 8-tons, to be furnished under Proposal No. 396.

Specifications obtainable from above office.

CAPITAL CITY TITLE COMPANY

J. C. PALEN,
Manager

914 Seventh Street
Sacramento :: California

MACHINERY AND EQUIPMENT

SEATTLE, Wash.—Until May 18, 12 noon, bids will be received by Board of Public Works, for construction in connection with the completion of the Skagit River Development. See item under "Power Plants" in this issue.

SAN DIEGO, Cal.—Allen Bros., Inc., 1625 Alameda St., Los Angeles, awarded contract by Public Works Officer, 11th Naval District, San Diego, at \$1447 for repairs to traveling tower crane (No. 1) at Naval Operating Base (Destroyer Base), San Diego. Specification No. 6795.

YOSEMITE, Cal.—Mine Safety Appliance Co., Pittsburgh, Pa., at \$9499.45 awarded contract by U. S. Bureau of Public Roads, to furnish and install carbon monoxide analyzers and recorders with calibrator and apparatus in a tunnel on the Turtleback Dome-Valley Floor Section of the Wawona Road, Yosemite National Park.

SACRAMENTO, Cal.—Bids for furnishing a tractor for delivery at North Hollywood, Requisition No. 5234, opened by State Purchasing Agent May 6, follow:

Smith-Booth-Usher—Cretra, \$1850.
Shepherd Tractor & Equipment Co.—Caterpillar, \$1871.

Crook Co.—Allis-Chalmers, \$2195.
B. Hayman—Bates, \$2445.

COALINGA, Fresno Co., Cal.—Oyster-Neilan Auto Co. at \$729 awarded contract to furnish 1½-ton six-cylinder truck equipped with dual pneumatic tires on the rear with 157-in. wheel base.

M. & S. Welding Co. at \$300 awarded contract to furnish steel body for use on above truck.

COALINGA, Fresno County, Calif.—Smith-Booth-Usher Co. at \$390 awarded contract on open market bid to furnish a combination sprinkler sweeper equipped with a 9-ft. double sweep bamboo broom.

RAILROADS

QUARRY HEIGHTS, Panama Canal Zone.—See "Government Work and Supplies," this issue. Bids wanted by Constructing Quartermaster, Panama Canal Department, for excavation, curbs, walks, water distribution and fire protection systems, storm and sanitary sewers, street lighting, etc.

FIRE ALARM SYSTEMS

FRESNO, Fresno Co., Calif.—Until May 26, 5 P. M., bids will be received by L. L. Smith, secretary, Board of Education, 2425 Fresno St., to furnish and install fire alarm equipment. Certified check or bidder's bond 10% required with bid. Specifications obtainable from secretary.

LOS ANGELES, Cal.—Newbery Electric Co., 1038 Venice Blvd., awarded contract by county supervisors at \$5137.96 to furnish and install automatic traffic signals at intersection of Florence Ave. with Hooper Ave., Compton Ave., Miramonte Blvd., Holmes Ave. and Bell-Wilson Ave.

RESERVOIRS AND DAMS

BOULDER CITY, Nev.—Low bids for furnishing bulkhead and stoney gates and hoists for the Hoover Dam, Boulder Canyon Project, under Spec. No. 533, have been announced by the U. S. Bureau of Reclamation, Denver.

The low bids on each schedule follow:
Schedule No. 1—Independent Bridge Co., Pittsburgh, Pa., \$178,710, involving:
 (1) 520 50x50-ft. bulkhead gages, each gate to be complete;
 (2) 529 sets of struc. steel gate frames guides, rollers, tracks, seats, seals, supports and appurtenant parts for the gate of item (1).

Schedule No. 2—Lakeside Bridge & Steel Co., North Milwaukee, Wis., \$25-931, involving:
 (3) two 50x50-ft. Stoney gates, each gate to be complete;

(4) two sets of struc. steel gates, frames, guides, chairs and appurtenant parts for the Stoney gates of item (3).

Schedule No. 3—Hardie-Tynes Mfg. Co., Birmingham, Ala., \$60,395, involving:
 (5) two bulkhead gate hoists complete

Schedule No. 4—Reading Iron Co., Reading, Pa., \$32,500, involving:
 (6) two Stoney gate hoists complete.

REDWOOD CITY, San Mateo Co., Cal.—Bids will be asked shortly by city council to construct municipal reservoir in connection with water system in western foothills at the end of Roosevelt and Vera Avenues. Will be approximately 200-ft. in diameter with storage capacity of 3,000,000 gallons. C. L. Dimmitt, city engineer, E. A. Rolison, city manager.

SEATTLE, Wash.—Until May 18, 12 noon, bids will be received by Board of Public Works, for construction in connection with the completion of the Skagit River Development. See item under "Power Plants" in this issue.

PRESCOTT, Arizona—Sullivan Machinery Co., awarded contract by city council for drilling diamond drill test holes at the Banning Creek Dam Site. Arthur J. Kline, city engineer, reports that plans include the construction of an Ambursen type concrete dam on Banning Creek, check dam on the Hassayampa River, and miscellaneous water system improvements. Estimated cost \$200,000. Plans prepared by the Ambursen Dam Co. and Arthur J. Kline, city engineer.

PIPE LINES, WELLS, ETC.

SANTA ANA, Orange Co., Cal.—Until 7:30 P. M., May 23, bids will be received by city council to furnish casing, starters and shoes for a water well approx 340 ft. in depth. Specifications obtainable from water superintendent, E. L. Vegely, city clerk.

SANTA ANA, Orange Co., Cal.—Until 7:30 P. M., May 23, bids will be received by city council for drilling water well to a depth of 340 ft. Specifications obtainable from water superintendent, E. L. Vegely, city clerk. Certified check or bond, 10%.

SEWERS AND SEWAGE DISPOSAL PLANTS

LAS VEGAS, Nevada—Heavy protests against the proposed lateral sewer system filed with the Las Vegas city commission may cause the commission to abandon the project at the present time.

LONG BEACH, Cal.—As previously reported, new bids will be received August 5, by City Council to construct sewers in the North Long Beach Sewer District No. 11. The project involves:

- 117,904 ft. 8-in. vit. clay sewer joint comp.;
- 122,416 ft. 8-in. vit. clay with Weston gasket and form;
- (Total, 239,510 ft. 8-in. vit. clay with aver. depth 7.3 ft.);
- 28,036 ft. 10-in. vit. clay with aver. depth of 11.8 ft.;
- 17,590 ft. 12-in. vit. clay with aver. depth 14.1 ft.;
- 2615 ft. 15-in. vit. clay with aver. depth of 15.5 ft.;
- 1515 ft. 18-in. vit. clay with aver. depth 16.7 ft.;
- 2745 ft. 2-in. vit. clay with aver. depths 16.8 ft.;
- 4484 ft. 24-in. vit. clay with aver. depth 17.8 ft.;
- 3266 ft. 27-in. vit. clay with aver. depths 17 ft.;
- 2513 ft. 30-in. vit. clay with aver. depths 19.5 ft.;
- 295 ft. 33-in. vit. clay with aver. depth 20.2 ft.;
- 4184 ft. 24-in. R. C. pipe, aver. depth, 5.9 ft.;

(Total, 306,753 ft. or 58.1 mi.);
 2580 ft. Type "B" concr. backfill for 8-in. pipe;

16 ft. Type "A" conc. backfill for 8-in. pipe;

60 ft. Type "A" conc. backfill for 10-in. pipe;

87 ft. Type "A" conc. backfill for 12-in. pipe;

6000 tons rock or gravel for subgrade;

1054 type "A" standard manholes, aver. depth 8 ft.;

15 type "C" standard manholes, aver. depth, 15.8 ft.;

39 Type "D" standard manholes, aver. depth, 17.3 ft.;

8 Type "E" standard manholes, aver. depth, 19.8 ft.;

One spillway puncture chamber;

82 standard lmpoles;

93,500 lin. ft. (17.71 miles) 6-in. vit. clay connecting sewers;

6102 connections, aver. length 15.32 ft. Move water, gas and other interferences;

One pumping station consisting of concr. pit with brick structure. The equipment will include one 8 in. and two 6-in. centrifugal sewage pumps.

The engineer's estimate of cost is \$800,000. Plans obtainable from office of city engineer, on deposit of \$40 of which \$20 will be returned. Certified check or bond, 10%. The plans were prepared by R. A. Shaw, under the direction of A. H. Adams, city engineer.

The previous bids were opened Nov. 6, 1931, at which time Gogo & Radov were low bidders at \$724,862.70, the contract being subsequently awarded to them, but the award was never published. The contract was rescinded May 5, 1932. A complete tabulation of the bids appeared in Daily Pacific Builder of Nov. 12, 1931.

INGLEWOOD, Los Angeles Co., Cal.—City council has started proceedings for sewers in 79th St., bet. Van Ness Ave. and 8th Ave., under 1911 and 1915 Acts, involving:

- (1) 2896 ft. 8-in. sewer;
- (2) 1254 ft. 6-in. house connection sewers;
- (3) 3 standard manholes "B";
- (4) 5 standard junction chambers "F"
- (5) one standard flushing manhole.

INGLEWOOD, Los Angeles Co., Cal.—Until 8 P. M., May 23, bids will be received by city council to furnish sewer pipe as follows:

- (1) 5600 ft. 8-in. vit. clay sewer pipe;
- (2) 3900 ft. 6-in. vit. clay sewer pipe;
- (3) 186 6-in. vit. clay 1/2 bends;
- (4) 218 8x6-in. vit. clay sewer wye branches;
- (5) 218 6-in. vit. clay sewer pipe stoppers.

Alternative bids may be submitted on cement concrete pipe.

Construction of these sewers, which are to be laid in a subdivision of the L. A. Investment Co. north of Centinela Ave. and west of Beach Ave., will be done by force account.

Arthur W. Cory, city engineer. O. H. Duelke, city clerk.

SANTA CRUZ, Santa Cruz Co., Cal.—Election will be held June 2 in the Capitola Sanitary Dist. to vote bonds of \$21,000 to finance construction of a sanitary sewer system.

LOS ANGELES, Calif.—Until 10 A. M., May 18, new bids will be received by board of public works to construct sewers in Venice Blvd. bet. Sawtelle Blvd. and Centinela Ave. and other streets, in Venice Blvd. and Lincoln Blvd. Sewer District, a total of 26,306.77 lin. ft. of sewer, under the 1911 act, involving:

1631.55 ft. 27-in. vit. main line sewer, including 91 27x6-in. wyes;

1978.99 ft. 24-in. vit. main line sewer, including 114 24x6-in. wyes;

720.71 ft. 21-in. vit. main line sewer, including 31 21x6-in. wyes;

895.31 ft. 18-in. vit. main line sewer, including 67 18x6-in. wyes;

4591.13 ft. 15-in. vit. main line sewer, including 220 15x6-in. wyes;

7452.54 ft. 12-in. vit. main line sewer, including 298 12x6-in. wyes;

3300.54 ft. 8-in. cem. main line sewer, including 85 12x6-in. wyes;

5734 ft. 6-in. house connections (cem. pipe), including 226 6x1/2-inch bends;

87 manholes, etc.

The bids opened March 30 were rejected May 4. M. Miller was the previous low bidder at \$108,268.30.

LONG BEACH, Cal.—A. H. Adams, City Engineer, is preparing an Assessment Limitation Report on the proposed storm drain in Pump District No. 8. As soon as completed, this report will be forwarded to the city council, after which a date for hearing will be set. The district covers approximately 3.5 square miles. It contains approximately 13,000 parcels of land. The construction will involve 15 to 18 miles of sewer and the pipe will range from 10-in. cement pipe to 48-in. reinforced concrete. The monolithic or semi-elliptic section will range from 4 ft. to 6 ft. 6 in. There will be approximately one mile of tunnel, 7 ft. 9 in. in diameter, with steel and Gunite lining. The estimated cost is \$806,000.

SAN FRANCISCO—Until May 23, 2:30 P. M., bids will be received by S. J. Hester, Secretary, Department of Public Works, to improve Peabody St., from Sunnydale Ave. to a point 256 ft. south, involving:

- (1) 256 ft. 8-in. V.C.P. sewer;
- (2) 14 8x6-in. Y or T branches;
- (3) 72 ft. 6-in. V.C.P. side sewer;
- (4) 1 brick manhole.

Estimated cost \$170. Plans obtainable from John J. Casey, city engineer 3rd Floor, City Hall.

QUARRY HEIGHTS, Panama Canal Zone.—See "Government Work and Supplies," this issue. Bids wanted by Constructing Quartermaster, Panama Canal Department, for excavation, curbs, walks, water distribution and fire protection systems, storm and sanitary sewers, street lighting, etc.

WATERWORKS

SACRAMENTO, Cal.—Until May 19, 8:15 P. M., bids will be received by H. G. Denton, city clerk, to furnish 50 tons of Bauxite for the Filtration Division, Spec. of May 5, 1932. Certified check 5% payable to City Controller required with bid.

COALINGA, Fresno Co., Cal.—Steel, Inc., Chamber of Commerce Bldg., Los Angeles, at \$33.60 per 100 ft., awarded contract by city council to furnish 1200 ft. 3-in. eight-thread standard lap weld black pipe. Ten bids in all were submitted.

ALAMEDA, Cal.—Plans for a 20,000 gallon capacity surface tank to be constructed at Government Island, Alameda, are being prepared by Capt. A. B. Brown, Bureau of Public Roads, Oakland. Bids will be called for shortly.

SAN CLEMENTE, Orange Co., Cal.—W. A. Ayer, city engineer, has reported that improvements to the water system under the recent \$60,000 water bond issue include: 2,600 ft. 12-in. cast iron pipe; 25,000 ft. 4-in. and 6-in. cast iron pipe. The bonds have not yet been sold.

LYNWOOD, Los Angeles Co., Cal.—John Bean Mfg. Co., 333 E. Third St., awarded contract by city council April 26 at \$2980 to furnish one 1200 G.P.M. deep well turbine centrifugal pump with 100-hp. motor.

LOS ANGELES, Cal.—The public lands committee of the House of Representatives in Congress has reported favorably on the Swing Bill, granting the Metropolitan Water District rights-of-way for the proposed aqueduct across more than 200 miles of government land. According to W. E. Weymouth, chief engineer and general manager of the Metropolitan Water District, application was made not only for the aqueduct right-of-way but for rights-of-way for construction of roads and trails as well as an easement for power transmission lines from Boulder Dam to the various pump plant sites along the aqueduct route.

VICTORVILLE, San Bernardino Co., Cal.—An election will be held May 24 to vote on a \$50,000 bond issue to finance purchase of Appleton Water Co.'s existing system and to install extensions and betterments. The bonds are to be retired in 23 years.

SANTA BARBARA, Cal.—City council plans bond election to vote on a \$300,000 to \$400,000 bond issue for the replacement of 7000 ft. of old wooden pipe lines, installation of distributing system and the construction of a 2,000,000-gallon reservoir on La Mesa site and a 1,350,000-gallon reservoir on El Cielito site. Victor Trace is the water superintendent.

BIEBER, Lassen Co., Calif.—Bieber citizens at a special election last Tuesday voted 69 to 20 to organize a taxation district to finance construction of a domestic water supply and

fire protection system, estimated to cost \$10,000. The contemplated initial unit includes about 12 blocks of water mains and installation of 12 fire hydrants.

LONG BEACH, Cal.—Contracts for furnishing deep well turbine pumps for the use of the water department awarded by city council April 29 as follows:

Proposal No. 2, 225 G.P.M., with 100 hp. motor, 2 7/16-in. dia. drive shaft and 3 1/2-in. dia. inner column, to Byron-Jackson Pump Co., at \$2932.54.

Proposal No. 3, Kimball-Krogh Pump Co., 750 G.P.M., 26-in. dia. well, 40-hp. motor, 1 11/16-in. dia. drive shaft and 2 1/2-in. dia. inner column, to Kimball-Krogh Co., at \$1547.

Bids for Proposal No. 1 rejected.

GRAND VALLEY, Colorado—Pittsburgh - Des Moines Steel Co., submitted low bid to U. S. Bureau of Reclamation, Denver, April 28, at \$7875, for furnishing labor and materials and performing all work for furnishing and erecting, in excavation and on concrete piers and anchors constructed by others, two 78-in. diameter plate-steel pen-stock, each approximately 230 ft. in length, made of 1/4-in. and 1/2-in. plates, for the Grand Valley Project, Colorado. Grand Valley power plant is located about 1/2 mile southeast of Palisade, Colorado. R. F. Walters, chief engineer.

OAKLAND, Cal.—Until May 19, 6 P. M., bids will be received by W. W. Chappell, city clerk, to construct Eighth street culvert extension and Lake Merritt control house and gates, consisting of 8 concrete boxes, approximately 53 ft. long and 6 1/2 ft. a conc., steel and tile Lake Merritt control house and steel control gates. Bids will be taken as follows:

- (1) (lump sum) per lin. ft. of pile;
- (2) (lump sum) all other items.

Project involves:

- (1) 7000 lin. ft. wood bearing piles in place;
- (2) 112.2 cwt. steel sheet piling in place;
- (3) 3942 cu. yds. reinf. conc. incl. steel excess backfill;
- (4) 8909 lbs. struc. steel in place;
- (5) 8 steel gates with c. i. guides, oak seats, springs and stems;
- (6) 8 gate hoists, gears, bearings, clutches, shafting, cover and appurtenances;
- (7) 1 75-Hp. 3-phase, 220 volt, 600 rev. per min.;
- (8) 1 reversible line starter for same;
- (9) 900 sq. ft. tile roofing;
- (10) 13 window sash, glazed in place;
- (11) 2 double doors with appurtenances;
- (12) 2.2 M. B. M. lumber roof framing
- (13) 2 metal ladders;
- (14) 66 lin. ft. hand railing;
- (15) 228 sq. ft. metal flooring;
- (16) 153 ft. do;
- (17) 112 metal steps;
- (18) 2 wooden steps.

Specifications obtainable from above office. Certified check 10% required with bid. Walter N. Frickstad, City Engineer.

REDDING, Sasta Co., Calif.—City Engineer W. K. Adams has been instructed by city council to prepare estimates of cost for constructing a municipal water system and as an alternative, to prepare an estimate on the present value of the California Water

Service Corp. system, privately owned, now serving the city.

COLUSA, Colusa Co., Cal.—Byron-Jackson Co. at \$1050 awarded contract by city council to furnish one 6-inch two-stage Multiplex pump, bronze fitted and equipped with cast iron base plate and flexible couplings for direct connection to 75-h. motor owned by said city, f.o.b. Colusa, price to include mounting of motor.

Complete bids follow:

| | |
|----------------------------|--------|
| *American Well Works..... | \$ 648 |
| *Worthington Company..... | 953 |
| Byron-Jackson Co..... | 1050 |
| Delton Water Wheel Co..... | 1127 |
| DeLaval Pump Co..... | 1635 |

*Time of delivery and connection to motor not according to specifications, therefore bids not considered.

SOUTHERN CALIFORNIA—The report of the consulting board of engineers on the proposed Metropolitan Water District Aqueduct has been submitted to the directors of the district, and approved in practically every particular the plans and specifications prepared by F. E. Weymouth general manager and chief engineer.

The report reaches the conclusions as follows:

(1) The San Jacinto Tunnel, 13 miles in length, shall be the first unit started. Test borings in the Granite Mountain section shall be continued.

(2) The Parker Site for the diversion dam was approved. Construction recommended to be done during the filling of the Hoover Dam reservoir when the river will be under control.

(3) The plans for the Hayfield Reservoir, 80 miles west of the Colorado River, were approved.

(4) The long tunnel was recommended in preference to the short tunnel line along the Little San Bernardino Mountains. Work shall start shortly after the San Jacinto Tunnel work is started.

(5) The report recommends that the aqueduct adjacent to Whitewater be divided into two half-capacity tunnels for about two miles for reasons of safety and decrease in initial cost.

(6) Recommendations were made that bids from power companies be obtained in order that power may be had before actual construction begins. This is to allow ample time for the construction of Diesel electric plants should the power supply contracts prove unsatisfactory.

(7) The storage capacity of the Cal-jalco reservoir has been found to meet demands for reserve storage. The report recommended the purchase of storage space in the Pine Canyon reservoir.

Members of the consulting board are: Thaddeus Merriman, chairman, of New York City; Arthur P. Davis of Oakland; Richard R. Lyman of Salt Lake City; Harvel S. Mudd of Los Angeles, and Royal W. Sorensen of California Institute of Technology.

SAN FRANCISCO.—City and County of San Francisco votes bonds of \$6,500,000 to finance completion of the Hetch Hetchy Water Project involving in the main the construction of five miles of Coast Range tunnels; pipe lines and appurtenances connecting the Municipal Water Department properties with Hetch Hetchy properties to convey water to San Francisco and other communities. Under the terms of the Hetch Hetchy grant, San Francisco is obligated to build roads and trails in the Yosemite National Park, costing more than \$1,250,000, which money is included in the fund voted.

VISALIA, Tulare Co., Calif.—City council sets May 24 as date to vote bonds of \$250,000 to finance purchase of the California Water Service Corporation system to operate as a municipal project. A survey by the state railroad commission placed a value of \$161,000 on the system in 1927. The additional amount would be for additions and improvements to the lines of the corporation.

STREETS AND HIGHWAYS

OREGON STATE.—Until May 18, 10 A. M., bids will be received by State Highway Commission, Multnomah Hotel, Portland, for highway construction as follows:

Coos, Curry, Douglas and Josephine Counties
Construct 21 miles of bit. mac. and 5 miles of oil surface treatment. Work is in four units in the vicinities of Grants Pass, Drain, Bandon and Denmark.

Deschutes and Wheeler Counties
Construct 5 miles of road mix surface treatment on Terrebonne-Redmond Section of The Dalles-California Highway and 12 miles of oil surface treatment on the Mitchell-Dayville Section of the Ochoco Highway.

Douglas County
Construct 1,200 lin. ft. conc. pipe in the Elk Creek Tunnel on the Umpqua Highway ten miles west of Drain.

Lincoln County
Construct 13 miles of bit. mac. on the Newport-Eddyville Section of the Corvallis-Newport and 14 miles of bit. mac. and 4 miles of oil surface treatment on the Newport-Lane County Line Section of the Oregon Coast Highway.

Marion County
Brooks-Salem Section of the Pacific Highway, 7 miles of grade widening and paving.

Umatilla and Wasco Counties
Umatilla-State Line and Deschutes River Tunnel Sections of Columbia River Highway, 8.3 miles of grading work to be contracted in two units. One unit involves 233,000 cu. yds. of excav. and the other 144,000 cu. yds. of excav.

Wasco County
Dillion Section of Columbia River Highway, 1.1 miles grading, involving 66,000 cu. yds. excavation. Specifications obtainable from State Highway Commission Office, Room 322, State Office Bldg., Salem upon deposit of \$5.

SAN RAFAEL, Marin Co., Calif.—Until May 23, 11 A. M., bids will be received by Rob E. Graham, county clerk, for highway construction as follows: From Maple Avenue to Laurel Grove Ave., Kentfield, and from State Highway at Green Brae to Hutchinson Quarry on Kent-field-Santa Quentin Road, a distance of approximately 0.8 mile, to be surfaced and treated with emulsified asphalt and screenings, involving:
(1) 715 tons broken stone (asphaltic macadam surface) in place;
(2) 16,900 gals. emulsified asphalt in place.

Specifications obtainable from Rodney Messner, county surveyor, Court House, San Rafael.

SANTA BARBARA, Cal.—Until 1:30 P. M., May 19, bids will be received by city council to furnish 4000 bbls. of La Mesa oil for the improvement of dirt streets. Estimated cost \$2000. E. B. Brown, city engineer. Geo. L. Gelb, city clerk.

SAN FRANCISCO.—Until May 25, 2:30 P. M., bids will be received by S. J. Hester, secretary, Department of Public Works, to construct 5,000 sq. ft. one-course concrete sidewalks in Van Ness Ave. bet. Broadway and Vallejo Streets, etc. Estimated cost, \$800. Plans obtainable from John J. Casey, city engineer, 3rd floor, City Hall.

SAN FRANCISCO.—Until May 25, 2:30 P. M., bids will be received by S. J. Hester, Secretary, Department of Public Works, to improve Shields Ave. between Victoria and Heat Streets, where not already improved, involving:
(1) 50 ft. armored concrete curb;
(2) 29 ft. 6-in. V.C.P. side sewer;
(3) 725 sq. ft. asphalt. conc. pavement.
Estimated cost \$500. Plans obtainable from John J. Casey, city engineer, 3rd Floor, City Hall.

SAN FRANCISCO.—Until May 25, 2:30 P. M., bids will be received by S. J. Hester, secretary, Department of Public Works, to improve Garfield St. bet. Orizaba Ave. to Head St. and crossing at Grafton and Garfield, involving:
(1) 5,950 cu. yds. excavation;
(2) 300 cu. yds. embankment;
(3) 870 ft. unarmored concrete curb;
(4) 8,150 sq. ft. 1-course conc. sidewalks;
(5) 4 brick catchbasins;
(6) 90 ft. 10-in. V.C.P. sewer;
(7) 295 ft. 8-in. do.;
(8) 236 ft. 12-in. do.;
(9) 4 brick manholes;
(10) 16 12x6-in. Y or T branches;
(11) 12 8x6-in. do.;
(12) 535 ft. 6-in. V.C.P. side sewer;
(13) 21,680 sq. ft. asphalt. conc. pave.

Estimated cost, \$12,000. Plans obtainable from John J. Casey, city engineer, 3rd floor, City Hall.

SAN FRANCISCO.—City Engineer John J. Casey completes specifications to construct 1-course sidewalks (where not already constructed) in 32nd Ave. bet. Ulloa and Vicente Sts.; west half of 31st Ave. bet. Rivera and Santiago Sts.; east half of 32nd Ave. bet. Ulloa and Vicente Sts., and other streets, involving 1,500 sq. ft. walks. Estimated cost, \$1,000.

BAKERSFIELD, Kern Co., Calif.—Tarr and McComb Oil Co., Ltd., Los Angeles, at \$62 1/2 per bbl. submitted lone bid to city council to furnish 10,000 barrels of road oil. Taken under advisement. Jos. Holfelder is city engineer.

SAN DIEGO, Cal.—Until May 17, under Specification No. 6842, bids will be received by Public Works Officer, 11th Naval District, for roads, walks and services at the Naval Operating Base (Training Station).

ARIZONA STATE—All-Arizona Engineering & Constr. Co., Clifton, Ariz. awarded contract by State Highway Commission, Phoenix, April 28, at \$125,520.42, for the construction of highway on the Holbrook-Winslow Highway, F.A.P. 40—5th reopening. The work, which begins at a point approximately 11 miles east of Winslow and extend easterly toward Holbrook, approximately 19 1/4 miles, consists of the grading, draining and placing of subgrade stabilizer, and is to be completed on or before December 31, 1932. Complete bids published in issue of

ARIZONA STATE—Veater & Davis, El Paso, Texas, submitted low bid to State Highway Commission April 28, at \$61,303.08 (bidding on regular specifications), for highway construction and oil processing on the Blythe-Wickenburg Highway, F. A. 98-G, beginning 2-mi. west of Quartzsite and extends easterly 3.6 miles. Veater & Davis also submitted low bid on the alternate at \$61,685.88. Second low bid on the alternate submitted by Ralph Pleasant, Phoenix at \$66,496.27.

Second low bid on the regular specifications submitted by Lewis Bros., Winslow, Arizona, at \$65,448.12. The approximate quantities are:

- ROADWAY**
2,350 cu. yds. road excavation;
2,100 cu. yds. drainage excavation;
350 cu. yds. structural excavation;
31,000 cu. yds. borrow excavation;
107,000 sta. yds. earthwork overhaul;
2,890 cu. yds. subgrade stabilizer;
200 cu. yds. concrete;
10,400 lbs. reinforcing steel;
66 lin. ft. 24-in. C.M.P.;
60 lin. ft. 30-in. C.M.P.;
324 lin. ft. 36-in. C.M.P.;
757 M gal. water applied to road;
200 hours rolling fills, etc;
5,200 cu. yds. mineral aggregate;
88,350 gal. oil applied to roadway;
- BRIDGES**
14,700 cu. yds. drainage excavation;
750 cu. yds. structural excavation;
470 cu. yds. concrete;
36,200 lbs. reinforcing steel;
176 M.B.M. treated timber;
11 M.B.M. untreated timber;
3,700 lin. ft. treated piles; and other incidental items.

LOS ANGELES, Cal.—Osborn Co. 455 California Terrace, Pasadena, awarded contract by county supervisors at \$25,729.70 to improve Mission Road, from west city limits of Alhambra, to Hidalgo St., in City of Alhambra, 14,640 lin. ft. or 2.77 miles, involving:

- (1) 231,150 sq. ft. 4-in. asphalt. concrete base, including shaping;
- (2) 100 tons asphalt. conc. base, variable thickness, to be constructed bet. curtain walls;
- (3) 236,300 sq. ft. 2-in. asphalt. concrete surface.

SAN LUIS OBISPO COUNTY, Cal.—Until May 18, 2 P. M., bids will be received by L. H. Gibson, district engineer, State Highway Commission, 50 Figueroa St., San Luis Obispo, to treat 11.8 miles of earth shoulders with fuel oil on San Luis Obispo and Morro. Specifications obtainable from engineer.

RENO, Nev.—T. Christenson, Reno, at \$30,453 submitted low bid to city council to construct sidewalks, curbs and gutters in various sections of the city as follows:

- 43,000 sq. ft. hyd. cem. conc. sidewalks \$17;
- 5,250 lin. ft. hyd. cem. conc. curb and gutter, 2-ft. 6-in. in width \$30;
- 2,600 lin. ft. hyd. cem. conc. curb and gutter, 8-ft. 6-in. wide, \$1.30;
- 600 lin. ft. hyd. cem. conc. gutter only, 6-ft. wide, \$1.03;
- 425 lin. ft. hyd. cem. conc. header, \$60;
- 33,500 sq. ft. hyd. cem. concrete alley pave, \$18;
- 3,600 sq. ft. hyd. cem. conc. alley approach pave, \$18;
- 31,000 sq. ft. hyd. cem. conc. pave., 6-in. thick, \$22.

Bids taken under advisement until May 9.

RENO, Nevada.—Union Paving Co., (call Bldg., San Francisco, at approx. \$54,600 submitted low bid to the city council to pave various streets involving 350,000 sq. ft. asph. conc. 3½-in. base with 3½-in. wearing surface. Nevada Rock & Sand Co., Reno, next low at approx. \$73,650 and Clark and Henry Const. Co., San Francisco third low at approx. \$77,150.

Union Paving Co. low at \$5,460 for 25,000 sq. ft. patching pavement. Nevada Rock and Sand Co. next low at \$5,750. Clark & Henry Co., \$7,500.

QUARRY HEIGHTS, Panama Canal Zone.—See "Government Work and Supplies," this issue. Bids wanted by Constructing Quartermaster, Panama Canal Department, for excavation, curbs, walks, water distribution and fire protection systems, storm and sanitary sewers, street lighting, etc.

CALIFORNIA—Bids will be asked shortly by the State Highway Commission, Chas. H. Purcell, State highway engineer, for the following projects:

Contra Costa County—San Pablo to Carquinez Bridge, 16.6-miles asphalt concrete and Portland cement concrete pavement.

Yolo County—Swingle to Yolo Causeway, 1.7-miles Portland cement concrete pavement.

Los Angeles County—Barranca St. to Pomona, 6.0-miles Portland cement concrete pavement.

Del Norte County—Crescent City to Madrona, 6.9 miles bituminous treated crushed rock surfacing.

San Luis Obispo County—Cambria to San Simeon, 9.7-miles bituminous treated crushed rock surfacing.

San Bernardino County—Holloran Summit to Mt. Pass Arrowhead Trail 16.5-miles bituminous treated crushed rock surfacing.

Siskiyou County—At Cottonwood Creek, 0.8-miles bituminous treated crushed rock surfacing.

Amador County—Drytown to Martell, 4.8-miles bituminous treated crushed rock surfacing.

KERN COUNTY, Cal.—State Highway Commission rejects bid of the Standard Road Planning Co., Los Angeles, at \$21,516 for planing the surface of the state highway between Grapevine and Bakersville, Kern County. The bids were opened April 18.

WASHINGTON STATE.—Following contracts awarded by state highway department, Olympia, for highway construction as follows:

Goetz & Brennan, Seaboard Bldg., Seattle, at \$19,088 only bid submitted for paving with Portland cement concrete one-half strip on about 0.8 mile of State Road No. 12, Raymond east to connection in Raymond in Pacific County.

Colonial Building Co., Hutton Bldg., Spokane, at \$49,739 for grading about 6.1 miles of Grand Coulee Highway, Soap Lake north in Grant County involving about 124,190 cu. yds. excavation, 225 lin. ft. pipe culverts and other items. Stanley, Tadey & Co., Seattle, second low at \$50,111; Goodfellow Bros., Inc., Wenatchee, third low at \$51,734.

Erickson Paving Co., 1550 N. 34th St., Seattle, at \$37,138 for grading and surfacing about 3.6 miles of Vashon Island Highway, Center to Tahlequah in King County, involving about:

3.4 acres clearing;
129,320 cu. yds. excavation;
7,660 cu. yds. crushed stone;

4,748 lin. ft. pipe culverts;
and other items.

Thomas Scalzo, Seattle, second low third low at \$40,650
at \$39,277; Cowan & Hubback, Seattle,

OREGON STATE.—Following contracts awarded April 28 by the State Highway Commission, Multnomah County Courthouse, Portland for highway construction as follows:

Benton and Umatilla Counties
J. C. Compton, McMinnville, at \$18,750 for 15 miles of pavement planing on Benton County Section of west side Pacific Highway and 17 miles pavement planing on Adams-Milton Section of Oregon-Washington Highway.

Clackamas County
Fisher Bros., Oregon City, at \$30,723 for 2 miles of grading, involving 45,000 cu. yds. of excavation on the New Era-Canby Section of Pacific Highway.

Lane County
J. C. Compton, McMinnville, at \$22,339, under Alternate A, for 3 miles of bit. mac. wearing surface and 7 mi. of oil mat surface treatment on Berry Creek-Flurence Section of Oregon Coast Highway.

J. C. Compton, McMinnville, at \$34,442.50 under Alternate A for 9.2 miles of bit. mac. wearing surface and 20.2 miles of oil mat surface treatment on Hendricks Bridge-South Fork Bridge Section of McKenzie Highway.

Morrow and Gilliam Counties
Schmeer & Williams, Portland, at \$12,766 for furnishing of 10,000 cu. yds. crushed rock and crushed gravel in stockpiles in Hepper Junction-Irrigon Section of Columbia River Highway.

Polk and Yamhill Counties
Wren & Greenough, Chof. Com. Bldg., Portland, at \$136,765 under Alternate 1 for construction of 13.8 mi. of crushed rock surfacing, 8.2 mi. of bit. mac. wearing surface and 5.6 miles of oil mat surface treatment. Includes also furnishing 12,400 cu. yds. crushed rock in stockpiles; requires altogether approximately 43,000 cu. yds. of crushed rock and gravel. Project on Boyer-Valley Junction Section of Salmon River Highway and Dolph-Sheridan Section of McMinnville-Tillamook Highway.

Umatilla County
Standard Asphalt Paving Co., Chronicle Bldg., Spokane, at \$74,117 under Alternate A for 6.4 miles of grade widening and 9 miles resurfacing; resurfacing to consist of a pit-run rock or gravel base and a bit. mac. wearing surface on Pendleton-Emigrant Hill Section of the Old Oregon Trail.

Lynn County
Johnson Bros. Co., Klamath Falls, at \$60,318 under Alternate 2, for 3.4 miles of grading, involving 170,000 cu. yds. of excavation on Trout Creek-Upper Soda Creek Section of the Santiam Highway.

Wasco County
All bids rejected and project ordered redesigned for widening 200 lin. ft. of road bed at tunnel portal on Deschutes River Tunnel Section of the Columbia River Highway. P. L. Crooks & Co., Inc., Portland, submitted only bid at \$11,760.

KERN COUNTY, Cal.—Granite Construction Co., Bin No. 3, Watsonville, at \$8843.30 awarded contract by State Highway Commission, Sacramento, to treat with fuel oil as a dust palliative 19.5 miles between the junction of the Arvin Road and the west city limits of Tehachapi.

ARIZONA STATE—N. G. Hill & Co., 1344 E. McKinley Street, Phoenix, submitted low bid to State Highway Commission at Phoenix, May 2, at \$26,059.78 for highway construction on the Prescott-Ashford Highway, F. A. Proj. 62-A. 2nd reopening, and 62-E, 1st reopening, 19.4 miles involving grading, draining, and oil processing of both projects, and is to be completed on or before January 31, 1933. The principal items are:

96,000 cu. yds. roadway excavation;
3,250 cu. yds. drainage excavation;
2,600 cu. yds. structural excavation;
65,500 cu. yds. borrow excavation;
41,000 cu. yd. fill borrow, haul;
201,600 sta. yds. earthwork overhaul;
67,000 cu. yds. subgrade stabilizer;
140,200 cu. yds. fill subgrade stabilizer,

haul;
1,300 cu. yds. concrete;
104,500 lbs. reinforcing steel;
520 lin. ft. 24-in. C. M. P.;
769 lin. ft. 30-in. C. M. P.;
415 lin. ft. 36-in. C. M. P.;
324 lin. ft. 42-in. C. M. P.;
2 C. M. catchbasins;
6,400 lin. ft. cable road guard;
28,000 cu. yds. mineral aggregate;
506,000 gal. oil applied to rdwy. (road oil);
56,200 gal. cut-back asphaltic cement.

T. S. O'Connell, State Highway Engineer.

LOS ANGELES, Cal.—Osborn Co., 455 California Terrace, Pasadena, submitted low bid to county supervisors May 2, at \$25,729.70 to improve Mission Road, from the west city limits of Alhambra to Hidalgo St., in the City of Alhambra, 14,640 lin. ft. or 2.77 miles. The bid follows:

291,150 sq. ft. 4-in. asph. concrete base, including shaping, \$3,058.
100 tons asph. conc. base, variable thickness, to be constructed between curtain walls, \$2.30.
296,300 sq. ft. 2-in. asph. concrete wearing surface, \$329.

VENTURA COUNTY, Cal.—As previously reported, until May 25, 2 P. M., bids will be received by State Highway Commission, Sacramento, to grade and pave with Portland cement concrete and asphalt concrete about 2.4 miles between Montalvo and Oxnard, involving:

- (1) 1200 cu. yds. rdwy. excav. without class;
- (2) 4200 cu. yds. imp. borrow;
- (3) 600 cu. yds. struc. excav.;
- (4) 31,000 sq. yds. subgrade for pave;
- (5) 13,000 sq. yds. asph. paint binder;
- (6) 7600 tons asphalt concrete;
- (7) 4250 cu. yds. Class A Port. cem. conc. (pave.);
- (8) 70 cu. yds. Class "A" Port. cem. conc. (struc.);
- (9) 102,000 lbs. bar reinf. steel (pave and struc.);
- (10) 100 lin. ft. 12-in. corr. metal pipe;
- (11) 150 lin. ft. 24-in. do;
- (12) 30 lin. ft. 24-in. stand. reinf. conc. pipe;
- (13) 1110 cu. yds. exist. pave. remove and dispose of;
- (14) 5550 lbs. misc. iron and steel (struc.);
- (15) 20 culvert markers;
- (16) 142 sta. finish rdwy;
- (17) 48 monuments complete in place. State will furnish corrugated metal pipe.

UTAH STATE.—Granite Const. Co., Watsonville, Calif., at \$79,907 awarded contract by State Road Commission for oiling Federal Aid Highway in Juab, Millard and Beaver counties.

LOS ANGELES, Cal.—T. E. Sherlock, 1103 W 40th Place, Los Angeles, at \$16,393.77 awarded contract by the board of public works to improve Franklin Ave. bet. Gower St. and Argyle Avenue, involving in the main: grading, concrete and asphalt concrete paving, storm drains, etc.

SACRAMENTO COUNTY, Cal.—As previously reported, until May 25, 2 P. M., bids will be received by State Highway Commission, Sacramento, to grade and treat existing rock borders with bituminous surface, about 11.9 miles between McConnell and Sacramento, involving:

- (1) 105 trees remove and dispose of;
- (2) 20,000 cu. yds. rdwy. excav without class;
- (3) 700 sta. yds. overhaul;
- (4) 5740 cu. yds. struc. excav.;
- (5) 188,090 cu. yds. imp. borrow;
- (6) 7500 tons untr. crushed gravel or stone surf.;
- (7) 328 cu. yds. Class "A" Port. cem. conc. (struc.);
- (8) 25,400 lbs. bar reinf. steel (struc.);
- (9) 5350 lin. ft. 18-in. corr. metal pipe
- (10) 948 lin. ft. 24-in. do;
- (11) 1230 lin. ft. corr. metal pipe (clean and relay);
- (12) 4659 lin. ft. salvage exist. culverts
- (13) 14 cu. yds. Port. cem. conc. remove from exist. pave. and struc.;
- (14) 5000 M. gal. water;
- (15) 3025 bbls. heavy fuel oil (shoulders);
- (16) 165 bbls. light fuel oil (borders);
- (17) 1410 tons screenings (borders);
- (18) 60 tons asph. road oil (borders);
- (19) 2.2 mi. move and reset property fences;
- (20) 1.2 mi. new stand property fence;
- (21) 3.6 mi. new hogtight fence;
- (22) 26 gates complete in place;
- (23) salvage exist. timber bridge;
- (24) 626 sta. finish rdwy.;
- (25) 115 monuments complete in place.

State will furnish corrugated metal pipe and case steel frames and covers for drop inlets.

ORANGE COUNTY, Calif.—Daley Corp., 4430 Boundary St., San Diego, at \$282,681.80 awarded contract by the State Highway Commission to grade and pave with Portland cement concrete 4.9 miles between Laguna Beach and Dana Point.

VALLEJO, Solano Co., Calif.—City council declares intention to pave Porter Street from Lemon to McLane Streets, involving:

- (1) 1242 cu. yds. grading;
- (2) 13,000 sq. ft. prepare subgrade;
- (3) 13,000 sq. ft. 2-in. asph. top;
- (4) 13,000 sq. ft. 3-in. asph. concrete base;
- (5) 1040 lin. ft. comb. concrete curb and gutter;
- (6) 110 lin. ft. 4-in. clay lateral sewer. Estimated cost, \$6344.40. Hearing will be June 10, 10 A. M. T. D. Killenny, city engineer. Alf. E. Edcumbe, city clerk.

SUNNYVALE, Santa Clara Co., Cal.—Until June 1, 11 A. M., under Specification No. 6888, bids will be received by Officer in Charge of Construction, Naval Air Station, Sunnyvale, for the demolition of certain concrete foundations, removal of resultant concrete fragments and debris, and leveling the site. Specifications obtainable from above office on deposit of \$5, returnable, checks for same to be made payable to the Chief of the Bureau of Yards and Docks.

SAN MATEO COUNTY, Cal.—Basich Bros., 20550 Normandie Ave., Torrance at \$112,910 awarded contract by State

Highway Commission to surface with bituminous treated crushed gravel or stone 7.3 miles between San Mateo and Redwood City.

LANDER COUNTY, Nevada.—Until June 22, bids will be received by S. C. Durkee, state highway engineer, to reconstruct 21.41 miles of state highway between Railroad Pass and Austin, involving grading, additional structures and gravel surface. After June 6 plans will be on file in office of U. S. Bureau of Public Roads, 461 Market Street, San Francisco, and obtainable from engineer on deposit of \$15, of which \$10 is returnable.

SAN LUIS OBISPO, Calif.—Granite Const. Co., Bin No. 3, Watsonville, at \$8712 awarded contract by the State Highway Commission to apply heavy fuel oil to the shoulders over about 9.8 miles between one and one-half miles southwest of Santa Margarita and Atascadero.

KERN COUNTY, Cal.—Street Imp. Co., 3023 Gilroy St., Los Angeles, at \$8037 awarded contract by the State Highway Commission, Sacramento, to treat with road oil as a dust palliative 30.6 miles of highway between Weldon and Democrat Springs.

NEVADA STATE.—Until June 15, bids will be received by S. C. Durkee, state highway engineer, Carson City, for:

(1) Clark County, place bituminous wearing surface on oil mixed gravel surface between Las Vegas and Boulder City, 22.71 miles in length.

(2) White Pine County, reconstruction consisting of grading and gravel surface, between East Foot and West Foot, of Conner's Pass, 9.02 miles in length.

Plans obtainable after May 30 from the office of the state highway engineer and will be on file at the office of the U. S. Bureau of Public Roads, 461 Market St., San Francisco.

SAN DIEGO AND IMPERIAL CO., Cal.—Until May 6, 2 P. M., bids will be received by S. V. Cortelyou, District Engineer, 808 California State Office Building, Los Angeles, to treat with fuel oil about 47.3 miles of earth shoulders between Viejas Creek and Myers Creek and between National City and San Ysidro; also in San Diego County about 0.9 mile between National Blvd. and Otay, seal coat to be applied, involving:

- (1) 2960 bbls. heavy fuel oil in place;
- (2) 23 tons asphaltic road oil in place;
- (3) 200 tons fine screenings in place.

Specifications obtainable from above office. Certified check 10% required with bid.

LOS ANGELES & ORANGE COS., Cal.—Until May 18, 2 P. M., bids will be received by State Highway Commission, Sacramento, to treat with fuel oil about 24.9 mi. of earth shoulders bet. Newport and the Orange-Riverside County line, between Long Beach and Seal Beach and at Lomita, involving:

- (1) 7010 barrels heavy fuel oil.

LOS ANGELES, Cal.—The Los Angeles county supervisors have appropriated \$160,000 for grading and surfacing of the road from Brea Canyon Road west to a point near the Mill-Workman Road, between Puente and Whittier. From Pomona to Brea Canyon Road the highway is to be improved by the state.

SONOMA COUNTY, Cal.—U. B. Lee, 1059 Carpenter St., San Leandro, at \$7286 awarded contract by State Highway Commission to surface with bituminous treated crushed gravel or stone about 1 mile between Fairville and Vineburg Junction.

SHASTA COUNTY, Cal.—Bids will be asked about June 1 by the State Highway Commission for grading and oil treated surfacing of 9.75 miles of highway from Canyon Creek to Hat Summit, Shasta County. Estimated cost is \$290,000.

SANTA CLARA COUNTY, Calif.—Falo Alto Road Material Co., Falo Alto, at \$342.80 awarded contract by the State Highway Commission to treat with light fuel oil about 13.7 miles between the Santa Clara-San Mateo Co. line and Santa Clara.

CALIFORNIA STATE.—C. H. Purcell, State Highway Engineer, has announced that a total of 79 miles of the Inland Route (Route 77) will be improved within the next few years at a total cost of \$7,493,020. The proposed work includes seven miles of a new route from Poway corners to San Clemente Canyon, eliminating the present Poway Grade. The commission has under consideration the construction of a tunnel through the Poway Hill. The proposals also include construction of a new bridge across the San Luis Rey River to carry the highway north from Escondido, approximately along the route of the Moosa Canyon Road, crossing the San Luis Rey at Bonsall.

SHASTA COUNTY, Cal.—As previously reported bids will be received May 9, 2 P. M., by F. W. Haselwood, district engineer, State Highway Commission, Redding, for grading and surfacing approaches to Clear Creek Bridge at Tower House, 0.3 mi. in length. Projects involving:

- 2 1/2 acres clearing and grubbing;
- 11,340 cu. yds. roadway excavation;
- 12,600 sta. yd. overhaul;
- 108 cu. yds. structure excavation;
- 3 cu. yds. A. concrete (structure);
- 180 lbs. reinforcing steel;
- 650 cu. yds. untreated gravel or stone surfacing;
- 75 M. gals. watering;
- 80 lin. ft. 18-in. corr. pipe;
- 70 lin. ft. 24-in. corr. pipe;
- 17 stations finishing roadway;
- 13 monuments.

DAILY NEWS SERVICE

If you are interested in a daily construction news service featuring all types of building and engineering construction, send for free sample copies of Daily Pacific Builder. Subscription price, \$150 per month or \$1500 per year when paid in advance.

Daily Pacific Builder features in each issue, timely reports on work contemplated, bids wanted, bids opened and contracts awarded for all types of building and engineering construction, machinery and equipment, Government work, supplies and equipment, business opportunities, etc.

Daily Pacific Builder is the only publication publishing listings of building permits, building contracts, mechanics liens, etc., in Northern and Central California.

Send for sample copies today or phone GA-field 8744.

Daily Pacific Builder

545 Mission St.
San Francisco, Calif.

BUILDING NEWS

APARTMENTS

Plans Being Prepared.

APARTMENTS Total Cost, \$25,000
SANTA CRUZ, Santa Cruz Co., Cal.
 Riverside Ave. near Leibbrandt
 Avenue.

One-story frame and stucco apart-
 ments (19 2 and 3-room apts.)

Owner—Stanford Smith, Ralph and
 Selleck Miller, Santa Cruz Bldg.
 and Loan Bldg.

Plans by Hayward Lumber Co., 491
 Pacific Ave., Santa Cruz.

Contemplated.

APARTMENTS Cost, \$—
SAN FRANCISCO, NW Guerrero and
 25th Streets.

Six - story and basement concrete and
 steel frame apartments (30 2-room
 and 18 3-room apts.) composition
 and tile roof, steam heating system,
 electric refrigeration, hard-
 wood floors, colored tile baths and
 kitchens, 2 elevators.

Owner—James F. Smith, 271 Minna St.
 Architect—Not Selected.

Preparing Working Drawings.

APARTMENTS Cost, \$40,000
SAN FRANCISCO, W Pierce Street
 90 S Hayes Street.

Three-story and basement frame and
 stucco apartments (six 2-room and
 six 3-room apts.) tile and composition
 roof, steam heat, hardwood
 floors, colored tile baths and
 kitchens, canvas walls and ceilings.

Owner and Builder—T. I. Strand, 471
 Colon Street.

Plans by Irvine & Ebbets, Call Bldg.
 Sub-bids will be taken in about two
 weeks.

BONDS

NORTH SACRAMENTO, Cal.—Election
 set for May 17 in the Grant Union
 High School District to vote bonds of
 \$150,000 to finance erection of a new
 high school has been postponed. A
 new date will be set for the election.

SAN LEANDRO, Alameda Co., Cal.
 —Voters reject proposal at May 3
 election to issue bonds of \$80,000 to
 finance purchase of a site for a civic
 center and erection of a city hall.

SAN GABRIEL, Los Angeles Co.,
 Cal.—San Gabriel high school district
 will hold an election on May 24 (origi-
 nally set for May 17) at which time
 it is proposed to vote bonds in the
 sum of \$345,000 for financing the con-
 struction of the new San Gabriel high
 school plant. It is proposed to erect
 a classroom building, an auditorium
 and a gymnasium. Marsh, Smith and
 Powell, Architects' Bldg., Los Angeles
 and Scott Quintin, Edison Bldg., Al-
 hambra, are the architects. On Feb.
 23 the district defeated a bond issue
 for the same amount.

CHURCHES

Plans Being Completed.

CHURCH Cost, \$30,000
UPLAND, San Bernardino Co., Calif.
 Euclid Avenue and C Street.

Brick church (40x78-ft.) wood shingle
 roof, auditorium, classroom, social
 hall, etc.

Owner—Upland Methodist Church
 (Rev. Irwin A. Engle, pastor).

Architect—Skilling & Inwood, 1008 W
 Adams Blvd., Los Angeles.

Plans Completed.

SYNAGOGUE & SCHOOL Cost, \$—
LOS ANGELES, Los Angeles Co., Cal.
 No. 1318 S. Gramercy Place.

Two-story Class C brick synagogue
 and school (62x153 ft.) auditorium,
 meeting rooms, offices, classrooms
 and kitchen; cast stone trim, gas
 steam radiators.

Owner—Mogen David Congregation.
 Architect—Max Maltzman, Rives-
 Strong Bldg., Los Angeles.

FACTORIES AND WARE- HOUSES

SACRAMENTO, Cal.—Modern Baking
 Products Co. of which Robert H.
 Schwat, attorney, Forum Bldg., Sacra-
 mento, is a director, has been in-
 corporated and contemplates early
 construction of a modern baking plant
 in Sacramento. A site is yet to be
 selected. Other directors of the com-
 pany are J. E. Madding of San Fran-
 cisco and Freda Goodwin of Sacra-
 mento.

VISALIA, Tulare Co., Cal.—Packers'
 Plans Corporation of New York, rep-
 resented by Frank E. Bowden, 2011
 Clay St., Fresno, plans the erection
 of \$50,000 dehydration plant at Visalia
 with a capacity of 80 tons of fruit or
 vegetables per day.

Contract Awarded—Sub-Bids Being
 Taken.

INDUSTRIAL BLDG. Cost, \$15,000
SAN FRANCISCO, Nineteenth and
 Potrero Avenue.

One-story reinforced concrete indus-
 trial building (shops and offices).
 Owner—Q. R. S. Neen Corp., 306 7th
 Street.

Architect—Dodge Riedy, Pacific Bldg.
 Engineer—Hyman Rosenthal, 821 Mar-
 ket Street.

Contractor—J. D. Hannah, 251 Kearny
 Street.

Plans Being Completed.

POST OFFICE Cost, \$150,000
VALLEJO, Solano Co., Cal. Main and
 Carolina Streets.

One-story and basement Class A re-
 inforced concrete and granite Post
 Office building.

Owner—United States Government.
 Architect—Charles Dean, California
 State Life Bldg., Sacramento.

Plans will be completed in about
 thirty days.

YOSEMITE, Cal.—Mine Safety Ap-
 plication Co., Pittsburgh, Pa., at \$9409.45
 awarded contract by U. S. Bureau of
 Public Roads, to furnish and install
 carbon monoxide analyzers and re-
 corders with calibrator and appur-
 tenances in a tunnel on the Turtle-
 back Dome-Valley Floor Section of
 the Wawona Road, Yosemite National
 Park.

Contract Awarded.

STATION Bldg. Cont. Price \$93,500
SAN YSIDRO, San Diego Co., Cal.
 Inspection Station.

Owner—United States Government.
 Plans by Supervising Architect, Treas-
 ury Dept., Washington, D. C.

Contractor—Robert E. McKee, 666
 Mission St., San Francisco; 108
 W. 6th St., Los Angeles and El
 Paso, Texas.

Low Bidders.

POST OFFICE Appropriated, \$165,000
PETALUMA, Sonoma Co., Cal.
 Class A post office.

Owner—United States Government.
 Plans by Supervising Architect, Wash-
 ington, D. C.

Low Bidders—William Spivock, Hobart
 Bldg., San Francisco, \$91,700.

Barrett & Hilt, San Francisco, sec-
 ond low at \$91,800 and K. E. Parker
 Co., San Francisco, third low at \$91-
 \$60. Complete list of bids will be pub-
 lished shortly.

Plans Completed.

POST OFFICE Cost, \$150,000
MARYSVILLE, Yuba Co., Cal. NE
 Fourth and C Sts. (160x160 ft.)

One-story and basement Class A steel
 concrete and brick post office.

Owner—United States Government.
 Architect—J. J. Donovan, 1916 Broad-
 way, Oakland.

Structural Engineer—Frank A. John-
 son, 1916 Broadway, Oakland.

Mechanical Engineer—Atkins & Park-
 er, Hobart Bldg., San Francisco.
 Plans have been forwarded to Wash-
 ington for approval.

Plans To Be Prepared.

SHED EXTENSIONS Cost, \$40,000
SAN FRANCISCO, Port Mason.

Extension to concrete and steel wharf
 shed (148-ft. extension).
 Owner—United States Government.
 Plans by Constructing Quartermaster,
 Fort Mason.

SUNNYVALE, Santa Clara Co., Cal.—
 Helium Company, Inc., Louisville,
 Kentucky, at \$133,500 awarded con-
 tract by Bureau of Yards and Docks,
 Navy Dept., Washington, D. C., for
 equipment, high and medium pressure
 air and helium piping and accessories
 for repurification of helium at the
 Naval Air Station, Sunnyvale.

SUNNYVALE, Santa Clara Co., Cal.
 —NePage-McKenny Co., 7 Front St.,
 San Francisco, at \$62,887 awarded
 contract by Bureau of Yards and
 Docks, Washington, D. C., for the un-
 derground electric distributing system,
 including concrete manholes, trans-
 former vaults, conduit encased in
 concrete, concrete lighting standards,
 light, power, telephone and street
 lighting cables, transformers and ac-
 cessories, all at the Naval Air Sta-
 tion, Sunnyvale.

SUB-CONTRACTORS MATERIALMEN

Stop Your Losses

Credit information on general
 contractors, owners, builders and
 individuals.

MATERIALMEN'S CREDIT BUREAU

J. E. Higgins, General Manager
 564 Market St.—Kearny 6245-46
 Night Phone DOuglas 5304
 San Francisco

Bids Opened.

EXTEND DOCK Cost, \$165,000
SAN FRANCISCO, Port Mason.

Extend Dock No. 2 (reinforced concrete and steel construction), 8-ft. cylinder, with seven piles to each cylinder, beam steel frame, railroad tracks, crossties piles, dummy piles, crosstied timber).

Owner—United States Government.
Plans by Constructing Quartermaster, Port Mason.

Following is a complete list of bids: (A) extension to Pier No. 2.

(B) second unit of work when funds available.

- (1) for each additional crosstied fender or corner pile in place,
- (2) for each crosstied fender or corner pile omitted,
- (3) for each additional dummy pile in place,
- (4) for each dummy pile omitted,
- (5) for each 1000 ft. board measure, 6-lb. crosstied timber in place,
- (6) for each 1000 cubic foot of 1-2-4, mixed concrete in place,
- (7) for each 1,000 additional 12-pound crosstied timber in place,
- (8) for each do omitted,
- (9) in depth, concrete in 8-ft. cylinder pier,
- (10) 9 additional feet in length in cluster of 7 green beam piles under cylinder beyond shown in section.
- (11) for each additional pound of reinforced steel bars in place;
- (12) for additional cubic foot of 1-2-4, mixed concrete in place.
- (13) for each additional pound of structural steel in place.

Duncanson-Harrelson Co., (A) \$68,777 (B) \$61,605 (1) \$70 (2) \$50 (3) \$12 (4) \$8 (5) \$115 (6) \$100 (7) \$145 (8) \$125 (9) \$35 (10) \$2.50 (11) \$.035 (12) \$.32 (13) \$.04.

Clinton Const. Co., (A) \$71,000 (B) \$53,000 (1) \$30 (2) \$40 (3) \$10 (4) \$7 (5) \$50 (6) \$50 (7) \$30 (8) \$60 (9) \$40 (10) \$3 (11) \$.04 (12) \$.37 (13) \$.045.

M. B. McGowan (A) \$71,912 (B) \$67,472 (1) \$65 (2) \$45 (3) \$9 (4) \$6 (5) \$80 (6) \$55 (7) \$90 (8) \$65 (9) \$50 (10) \$7 (11) \$.06 (12) \$.70 (13) \$.05.

Pacific Bridge Co., (A) \$73,000 (B) \$53,000 (1) \$55 (2) \$45 (3) \$4 (4) \$4 (5) \$75 (6) \$20 (7) \$95 (8) \$55 (9) \$50 (10) \$3.50 (11) \$.035 (12) \$.60 (13) \$.06.

Healy-Tilbitts Const. Co. (A) \$75,000 (B) \$47,220 (1) \$75 (2) \$20 (3) \$12 (4) \$4 (5) \$70 (6) \$55 (7) \$50 (8) \$45 (9) \$60 (10) \$5 (11) \$.05 (12) \$.30 (13) \$.05.

Barrett & Hiltz (A) \$79,273 (B) \$72,844 (1) \$72 (2) \$48 (3) \$18 (4) \$12 (5) \$72 (6) \$60 (7) \$80 (8) \$64 (9) \$124 (10) \$4.20 (11) \$.04 (12) \$.80 (13) \$.05.

I. M. Sommer Co. (A) \$79,537 (B) \$61,537 (1) \$60 (2) \$40 (3) \$18 (4) \$10 (5) \$90 (6) \$50 (7) \$102 (8) \$72 (9) \$35 (10) \$12 (11) \$.04 (12) \$.85 (13) \$.04.

Schuler & McDonald, Inc., Oakland (A) \$88,371 (B) \$62,934 (1) \$31 (2) \$71.50 (3) \$20 (4) \$18 (5) \$64 (6) \$58 (7) \$80 (8) \$70 (9) \$55 (10) \$2 (11) \$.04 (12) \$.45 (13) \$.041.

San Francisco Bridge Co. (A) \$94,000 (B) \$66,000 (1) \$52 (2) \$44 (3) \$7 (4) \$3 (5) \$63 (6) \$40 (7) \$92 (8) \$48 (9) \$17 (10) \$10 (11) \$.033 (12) \$.30 (13) \$.035.

Siems-Helmers Co. (A) \$103,500 (B) \$77,450 (1) \$72 (2) \$54 (3) \$5.60 (4) \$4 (5) \$115 (6) \$55 (7) \$126 (8) \$95 (9) \$100 (10) \$2.50 (11) \$.04 (12) \$.16 (13) \$.05.

Bids held under advisement.

Planned.

POST OFFICE Cost, \$95,000
SANTA MARIA, Santa Barbara Co., Calif.

Class A post office.
Owner—United States Government.
Architect—Not Selected.

AMERICAN LAKE, Wash.—Until June 6, 2:30 P. M., bids will be received by the Superintendent of Construction, Veterans' Hospital, Palo Alto, for a vitrified clay and reinforced concrete outfall sewer, 19,000 feet in length at the Veterans' Hospital, American Lake. Specifications prepared by the Supervising Superintendent of Construction, Palo Alto.

SAN RAFAEL, Marin Co., Calif.—The Marin County Supervisors and Marvelous Marin, Inc., have accepted the proposal of the War Department to spend \$1,250,000 immediately in connection with the Marin Meadows Bombing Base and to await further appropriations to complete the \$6,000,000 project as originally planned. It is expected that a call for bids for the first unit will be asked within the next ten days. The base, as originally planned, provided for the following construction program: 125 single homes for officers, 50 double homes for officers, 11 hangars (100x200-ft.), machine and assembly shops, 4 barracks, two warehouses (100x200-ft.), bachelor officers' quarters, one officers' club-house, one non-commissioned officers' club-house, one headquarters, one post school, one chapel, one hospital, gymnasium and theatre building, laundry, parachute building, photography building, guard house, fire station, radio station, athletic field, seven miles of paved streets.

SUNNYVALE, Santa Clara Co., Cal.—Until June 1, 11 A. M., under Specification No. 6885, bids will be received by Officer in Charge of Construction, Naval Air Station, Sunnyvale, for the demolition of certain concrete foundations, removal of resultant concrete fragments and debris, and leveling the site. Specifications obtainable from above office on deposit of \$5, returnable on check for same to be made payable to the Chief of the Bureau of Yards and Docks.

Completing Plans.
POST OFFICE Cost, \$145,000
OROVILLE, Butte Co., Cal. Robinson and Oak Streets.
Class A Post Office.
Owner—United States Government.
Architect—Fred H. Meyer, 525 Market St., San Francisco.

Plans will be forwarded to Washington for approval shortly.

SUNNYVALE, Santa Clara Co., Cal.—Robert E. McKee, 108 W. Sixth St., Los Angeles, and El Paso, Texas, submitted low bid at \$165,700 to Bureau of Yards and Docks, Navy Department, Washington, D. C., to construct fire industrial buildings at the Naval Air Station, Sunnyvale. The buildings will be of reinforced concrete. The work includes steel windows and doors, tile and built-up roofing, structural slate and marble, tile and terrazzo work, asphalt tile flooring, metal studding and lathing, drinking fountains, plumbing, heating and electric systems;

Harver & Zoss, Los Angeles, second low at \$174,400.

Hannah & Peterson, San Francisco, third at \$175,000.

Complete list of bids will be published shortly.

QUARRY HEIGHTS, Panama Canal Zone.—Until 11 A. M., June 15, bids will be received by the Office of the Department Quartermaster, Panama Canal Department, Quarry Heights, C. Z., for the construction and completion of excavation, both earth and rock, roads, curbs, walks, water distribution and fire protection systems,

storm and sanitary sewer systems; electrical distribution and street lighting systems; fourteen company officers' quarters, and other buildings. Plans obtainable from Assistant to Department Quartermaster, Panama Canal Department, Albrook Field, C. Z., upon deposit of \$50 in cash (U. S. currency) or U. S. post office money order, payable to Department Quartermaster, P. C. Dept., Quarry Hgts., C. Z.; also from Constructing Quartermaster, 39 Whitehall St., New York City, Circular No. 660-32-6.

SUNNYVALE, Santa Clara Co., Cal.—Robert E. McKee, 108 W. 6th St., Los Angeles, and 666 Mission Street, San Francisco, awarded contract by Bureau of Yards and Docks, Navy Department, Washington, D. C., to construct five industrial buildings at the Naval Air Station, Sunnyvale. The buildings will be of reinforced concrete. The work includes steel windows and doors, tile and built-up roofing, structural slate or marble, tile and terrazzo work, asphalt tile flooring, metal studding and lathing, drinking fountains, plumbing, heating and electric systems.

Following is a complete list of bids: Robert E. McKee, L. A. \$165,700
Harver & Zoss, Los Angeles \$174,400
Hannah & Peterson, S. F. \$175,000
Leo Epp, San Francisco \$176,343
San Francisco Const. Co., S. F. \$176,700
Anderson & Ringrose, S. F. \$180,500
A. Nelson, S. F. \$180,870
McDonald & Kahn, S. F. \$180,997
K. E. Parker Co., S. F. \$181,900
Frank L. Reilly, S. F. \$182,635
H. M. Baruch Corp., L. A. \$184,526
F. P. Greenfield, L. A. \$184,700
Fredrickson & Watson, Oakland \$185,000

E. T. Lesure, Oakland \$187,648
Mitty Bros., Los Angeles \$189,000
Wm. Spivuck, San Francisco \$193,000
Siems-Helmers, Inc., S. F. \$195,700
Barrett & Hiltz, S. F. \$197,800
R. E. Campbell, L. A. \$199,500
Los Angeles Const. Co., L. A. \$202,000
J. E. Shepard, Stockton \$209,000
Alf. H. Vogt Co., S. F. \$209,900
Neves & Harp, Santa Clara \$209,983
Carl N. Swenson Co., San Jose \$211,965
Schuler & McDonald, Oakland \$211,977

QUARRY HEIGHTS, C. Z.—Until 11 A. M., June 15, bids will be received by the Department Quartermaster, Panama Canal Department, Quarry Heights, C. Z., for all work for constructing fourteen company officer's quarters; two four-family N. C. O. quarters; one battalion barracks; and other work in accordance with Circular No. 660-32-6, a copy of which is on file at the office of the Southwest Builder and Contractor, 158 South Hill St., Los Angeles.

HALLS AND SOCIETY BUILDINGS

Plans Completed.
CLUBHOUSE Cost, \$—
LONG BEACH, Los Angeles Co., Cal.
Sixth and Alamitos Avenue.

Two-story frame and cement plaster clubhouse (135x44-ft.) auditorium, kitchen, offices, toilets, etc.
Owner—Arthur L. Peterson Post No. 27, American Legion, Long Beach.
Architect—Schilling & Schilling, Farmers & Merchants Bank Bldg., Long Beach.

Work will probably be carried on by members of the Legion.

Bids Opened.
COMMUNITY CENTER Cost, \$650,000
SAN FRANCISCO, California St. and
 Presidio Avenue.

Two-story and basement reinforced
 concrete community center.

Owner—Jewish Community Center, S.
 M. Ehrman, chairman, 68 Post St.
 Architect—Hyman & Appleton 68 Post
 St., and Arthur Brown, Jr., 251
 Kearny St.

Building will contain gymnasium,
 swimming pool, handball courts, audi-
 torium, theatre, club rooms, lecture
 hall, game rooms, lounge rooms and
 kitchen.

Following is a complete list of bids:

General Work

| | |
|------------------------------|-----------|
| Wm. Spivock Hobart Bldg..... | \$141,833 |
| Barrett & Hilp..... | 150,512 |
| Empire Const. Co..... | 153,000 |
| Anderson & Ringrose..... | 153,856 |
| Jacks & Irvine..... | 153,004 |
| MacDonald & Kahn..... | 156,000 |
| K. E. Parker Co..... | 156,285 |
| Lindgren & Swinerton..... | 160,388 |
| Chas. Stockholm & Sons..... | 161,973 |
| G. P. W. Jensen..... | 162,000 |
| Cahill Bros..... | 162,500 |
| Clinton Const. Co..... | 162,500 |
| Relly & Grace..... | 167,000 |
| A. F. Mattock..... | 172,000 |
| H. J. Oser..... | 179,000 |

Painting

| | |
|---------------------------------|----------|
| Raphael Co., 270 Tehama Ct..... | \$ 7,000 |
| D. Zelinsky & Son..... | 7,750 |
| J. A. Mohr & Son..... | 9,337 |
| M. Cohn & Co..... | 10,400 |
| Quandt & Son..... | 10,995 |

Electrical Work

| | |
|--|----------|
| Alta Elec. & Mechanical Co., 938 Howard St..... | \$13,445 |
| Central Electric Co..... | 13,495 |
| W. B. Baker & Co., Inc..... | 13,870 |
| Globe Electrical Co..... | 13,977 |
| H. S. Tittle..... | 14,142 |
| Aetna Electric Co..... | 15,025 |
| Butte Elec. Equip. Co..... | 15,162 |
| Crown Electric Co..... | 15,470 |
| E. J. Lynch Electric Co..... | 16,500 |
| Decker Electric Co..... | 17,998 |
| Victor Lemoge..... | 18,245 |
| Athas Electric Co..... | 18,400 |

Mechanical Work

| | |
|--|----------|
| Herman Lawson, 465 Tehama Street..... | \$18,894 |
| Alta Elec. & Mech. Co..... | 19,960 |
| C. Peterson Co..... | 20,241 |
| O'Mara & Stewart..... | 20,700 |
| F. W. Snook..... | 20,805 |
| E. Sugarman..... | 21,850 |
| Frank J. Klimm..... | 21,841 |
| J. H. Pinkerton..... | 21,969 |
| James Nelson..... | 22,077 |
| Anderson & Rowe..... | 22,660 |
| Dowd-Welch..... | 22,829 |

Plumbing

| | |
|--|----------|
| O'Mara & Stewart, 218 Clara Street..... | \$10,800 |
| Herman Lawson..... | 11,630 |
| Anderson & Rowe..... | 11,860 |
| J. H. Pinkerton..... | 12,150 |
| W. J. Forster..... | 12,300 |
| E. Sugarman..... | 12,485 |
| F. J. Klimm..... | 13,086 |
| F. W. Snook..... | 13,658 |
| Alec Coleman..... | 13,697 |
| C. Peterson Co..... | 13,930 |
| Dowd-Welch..... | 14,200 |
| J. Gibbs & Son..... | 14,700 |

Plumbing and Mechanical Combined

| | |
|--|----------|
| Herman Lawson, 465 Tehama Street..... | \$30,524 |
| Dowd-Welch Co..... | 36,468 |

Contracts Awarded.

LODGE BLDG. Cont. price, \$30,019
RED BLUFF, Tehama Co., Cal. Main
 St. N. Walnut St.

Two-story reinforced concrete Ma-
 sonic lodge building (65x115-ft.)
 Spanish type, part tile and com-
 position roof, maple floors in ban-
 quet and club rooms, pine floors
 covered with linoleum in other
 portions.

Owner—Vesper Lodge No. 84, F. & A.
 M.

Architect—Paul L. Dragon and C. R.
 Schmidts, Mercantile Bank Bldg.,
 Berkeley.

Contractor—Harry Schuster Co., Ltd.,
 354 Hobart St., Oakland.

Electrical—Thacker's Electric Shop,
 628 Main St., Red Bluff, \$4,985.

Heating and Plumbing—Allen & Allen,
 656 Main St., Red Bluff, \$3,544.

(S069) 1st report March 5; 8th, April
 28, 1932. 8

Date of Opening Bids Postponed Until
 May 17, 10 A. M.

CLUB Cost, \$90,000
SACRAMENTO, Sacramento Co., Cal.
 Seventeenth and L Streets.

Three-story reinforced concrete club
 (gymnasium, auditorium, dormi-
 tory kitchen, etc.)
 Owner—Y. W. C. A.
 Architect—Charles Dean, California
 State Life Bldg., Sacramento.

Bids are being taken from a selected
 list of contractors only.

Completing Plans.

CLUBHOUSE Cost, \$15,000
SACRAMENTO, Sacramento Co., Cal.
 Del Paso Park.

One and two-story brick clubhouse
 shingle roof.

Owner—Sacramento Golf Commission,
 L. S. Upson, President and Jack
 Oakley, Secretary.

Architect—Charles Dean, California
 State Life Bldg., Sacramento.

Bids will be asked in about one week

HOSPITALS

AGNEW, Santa Clara Co., Cal.—
 State Purchasing Department. Sacra-
 mento rejected all bids for expanded
 metal window guard at the Agnew
 State Hospital. Specifications are
 being revised and new bids will be
 called for at a later date. On pre-
 vious bid opening following were sub-
 mitted:

| | |
|---|----------|
| Standard Fence Co., S. F..... | \$ 7,500 |
| Patterson & Koster, S. F..... | 8,977 |
| California Wire Cloth Co., S. F..... | 9,021 |
| Anchor Post Fence Co., S. F..... | 12,260 |
| Soule Steel Co., S. F..... | 12,340 |
| West Coast Wire & Iron Works, San Francisco..... | 14,730 |
| Alternate..... | 13,995 |

Bids held under advisement.

CAMARILLO, Ventura Co., Calif.—
 State Department of Institutions has
 approved purchase of the Lewis Ranch
 near Camarillo, for the proposed
 Southern California State Mental Hos-
 pital. The site comprising, 1512 acres,
 was purchased for \$415,000. The 1929
 Legislature appropriated \$1,000,000 and
 Legislature appropriated an additional
 \$455,600 for the purchase of a site and
 completion of the first unit of the hos-
 pital.

Plans Being Completed.

COLLEGE BLDGS. Cost, \$175,000
PASADENA, Los Angeles Co., Cal.
 Reinforced concrete optical building,
 (175x60 ft.); steel roof trusses,
 stone trim, steel sash, concrete
 floors, etc.

Owner—California Institute of Tech-
 nology, 1201 E. California St.,
 Pasadena.

Architect—Eng. Dept. of Owner.
 Bids will be asked about June 1st
 from a selected list of contractors.

HOTELS

Construction Postponed Temporarily.

HOTEL ADDITION Cost, \$—
MERCED, Merced Co., Cal. 601 M St.
 Five-story and basement reinforced
 concrete Class C addition to hotel
 (wood studs, concrete exterior
 walls, columns and beams).

Owner—Stanley Simonson (El Capitan
 Hotel) 601 M St., Merced.

Architect—Kent and Hays, 525 Market
 St., San Francisco.

Contractor—Dinwiddie Const. Co.,
 Crocker Bldg., San Francisco.

POWER PLANTS

Plans To Be Prepared.

FIREHOUSE Cost, \$—
STOCKTON, San Joaquin Co., Cal.
 Miner Ave., bet. American and
 Stanislaus Sts.

Fireproof fire station, 50x150 ft. and
 35x150 ft.

Owner—City of Stockton (W. B. Ho-
 gan, city manager).

Architect—Not Selected.

The city has between \$60,000 and
 \$65,000 to finance purchase of site and
 erect the structure. It is probable that
 construction will be deferred pending
 the appropriation of additional funds.

SEATTLE, Wash.—Until May 18, 12
 noon, bids will be received by Board
 of Public Works, 512 City-County
 Bldg., for construction in connection
 with the completion of the Skagit River
 development, involving:

Diablo power house superstructure,
 to be erected on existing foundations,
 concrete and steel building, 65x230 ft.,
 complete with lighting, heating, ven-
 tilating, plumbing and fire protection
 systems.

Powerhouse tail race, complete, in-
 cluding excavation, concrete lining and
 deck.

Assembly and erection of powerhouse
 machinery previously purchased and
 now at the site, including two 67,500
 KVA hydro-electric generating units,
 step-up transformers and auxiliary
 equipment.

Furnishing and installing switch-
 boards, control wiring, switches and
 switch structures and other equipment
 to make a completely operative power
 station.

Construction of 220 KV, double cir-
 cuit steel tower line, 5.75 miles in
 length, from Diablo plant to connect
 with the existing gorge transmission
 line, including furnishing and erect-
 ing 19 steel towers, with necessary in-
 sulators and hardware.

Construction of a concrete protect-
 ing apron for the north spillway of Di-
 ablo Dam.

Estimated cost \$1,500,000. Certified
 check 5% payable to City Comptroller
 required with bid. Plans obtainable
 from Board of Public Works on de-
 posit of \$25.

PASO ROBLES, San Luis Obispo
 Co., Cal.—Mayor Don Orcutt autho-
 rized by city council to secure esti-
 mates of cost of an electric power
 plant equipment with a view to the
 construction of a power plant to op-
 erate as a municipal project.

QUARRY HEIGHTS, Panama Canal
 Zone.—See "Government Work and
 Supplies," this issue. Bids wanted by
 Constructing Quartermaster, Panama
 Canal Department, for excavation,
 curbs, walks, water distribution and
 fire protection systems, storm and
 sanitary sewers, street lighting, etc.

PUBLIC BUILDINGS, FIRE HOUSES AND JAILS

Contracts Awarded.
CITY HALL Cost, \$—
 VAN NUYS, Los Angeles Co., Calif.
 Sylvan St. and Sycamore Ave.
 Two-story and basement reinforced concrete and steel city hall (125x190-ft.) granite and terra cotta facing, conc. floors, trussed steel joists, jail cells, steel lockers, hospital beds, sprinkler system, etc.
 Owner—City of Los Angeles.
 Plans by Los Angeles Bureau of Construction, Chas. C. Brittain, Supt. Lathing & Plastering—Howard Dunn, 9274 Santa Monica Blvd., Beverly Hills, \$7,183.
Plumbing and Plumbing Fixtures—F. D. Reed Plumbing Co., 1573 E 23rd St., Los Angeles, \$24,987.
Trussed Steel Joists—Pacific Fireproofing Co., 790 La Brea Avenue, Los Angeles, \$5,627.
Elevator—Otis Elevator Co., 300 East Eighth St., Los Angeles, \$12,000.
Structural Steel—McClintic Marshall Corp., Pacific Southwest Bldg., L. A., \$25,800.
 Low bidders on other portions of the work as follows, the contracts to be awarded shortly:
General Work—Gene B. Foster, 1772 Sycamore Ave., Los Angeles, \$82,115.
Ornamental Iron and Cell Work—H. G. Smith, 2223 E 37th St., Los Angeles, \$9,350.
Electric & Fixtures—Culver City Electric Co., Culver City, \$5,788.
Concrete Piling—California Bibro Concrete Pile Co., Arcadia, \$14,200.
Marble and Tile—Burton V. Collins, 1461 E 15th St., Los Angeles, \$4565.
Painting—Robert Glog, El Rey Hotel Los Angeles, \$2,950.

Commissioned To Prepare Plans.
JAIL Bonds of \$80,000 Voted SENEATH RANCH, San Mateo Co. Class A Jail.
 Owner—City and County of San Francisco.
 Architect—Albert E. Roller, Crocker First National Bank Bldg., San Francisco, and Dodge A. Riedy, Pacific Bldg., Associate Architect.

SCHOOLS

May 5, 1932
 No Bids Received For Bonds—Working Plans Prepared.
SCHOOL Cost, \$230,000
 VALLEJO, Solano Co., Cal.
 Two-story Junior High School (reinforced concrete exterior walls, fire resistant construction on interior, the roof, maple floors in classrooms, linoleum in corridors, steam heating system with vacuum pump).
 Owner—Vallejo Junior High School District, Elmer E. Cave, Secretary, Board of Education.
 Architect—Frederick H. Reimers, 233 Post St., San Francisco and Davis Pearce Co., Grant and Weber Sts., Stockton, associated.
 No bids were received by the Solano County Supervisors on May 2 for the purchase of the \$230,000 bond issue to finance this structure and efforts will be made to dispose of the issue at private sale.

SAN JOSE, Santa Clara Co., Cal.—Construction of a football stadium by the student body of the San Jose State College has been indefinitely postponed. The \$21,000 student union fund by which construction was to have been financed could not be made

available at this time, fund trustees announce. The stadium was to have a seating capacity of 5000 with provision for eventual enlargement to 25,000. Plans have been prepared by M. H. Antonelli, San Jose city planning engineer.

Plans Being Figured—Bids Close May 19th, 10 A. M.
AUDITORIUM Cost, \$15,000
 EL CERRITO, Contra Costa Co., Cal.
 One-story frame and brick veneer auditorium (to seat 650) tile roof, steam heating system.
 Owner—Richmond Union High School District.
 Architect—Louis Stone, 98 Ramona Ave., Piedmont.

Preparing Plans.
SCHOOL ADDITION Cost, \$125,000
 CLAREMONT, Los Angeles Co., Cal.
 Two-story and basement reinforced concrete high school addition (223 x 176) steel roof joists, tile and deck roof, steel and wood sash, steam heat, etc.
 Owner—Claremont High School Dist.
 Architect—Marsh, Smith, and Powell, Architects' Bldg., Los Angeles.

BOONVILLE, Mercedo Co., Cal.—Until May 20, 8 P. M., bids will be received by Martha Rawles, Secretary, Anderson Valley Union High School District, to furnish and install lawn sprinkling system at the high school grounds. Specifications on file in office of the County Superintendent of Schools at Ukiah and obtainable from the Secretary at Boonville.

BANKS, STORES & OFFICES

Preparing Working Drawings.
OFFICES Cost, \$50,000
 SAN FRANCISCO, O'Farrell St., between Green Powell and Stockton Sts.
 Two-story brick and light steel frame offices.
 Owner—Development, Inc., 111 Sutter St., San Francisco.
 Architect—Edward G. Boles, 681 Market St., San Francisco.
 Engineer—Clarence Seage, 681 Market St., San Francisco.
 Plans will be completed in about thirty days.

Bids Opened.
OFFICES Cost, \$10,000
 OAKLAND, Alameda Co., Cal. Howard Terminal, First and Market Streets.
 One-story and basement brick veneer offices (32 by 75 feet); composition roofing.
 Owner—Howard Terminal.
 Architect—Reed & Corlett, Oakland Bank Bldg., Oakland.
 Low Bidder—S. G. Johnson, 4652 Dolores St., Oakland.
 Following is a complete list of bids:

| | |
|--|--------|
| General Work | |
| S. G. Johnson Oakland..... | \$6568 |
| Geo. Swannstrom, Oakland..... | 6892 |
| W. G. Thornally, Oakland..... | 6892 |
| E. T. Letter & Sons..... | 6887 |
| C. O. Bradhoff, Oakland..... | 7200 |
| F. C. Stolte, Oakland..... | 7480 |
| Jacobs & Pattiani, Oakland..... | 8084 |
| F. A. Muller, Oakland..... | (8271) |
| Scott Co., 113 10th St., Oakland, submitted low bid on plumbing and heating at \$1986 and Pacific Electric Motor Co., Tenth and Oak Sts., Oakland, was low on wiring at \$310. | |
| Bids held under advisement. | |

To Ask Bids May 9.
SALESROOMS Cost, \$—
 SAN FRANCISCO, Eleventh and Mission Streets.

Two-story reinforced concrete sales-room building, service station, etc. (composition roof, plaster facing, art stone trim, plate glass, steel sash, Neon lights, toilets, etc.)
 Owner—Goodyear Tire & Rubber Co., 670 S. Central Ave., Los Angeles. Plans by Eng. Dept. of Owner.
 Agent—Milton Meyer, 50 Sutter Street, San Francisco.

MISCELLANEOUS CONSTRUCTION

Contract Awarded.
MAUSOLEUM ADDITION
 Cost, Price, \$90,379
 PIEDMONT, Alameda Co., Cal. Terminus Piedmont Avenue.
 Reinforced concrete addition to mausoleum.
 Owner—Mountain View Cemetery Association, terminus Piedmont Ave. Piedmont.
 Architect—Weeks and Day, Financial Center Bldg., San Francisco.
 Contractor—Geo. J. Maurer, 50 York Drive, Oakland.

Sub-Contracts Awarded.
BALL PARK Cost, \$150,000
 SAN JOSE, Santa Clara Co., Cal. 18th and Williams Streets.
 Ball park and plunge.
 Owner—San Jose Recreational Park, Inc. (A. M. Mortensen, Leon Jacobs, Arthur Grey, et al, Directors)
 Architect—Frederick H. Reimers, 233 Post St., San Francisco.
 Contractor—J. Dawson, 1507 Lincoln St., Berkeley.

The plunge will be divided into two sections, one 35 by 100 feet and from one to three feet deep for children, leaving 265 feet of the pool for adults. A modern cage will also be constructed.
Steel—W. C. Hauck & Co., 280 San Bruno Ave., San Francisco.
Laundry Machinery—Troy Laundry Machinery Co., 1201 Folsom St., San Francisco.
Excavation—Arthur G. Jahn, San Jose Tie — California Art Tile Co., 27th and Maine Sts., Richmond.
Brick—Thomas J. Murray, 184 Stockton Ave., San Jose.
Painting—Chas. Dieter, 453 Almaden St., San Jose.

Lighting Equipment—Scott-Buttner Elec. Co., 19 Grand Ave., Oakland.
Plunge, Filtration, Chlorination Plants Pumps, tanks, Motors, Vacuum Cleaning, Plumbing and Heating—C. G. Clausen Co., 825 Folsom St., San Francisco; Scott Machinery Co., 243 Miuna St., San Francisco; W. C. Hauck & Co., 280 San Bruno Ave., San Francisco.
 Durant & Irving, E. C. Scott and D. C. McKinlay, water purification engineers; J. S. Smith, structural engineer, and Joseph A. Kitts, concrete technologist, will supervise all technical details.

Completing Plans.
MORTUARY Approx. \$160,000
 OAKLAND, Alameda Co., Cal. 28th St. and Telegraph Ave.
 Two-story steel frame and brick mortuary and garage (100x145 ft.); stucco and brick exterior, steel sash, steam heating system, tile floors, organ, 30-car garage.
 Owner—Truman Undertaking Co., 2935 Telegraph Ave., Oakland.
 Architect—Blaine & Olson, 1755 Broadway, Oakland.
 Bids will be asked in one week.

MEMBERS OF THE ASSOCIATED GENERAL CONTRACTORS PACIFIC COAST AND INTERMOUNTAIN TERRITORY

CALIFORNIA STATE BRANCH

1318 Pershing Square Bldg.—Trinity 9418—Los Angeles

O. C. STRUTHERS, President

E. L. KIER, Vice-President

GEORGE HERZ, Secretary

MELVILLE DOZIER, Jr., Manager

NORTHERN CALIFORNIA CHAPTER

206 Sansome St.—Garfield 7107—San Francisco, Calif.

C. W. Wood, President Geo. G. Pollock, Vice-President
Floyd O. Booe, Secretary-Manager

- Atkinson, Lynn S. (HPR).....1316-17 Edwards & Wilecy Bldg., L. A., Tr. 7451
Atkinson, Guy F., Co., Inc. (BHPR) 601 Russ Bldg., S. F., St. 3629
Ball, N. M. (HP).....1889 Yosemite Rd., Berkeley, AS. 6722
Basalt Rock Co., Inc.900 8th St., Napa, AP. 4000
Bechtel Co., W. A. (BHPR).....155 Sansome St., S. F., CA. 0780
Bevanda, M. J. (HP).....319 Elks Bldg., Stockton 7470
Bishop, E. B. (HP).....900 Forum Bldg., Sacramento, Capitol 2500
Bodenhamer Const. Co (HPR).....Box 643, 354 Hobart St., Oakland, Glencourt 5022
Calif. Const. Co. (BHPR).....715 Standard Oil Bldg., S. F., DO. 4820
Casson, Jack A. (HP).....Hayward, Calif., Hayward 8536
Clark & Henry Const. Co. (HP).....564 Market St., S. F., DO. 2903
Colley, W. C. (HPR).....35 Northampton Ave., Berkeley, AS. 1323
Conner, J. L. (HP).....P. O. Box No. 86, Monterey 137-M
Connolly, T. E. (BHPR).....461 Market St., S. F., Kearny 6408
Conyes, R. A. (HPR).....1045 36th St., Oakland, Olym. 9391
Currey, James (HPR).....1100 Peninsula Ave., Burlingame, Burl. 5497
Delin, C. M. (HPR).....206 Sansome St., San Francisco, Gar. 7107
Dodge Bros. Inc. (HP).....Fallon, Nevada, Main 1761
Dunn, A. D. (HP).....Fallon, Nevada, Sweet 441
Eaton & Smith (HPR).....715 Ocean Ave., San Francisco, DE. 6700
Fairbanks, A. J. & J. L., Inc. (HPR).....Linden Ave., So. S. F., 436
Fay Improvement Co., The (HPR).....Phelan Bldg., S. F., KE. 4044
Fitzmaurice, J. H. (HP).....2857 Hannah St., Oakland, Higate 2490
Force Const. Co. (HP).....70 Bellevue, Piedmont, Calif., HU. 9349
Frederickson Bros. (BHP).....First Nat. Bank Bldg., Stockton, 5974
Frederickson & Watson Const. (BPHR).....873 81st Ave., Oakland, SW. 1264
French, George J., Jr. (HP).....P. O. Box No. 675, Stockton, 6676
Gerwick, Ben C., Inc. (HP).....112 Market St., S. F., SU. 8454
Granite Construction Co. (BHPR).....Watsonville, California, 988
Harrahan Co. (HP).....Hobart Bldg., San Francisco, CA. 1639
Harney, Charles L. (HP).....74 Montgomery St., S. F., SU. 5277
Hauser, W. H. (HPR).....3129 E. 7th St., Oakland, Fruitvale 6790
Heafey-Moore Co. (HP).....344 High St., Oakland, AN. 0466
Hemstreet & Bell (HP).....411 "C" Street, Marysville, 433
Hodgman & MacVicar (HP).....14 Plymouth, Pasadena, Ter. 353
Holland, J. P., Inc. (HPR).....1834 McKinnon Ave., S. F., MI. 5400
Isbell Const. Co. (HP).....Carson City, Nev., Ph. 1754 (Also Fresno)
Jenkins, M. A. (HP).....3560 Y St., Sacramento Capital 472
Jones & King (HPR).....1009 S. Hayward, Calif., Hay. 74
Kaiser Paving Co. (BHPR).....Latham Square Bldg., Oak, HL. 2614
Knapp, J. F. (HPR).....916 Financial Center Bldg., Oak, KL. 1620
Larsen Bros. (HP).....Galt, Calif. 4717
Lee, U. B. (HP).....1039 Carpenter St., Stockton, Sweet 4717
Le Tourneau, R. G. (HPR).....122 Moss Ave., Stockton, Main 3981
Lord & Bishop (HPR).....Native Sons Bldg., Sacramento, Main 1990
Lovelace, Nate (HP).....3433 "N" St., Sacramento, Capital 1990
Malcom, C. T. (HPR).....Walnut Creek, Calif., W. C. 2277
McDonald, D. (HPR).....704 23rd St., Sacramento, Cap. 1806
McGillivray Const. Co. (HPR).....Box 927, Sacramento, Capital 2170
McMillan, W. K. (HP).....2088 Howard St., San Francisco, MA. 3876
Mercer-Fraser Co. (BHPR).....Eureka, Eureka 808
Nevada Contracting Co. (HPR).....Fallon, Nevada, Phone 1851
Nevada Rock & Sand Co. (HP).....Reno, Nevada, Reno 5291
Nighbert, Fred W. (HP).....No. 10 "H" St., Bakersfield 2783
Pacific States & Pacific Paving Co., Ltd. (HP).....85 Barstow St., S. F., HE. 4178
Pacific States Construction Co. (HP).....P. O. Box 143, Stockton, Sweet 4717
Phillips, John, Co. (HP).....582 Market St., San Francisco, KE. 4471
Pollock, Geo. Co. (HPR).....P. O. Box 903, Sacramento, Main 1457
Rohi, H. W., Co. (HPR) 4351 Alhambra Ave., Los Angeles, CH. 0141
Six Companies, Inc. (HPR).....Financial Center Bldg., S. F., CA. 3842
Siems-Helmers, Inc. (BHPR).....206 Sansome St., S. F., DA. 5235
Steels & Graham Co. (HPR).....P. O. Box 576, Roseville, Calif. 2692
Telford, J. N. (HP).....Fallon, Nevada, Main 4661
Teichert, A. & J., Inc. (HP).....P. O. Box 143, Stockton, Sweet 4717
Tieslaun Bros. (HPR).....2819 Grove St., Berkeley, BE. 7709-J
Tucker, H. V., Co. (HP).....300 Vermont St., S. F., MA. 7583
Ulrich Const. Co., Geo. J. (BHP).....Modesto, Modesto 921
Valley Paving & Const. Co. 405 Bank of America Bldg., Fresno, 3-7418
Von der Hellen & Pierson (HPR).....Castaio, Calif. 6692
Wood Eng. Co. (HP).....315 Montgomery St., S. F., DA. 4984
Word, C. W. (HP).....P. O. Box 143, Stockton, Sweet 4717
Young, Clarence (HP).....5250 Broadway Ter., Oakland, LO. 3743
Young & Son Co., Ltd. (HP) 599 Colusa Ave., Berkeley, Berk 5551

Associate Members

- American Bitumuls Co. (Bitumuls).....200 Bush St., S. F., CA. 6653
Anderson Bros. Supply Co. (Commissary).....Boulder City, Nev. 4800
Andrews, F. Co. (P. A. Co.).....160 Russ Bldg., S. F., GA. 7712
Associated Oil Co. (Asso. Prod.).....79 N. Monty St., S. F., KE. 4800
Austin Western Road Machinery Co. (Road Machinery).....435 Brannan St., San Francisco, DO. 2183
Autocar Sales & Service Co. (Autocar Trucks).....326 Howard, San Francisco, SU. 1730
Bacon, Edward R., Co. (Road Machinery).....Folsom and 17th Sts., San Francisco, HE. 3700
Blake Bros. Co. (Crushed Rock).....Balboa Bldg., S. F., KE. 5320
Calaveras Cement Co., 315 Montgomery, San Francisco, DO. 4224
California Corrugated Culvert Co. (Corrugated Pipe).....5th & Parker, West Berkeley, BE. 5420
Cement Gun Construction Co. (Cement Guns).....58 Sutter St., San Francisco, SU. 8306
Contractors' Ins. Agency (Insurance) 206 Sansome, S. F., SU. 4000
Cowell Limes & Cement Co. (Cement).....2 Market St., S. F., GA. 4870
Clark & Henry Const. Co. (HP).....400 7th St., San Francisco, HE. 1610
Garfield & Co. (Equipment) Hearst Bldg., San Francisco, SU. 1036
Geiger Iron Works (Equip.).....P. O. Box 423, Stockton, Stock. 1898
Granite Rock Co. (Crushed Rock).....Watsonville, Wat. 988
Harneschreger Sales Corp. (Equip.).....82 Beale St., S. F., DO. 2313
Harro, Rickard & McKeone Co. (Equip.).....1600 Bryant St., San Francisco, UN. 3740
Link-Belt Co. (Equip.).....400 Paul Ave., San Francisco, DE. 6400
Modern Vehicle Co. (Mrs. Steel Dump Bodies).....437 4th St., San Francisco, CA. 1402
Murray & Ready (Labor Agency) 784 Howard St., S. F., SU. 7055
Northwest Engineering Co. (Shovels).....23 Main St., S. F., SU. 1203
Pacific Coast Aggregates.....700 Wells Fargo Bldg., S. F., SU. 8940
Pacific Coast Engineering Co. (Structural Steel).....Foot of W. 14th St., Oakland, HI. 1322
Pacific H. B. A. Steel Co., Inc. (Drill Steel).....540 Brannan St., San Francisco, CA. 6683
Pacific Portland Cement Co. (Golden Gate).....Hunter-Dulin Bldg., San Francisco, CA. 4100
Pland-Evans (Commissary).....Merchants' Ex. Bldg., S. F., GA. 5923
Robinson Tractor Co. (Caterpillar Tractors).....1705 09 E. 12th St., Oakland, FR. 2485
Santa Cruz Portland Cement Co. (Santa Cruz).....Crocker Bldg., San Francisco, GA. 3307
Shell Oil Co. (Shell Products).....100 Bush St., S. F., EX. 5400
Soule Steel Co. (Reinforcing Steel).....1750 Army St., S. F., VA. 4141
Spears-Wells Machinery Co. (Equip.) 1832 9th St., Oak., HO. 1000
Standard Oil Co. of Calif. (Standard Products).....Standard Oil Bldg., San Francisco, SU. 7700
Traffic Service Bureau (Freight Audits) 24 Calif. St., S. F., CA. 6194
Union Oil Co. of Calif. (Union Prod.) Mills Bldg., S. F., SU. 1000
United Commercial Co., Inc.....234 Steuart St., S. F., DO. 0430

SOUTHERN CALIFORNIA CHAPTER

1318 Pershing Square Bldg.—Trinity 9418
Los Angeles, Calif.

C. G. FitzGerald, President Melville Dozier, Jr., Manager
LYNN S. ATKINSON, First Vice-President (Engineering Div.)
WM. A. SIMPSON, Second Vice-President (Building Div.)

The address of the firm is the same city in which is located the Chapter office unless otherwise shown in membership list.

Building Contractors

- Atkinson, J. F.1102 Story Bldg., Vandike 7783
Baruch Corp., Herbert M.1015 Lincoln Bldg., Trinity 5473
Bradley Const. Co., K. R.1833 West Pico, WASHINGTON 2786
Burgin, W. Jay.....1100 Redondo Ave., Long Beach, L. B. 81103
Byerts & Dunn.....7908 Santa Monica Blvd., CREWVIEW 9602
Clinton Construction Co., 1103 Spring Arcade Bldg., Madison 2597
Crowell, Wm. C.....495 S. Bdwy., Pasadena, WAKEFIELD 6692
Crowell Co., Weymouth.....2104 E. 15th St., WESTMORE 3708
DeCamp-Hudson Co. (HPR).....127 W. 1st St., WESTMORE 3382
Dixon, L. E., Co.....609 So. Grand Ave., Trinity 4925
Escherich Bros.....234 W. 37th Place, Adams 6294

Class of Construction: (B) Building; (H) Highway; (P) Public Works; (R) Railroad.

| | | | |
|--------------------------|-----------------------------------|---------|------|
| Hall, J. F. | 531 Douglas Bldg. | MUtual | 6722 |
| Houghton & Anderson | 143 Rose St. | MUtual | 5430 |
| K. F. Lowell & Co., Ltd. | 606 Union Bank Bldg. | VAndike | 4072 |
| Macdonald & Driver | 311 Board of Trade Bldg. | TUcker | 6467 |
| McKee, Robert E. | 1128 Central Bldg. | TRinity | 0291 |
| Miller, Geo. E. | 401 N. Canon Dr., B. H. | OXford | 7404 |
| Simpson Construction Co. | 1007 Architects Bldg. | MUtual | 7261 |
| Snell, Fred C. | 339 N. Beverly Dr., Beverly Hills | OXford | 6409 |
| Willard-Brent Co. | 254 E. 27th St., Richmond | | 2101 |

Bridges, Foundations

| | | |
|---------------------------|---------------------------------|-------|
| Ledbetter Co., W. M. | Box 1264, Arcade St., CApitol | 13415 |
| Oberg Brothers | 707 San Fernando Bldg., ANgelus | 8739 |
| Raymond Concrete Pile Co. | 1008 Washington Bldg., VAndike | 6536 |

Highways, Paving, Grading

| | | |
|-----------------------------|--|-------|
| Basch Bros. | Torrance, GArdena | 4416 |
| Bock, Geo. J. | 1007 S. Harvard, EMpire | 7614 |
| Donovan & Sons, J. G. | 4031 Goodwin Ave., Olympic | 0423 |
| Ferry, Peter L. | San Fernando Rd. and Bdwy., Glendale | 0164 |
| Fleming Construction Co. | Pomona | |
| Griffith Company | L. A. Railway Bldg., Westmore | 9343 |
| Hall-Johnson Co. | P. O. Box 387, Alhambra, ELiot | 1855 |
| Herz & Co., Geo. | 310 Plate Bldg., San Bernardino, S. B. | 24142 |
| Heuser, Chas. H. | 316 Alletta, Glendale, DOUglas | 3965 |
| Hudson, Chas. H. | 408 Rives-Strong Bldg., VAndike | 3374 |
| Jahn & Bressi | 701 Lane Mortgage Bldg., TRinity | 8674 |
| Lang Transportation Co. | 3501 Santa Fe Ave., JEFFerson | 5104 |
| Lewis Construction Co. | 300 S. Vanita St., WAlhambra | 1407 |
| Packard & Tanner | 905 W. Latham St., PHoenix, Ariz. | |
| Pearson & Dickerson | 4485 Cypress, RIVERSide, 1600 | |
| Ross, M. S. | 4011 Goodwin Ave., CApitol | 7603 |
| Wells & Bressler | P. O. Box 296, Santa Ana, | 227 |
| Willis, C. C., & Sons, Inc. | 2119 E. 25th St., LAfayette | 9826 |

Pipe Lines, Water Works

| | | |
|----------------------------|-----------------------------------|------|
| American Concrete Pipe Co. | P. O. Box 1428, Arcade St., JE. | 4211 |
| Haverty Co., Thos. | 316 E. 6th St., VAndike | 1171 |
| United Concrete Pipe Co. | Box 1, Station H, L. A., TWInoaks | 9156 |

Subways, Conduits

| | | |
|------------------------|-----------------------|------|
| Delta Construction Co. | P. O. Box 79, Compton | 9343 |
|------------------------|-----------------------|------|

General Engineering

| | | |
|--------------------------------|-------------------------------------|------|
| Atkinson, Lynn S. | 609 S. Grand, TRinity | 7451 |
| Bartmus, Peter | Hollywood Riviera, Redondo, Redondo | 6404 |
| Bent Bros., Inc. | 418 S. Pecan S., ANgelus | 7510 |
| Campbell-Reichert Co. | 4000 Whiteside Ave., ANgelus | 0598 |
| Cox, R. | 1100 Westminster, WAlhambra | 1699 |
| Emisco Conc. Cutting Corp. | 1517 Santa Fe Ave., VAndike | 7168 |
| Fitz-Gerald Eng. & Constr. Co. | 216 Rowan Bldg., TRinity | 5088 |
| Foley, D. A., Construc. Co. | 716 Grant Bldg., TUcker | 7814 |
| Kemper Const. Co., Ltd. | 3701 Overland, Los Angeles | |
| Macco Construction Co. | Hynes, JEFFerson | 1148 |
| Merritt-Chapman-Scott Corp. | P. O. Box 507, San Pedro, | 2880 |
| Mittry Bros. Construction Co. | 722 Detwiler Bldg., VAndike | 0210 |
| Morrison-Knauden Co. | 411 West Fifth St., MUtual | 7684 |
| Robinson-Roberts Co. | 706 Rives-Strong Bldg., TRinity | 2889 |
| Spleer, C. A. | 818 Financial Center Bldg., TUcker | 9570 |
| Standard Dredging Co. | 325 Central Bldg., TRinity | 3253 |
| Watson, R. A. | 1026 N. McCadden Pl., GRanite | 4121 |

Affiliates

| | | |
|------------------------------|---------------------------------------|-------|
| Brashears & Co., G. | 501 Security Bldg., TRinity | 5091 |
| Consolidated Rock Prod. Co. | 656 S. Los Angeles St., TRinity | 0241 |
| Gilmore Oil Co. | 2423 E. 28th St., JEFFerson | 1211 |
| Graham Brothers | 1215 W. 7th St., Long Beach, L. B. | 62521 |
| Hartford Accident & Ind. Co. | 548 S. Spring St., MADison | 1471 |
| L. A. Brick Co. | 1078 Mission Road, ANgelus | 5684 |
| Sun Lumber Co. | Crescent Drive, Beverly Hills, OXFord | 6791 |
| Union Oil Co. | Union Oil Bldg., TUcker | 7211 |

ALAMEDA COUNTY CHAPTER

354 Hobart St., Rm. 410—Glencourt 7400—Oakland, Calif.
 S. G. Johnson, President H. J. Christensen, Treasurer
 Geo. J. Maurer, Vice-President W. E. Hague, Manager

| | | |
|---------------------------|---------------------------------|------|
| Brennan, J. P. (B) | 2820 Regent, Berkeley, BE. | 0346 |
| Christensen, H. J. (B) | 1924 Broadway, Oakland, LA. | 7164 |
| DeVelbiss, C. Dudley (B) | 337 Pine St., S. F., CA. | 3225 |
| Dyer Construction (B) | 337 17th St., Oakland, GL. | 3203 |
| Furlong, Thos. H. L. (B) | 460 Jerome Ave., Piedmont, HU. | 0620 |
| Jacobs & Pattiani (BP) | 337 17th St., Oakland, GL. | 3203 |
| Johnson, S. C. (B) | 4652 Dolores Ave., Oakland, FR. | 6650 |
| Keating, W. C. (B) | 925 Forum Bldg., Sacramento | |
| Lesure, E. T. (B) | 87 Ross Circle, Oakland, OL. | 0389 |
| Littlefield, R. W. (B) | 337 17th St., Oakland, HI. | 0994 |
| Lyons, W. E. (B) | 354 Hobart St., Oakland, HO. | 5325 |
| Maurer, George J. Co. (B) | 50 York Drive, Oakland, HU. | 3457 |
| Nordstrom, David H. (B) | 354 Hobart St., Oakland, GL. | 7400 |
| Pedgrift, James H. (B) | 4106 Broadway, Oakland, HU. | 1300 |
| Petersen, George (B) | 1841 Bancroft, San Leandro, TR. | 2043 |
| Petersen, James B. (B) | 4021 Aqua Vista, Oakland, FR. | 9887 |
| Schultz, Herbert (B) | 811 Mendocino, Berkeley, AS. | 2360 |
| Sullivan & Sullivan (B) | 2653 Best Ave., Oakland, AN. | 4724 |
| Thornally, W. C. (B) | 354 Hobart St., Oakland, GL. | 8476 |
| Westlund, Fred J. (B) | 354 Hobart St., Oakland, GL. | 7400 |

Associate Members

| | | |
|-------------------------------------|----------------------------------|------|
| Berkeley Building Materials Co. | Masonic and Brighton, BE. | 2280 |
| Central Building Material Co. | 915 Antonio, TR. | 9326 |
| Contra Costa Building Materials Co. | 808 Gilman St., BE. | 3462 |
| Cowell, Henry, Lime & Cement Co. | 81 Franklin, HI. | 3398 |
| Davis Co., Jas. A. | 517 Fairmont, BE. | 9360 |
| Lannom Bros. Mfg. Co. | 5th and Magnolia, GL. | 3663 |
| Makin & Kennedy, Inc. | 101 Fourth St., HO. | 0626 |
| Melrose Building Materials Co. | Tidewater Ave., FR. | 5787 |
| Oakland Building Material Co. | 5000 Broadway, HU. | 6300 |
| Oakland Planning Mill Co. | 2nd and Washington, LA. | 5503 |
| Pacific Coast Aggregates, Inc. | Broadway and Water, HI. | 0770 |
| Powell Bros., Inc. | Harrison and Pearl, Alameda, AL. | 0630 |
| Sunset Lumber Co. | 4000 High St., AN. | 1000 |
| Tilden Lumber Co. | Foot of University Ave., BE. | 0697 |
| Transite Concrete Co. | 401 Water St., TE. | 0720 |

SAN DIEGO CHAPTER

Spreckels Theater Bldg.—Main 4289—San Diego, Calif.

George R. Daley, President M. A. Mathias, Manager
 M. H. Golden, Vice-President

| | | |
|--------------------------------|---------------------------------------|--------|
| Carroll, B. C. | 4396 Maryland St., Hillcrest | 5274-M |
| Daley Corporation (HP) | 4430 Boundary St., Randolph | 1136 |
| Dennis Constr. Co., V. R. (HP) | Box 183, Sta. A, Hillcrest | 8293 |
| Ford, E. Paul (HP) | Box 201, E. San Diego, Randolph | 5101 |
| Golden, M. H. (B) | 404 California Bank Bldg., Franklin | 7983 |
| Grove, Cecil B. | 4316 Island Ave., Franklin | 7474 |
| Hazard Constr. Co., R. E. (HP) | 2508 Kettner Blvd., Franklin | 6315 |
| Jarboe Constr. Co. (B) | 208 Spreckels Theatre Bldg., Franklin | 3792 |
| Kier Const. Co., W. E. (B) | First National Bank Bldg., Main | 2427 |
| Larsen, B. O. (B) | 1340 E. St., Main | 4752 |
| Miracle Constr. Co. (HP) | Box 601, E. San Diego, Main | 2295 |
| Penick & Sons, T. B. (HP) | 3075 L. St., Main | 4582 |

PACIFIC NORTHWEST BRANCH

4134 Arcade Building, Seattle, Wash.

JAS. MURDOCK, President
 J. C. COMPTON, Vice-President

H. V. BOGERT, Rec. Secretary

J. B. WARRACK, Treasurer
 P. L. CROOKS, Vice-Pres. and Secretary

PORTLAND CHAPTER

Multnomah Hotel Lobby—Atwater 7883—Portland, Ore.

Paul L. Crooks, President Philip Hart, 2nd Vice-President
 Ross B. Hammond, 1st Vice-President J. A. Lyons, Treasurer
 G. B. Herington, Executive Secretary

| | | |
|--------------------------------|---------------------------|------|
| Anderson Construction Co. | 682 E. 69th St., N., Gar. | 0474 |
| Andrews Construction Co. (BII) | 102 N. Broadway, BR. | 5521 |
| Atkinson, Guy F. & Co. (BHP) | Yeon Bldg., Atw. | 3961 |
| Badrakar, J. J. (HP) | 681 E. 42nd St., N., Gar. | 3945 |
| Baker Construction Co. (B) | 202 Multnomah Hotel, Atw. | 7449 |
| Christensen, Fred, Inc. (BHP) | 187 E. 34th St., EA. | 8934 |

| | | |
|--------------------------------------|---------------------------------|------|
| Cochrane Construction Co. (HP) | 65th & Ainsworth, Tr. | 5944 |
| Compton, J. C. (HP) | McMinnville, Ore., McM. | 7066 |
| Crooks, P. L., Inc. (HPR) | Henry Bldg., Atw. | 7167 |
| Dann, J. J. (PHR) | 424 Third St., Atw. | 5837 |
| Dougan-Hammond Constr. Co. (B) | 307-8 Studio Bldg., Bea. | 4444 |
| Douglas, A. R. (HFR) | Box 183, Sta. A, Hillcrest | 8293 |
| Erlensen-Weygandt Co. (HP) | Foot of Jefferson, Atwater | 4090 |
| Endicott, Wm. | Yachato, Oregon | |
| Gates, E. L. (HPR) | Kamela, Oregon | |
| Gilpin Construction Co. (HPR) | Worcester Bldg., Atw. | 6220 |
| Grays Harbor Constr. Co. (BHPR) | Hoquiam, Wash. | |
| Greenwood, A. C. (HPR) | 500 N. Front St., BR. | 3030 |
| Griffin, K. C. (BHR) | 826 E. Caruthers, Lan. | 2479 |
| Guthrie & Co., A. Inc. (BPHR) | 552 Sherlock Bldg., Atw. | 8316 |
| Hammer, R. G. (BHP) | 1312 Public Service Bldg., Atw. | 2139 |
| Hausser Bros. Construction Co. (PHR) | Multnomah Hotel, Atw. | 7444 |

Class of Construction: (B) BUILDING; (H) HIGHWAY; (P) PUBLIC WORKS; (R) RAILROAD.

| | | |
|---|----------------------------------|------|
| Hoffman, L. H. (BP)..... | Public Service Bldg., Atw. | 3181 |
| Jacobsen Construction Co. (BP)..... | McKay Bldg., Atw. | 5027 |
| Jacobsen-Jensen Co. (PH)..... | 407 Stanton, Gar. | 3313 |
| Johnson Contract Co. (HPR)..... | 414 Exchange Bldg., Atw. | 0678 |
| Johnson-Gardner Co. (HPR)..... | 414 Exchange Bldg., Atw. | 0678 |
| Kern & Kibbe (HPR)..... | 290 E. Salmon St., Ea. | 4116 |
| Kuckenberg & Wittman (BPR)..... | 226 Board of Trade Bldg., Br. | 1999 |
| La Pointe Constr. Co..... | 629 E. 54th St. N., Gar | 8312 |
| Lindstrom & Feigenson (BPHR)..... | 421 Rlwy. Exch. Bldg., Atw. | 2662 |
| Lyons, J. A. (BPHR)..... | 1001 Halsey St., Tr. | 2841 |
| McNerney Bros. (BPHR)..... | 201 Worcester Bldg., Atw. | 6444 |
| Midstate Contract Co. (HP)..... | Box 33, Yakima, Wash. | |
| Milne & Dussault (PH)..... | 1853 E. Broadway, Tab. | 7277 |
| Morrison & Knudsen (BHPR)..... | 319 Broadway, Boise, Idaho | |
| Morgan, T. M. (H)..... | 5410 Wilshire Blvd., Los Angeles | |
| Morrison Trucking Co. (BPHR)..... | 391 E. 6th St., Ea. | 8327 |
| Newport Construction Co. (PHR)..... | 317 Exchange Bldg., Atw. | 7209 |
| Pacific Bridge Co. (BPHR)..... | Ft. of E. Salmon St., Ea. | 2164 |
| Parker & Banfield (BP)..... | 984 E. 17th St., Sel. | 6182 |
| Parker-Schram Co. (PHR)..... | Couch Bldg., Atw. | 4375 |
| Peck, E. C. & Co. (PH)..... | Drain, Oregon | |
| Puckett, W. H. Co. (PHR)..... | 319 Broadway, Boise, Idaho | |
| Purdin, Sandeberg, Elk & Lind (P)..... | 55 W. Humboldt, Tr. | 7564 |
| Quinn, J. L. (B)..... | Box 1107, Klamath Falls, Ore. | |
| Rebman, J. (PH)..... | 343 Vancouver Ave., Tr. | 7825 |
| Robertson, Hay & Wallace (B)..... | 605 Weatherly Bldg., Ea. | 3613 |
| *Saxton & Looney..... | Corvallis, Ore. | |
| Seed, John S. (B)..... | 201 Worcester Bldg., Atw. | 6444 |
| Honorary Member and Director of Chapter | | |
| Silbaugh, C. E. (BPH)..... | Burns, Ore. | |
| Shea & Co., J. F. (PHR)..... | 211 Henry Bldg., Atw. | 2435 |
| Stebinger Bros. (B)..... | Worcester Bldg., Atw. | 6444 |
| Sullivan & Doyle (PHR)..... | Ft. of Curry St., Atw. | 5297 |
| Box 104, Portland, Ore. | | |
| Traver, L. N. (B)..... | Corvallis, Ore. | |
| Umpqua Dredging & Constr. Co. (PH)..... | Reedsport, Ore. | |
| United Contracting Co. (BPHR)..... | 309-10 Stock Ex. Bldg., Atw. | 5296 |
| von der Hellen & Pierson (HR)..... | Naches, Wash. | |
| White, Ernest & Co. (B)..... | Twin Falls, Idaho | |
| Wolfe, O. D. (HR)..... | Washougal, Wash. | 9F2 |
| Wren & Greenough (PHR)..... | 1037 Ch. of Com. Bldg., At. | 9882 |
| Wright Constr. Co. (BPH)..... | Aberdeen, Wash. | |
| Young, I. L. (BPH)..... | 524 Henry Bldg., At. | 0097 |

Associate Members Portland Chapter

| | | |
|---|------------------------------|------|
| Balzer Machinery Co..... | 275 Pine St., Atw. | 9391 |
| Beall Pipe & Tank Co..... | 85 Columbia Blvd., Wa. | 3171 |
| Bitumuls Asphalt Sales Co..... | 210 Thompson St., Tr. | 1193 |
| Cascade Investment Co..... | 309 E. Main St., Ea. | 8135 |
| Glyde Equipment Co..... | 555 Thurman St., Br. | 0885 |
| Columbia Brick Works..... | 301 E. Madison, Ea. | 1101 |
| Concrete Pipe Co..... | 169 Thompson St., Tr. | 1164 |
| Electric Steel Foundry..... | 475 N. 24th St., Bea. | 6344 |
| Feenaghty Machinery Co..... | 309 E. Yamhill, Ea. | 2187 |
| Grand Sheet Metal Works..... | 60 E. Third N., Ea. | 2181 |
| Howard Cooper Corporation..... | 361 Hawthorne, Ea. | 8188 |
| Latture, J. L. Equip. Co..... | 312-314 E. Madison St. | 8166 |
| Loggers & Contractors Machy. Co..... | 345 E. Madison St., Ea. | 4128 |
| McCraken-Ripley Co..... | 65 Albina Ave., Wal. | 7650 |
| McMillan, A. Co..... | 350 E. Ankeney, Ea. | 0178 |
| Metropolitan Casualty Ins. Co. The..... | Wilcox Bldg., Atw. | 7521 |
| National Hospital Assn..... | 400 Mohawk Bldg., Atw. | 5291 |
| Nicolai-Neppa Co..... | 227 Davis St., Berk. | 0685 |
| Oregon City Sand & Gravel Co..... | Oregon City, Oregon | |
| Oregon Portland Cement..... | 321 E. Madison, Ea. | 3116 |
| Pomeroy Iron Works..... | 360 Hawthorne, Ea. | 0029 |
| Phenix, J. H. & Co..... | Box 48, Seattle, Wash. | |
| Pure Iron Culvert & Mfg. Co..... | 763 Chadstone, Sel. | 2275 |
| Rodgers, Hart & Banks..... | Railway Exch. Bldg., Atw. | 8496 |
| Santa Cruz Portland Cement..... | 45 Fourth St., Atw. | 9848 |
| Snow, L. A. & Co..... | 244 Union Ave., Ea. | 6482 |
| Standard Oil Co..... | Pacific Bldg., Bea. | 4161 |
| Steel Tank & Pipe Co..... | 404 Columbia Blvd., Wal. | 2401 |
| Swigert, Hart & Yett..... | Ft. of E. Salmon St., Lan. | 1125 |
| Union Oil Co. of California..... | Yeon Bldg., Atw. | 9521 |
| Wallace Bridge & Structural Steel..... | P. O. Box 48, Seattle, Wash. | |
| Western Road Machinery Co..... | P. 220 E. Water, Ea. | 4862 |
| Zimmerman, Wells & Brown..... | Ft. of Sheridan, At. | 0221 |

Affiliated Builders Division, Portland Chapter

| | | |
|----------------------------------|----------------------------|------|
| Alt, Fred W..... | 1118 Mallory Ave., Wal. | 2083 |
| Alynn, B. T..... | 7 E. 60th St. N., Tab. | 0194 |
| Blackman, D. Banks..... | 1140 Powell Bldg., Atw. | 2400 |
| Carson Construction Co..... | 310 Oak St. | |
| Chandler Const. Co..... | 400 C. of C. Bldg., Tr. | 8034 |
| Dewitt Building Co., Geo. W..... | 585 E. 41st N., Car. | 3412 |
| Duncan, J. A..... | 474 E. Eighth N. | |
| East Side Building Co..... | 319 Railway Exchange Bldg. | |
| Eklund, N. O..... | 1595 Sandy Blvd., Car. | 5512 |
| Goldenberg, C. C..... | Abington Bldg., Atw. | 1675 |
| Goodridge, D. H..... | 49 E. 44th N., Tr. | 9949 |
| Greiling, F. H., Director..... | 908 E. 23rd N., Car. | 7184 |
| Hurbert, Russell S..... | Weatherly Bldg., Car. | 2828 |
| Irwin, A. H..... | 1193 Garfield, Lan. | 1266 |

| | | |
|-----------------------------------|-------------------------|------|
| Johnson & Neubert..... | 375 E. 52nd St., Tab. | 7277 |
| Kiecher, Wm..... | 1170 Mallory Ave., Wal. | 6223 |
| Knott & Rogers..... | 24 E. 81st St., Tab. | 7214 |
| Krasuse, Rudolph K..... | 457 E. 15th N., Gar. | 1783 |
| Leistner, C..... | 775 E. 14th N., Car. | 4902 |
| Moore, J. Bryson..... | 1444 Sandy Blvd., Car. | 8260 |
| Murphy, John..... | 488 Raleigh St. | |
| Nelson, Herman..... | 385 E. 11th N., Car. | 2508 |
| Nilson, Emil..... | 449 E. 48th N., Tr. | 6433 |
| Quigley, Wm..... | 56 E. 52nd, Tab. | 9057 |
| Ryan, Wm. F..... | 1211 E. Kelly St., Tab. | 1860 |
| Schenk, A. J..... | 1275 Prescott, Tr. | 7432 |
| Schmitt, H. A..... | 2610 52nd St., Sun | 7865 |
| Seed, J. S., Honorary Member..... | Worcester Bldg., Atw. | 6444 |
| Stuart, Peter..... | 755 Irving, Bea. | 3673 |
| Twitchell, P. A..... | 567 E. 35th St. N., Tr. | 1579 |
| Winship, T. B..... | 461 E. 48th N., Tr. | 7706 |
| Henkel-Shackelford..... | 1040 Minnesota, Unv. | 0904 |
| V. D. Reverman..... | 353 E. Burnside | |
| L. L. Hickok..... | 1111 Sandy Blvd. | |
| Fred Sandstrom..... | 201 Worcester Bldg. | |
| C. W. Christiansen..... | 445 Multnomah | |

SPOKANE CHAPTER

West 515 First Avenue—Main 6822—Spokane

| | |
|---------------------------------------|--------------------------------|
| Max J. Kunej, President..... | I. G. Anderson, Vice-President |
| Nick Norman, Vice-President..... | Dan Hannab, Secty.-Treas. |
| Alloway & Georg (B)..... | Hutton Bldg. |
| Auld & Shinn (B)..... | 1121 Indiana |
| Burnette, C. A. (H)..... | 1118 Ide Ave. |
| Byers, W. A. (H)..... | W. 1204 Mansfield |
| Clifton, Applegate & Toole (HPR)..... | Hutton Bldg. |
| Collins, J. H. & Co. (H)..... | Colville, Wash. |
| Colonial Building Co. (BH)..... | Hutton Bldg. |
| Crick, James (H)..... | Realty Bldg. |
| Degerstrom, N. A. (HPR)..... | Peyton Bldg. |
| Edwards, J. E. (H)..... | S. 1423 Adams |
| Geist, W. L. (H)..... | W. 444 23rd Ave. |
| Hansen Construction Co..... | W. 1517 Jackson |
| Harding, Geo. (H)..... | Walla Walla, Wash. |
| Hargrave Construction Co. (H)..... | W. 418 Twentieth |
| Hewett, F. R. (H)..... | W. 420 Twenty-second |
| Joslin & McAllister (H)..... | Realty Bldg. |
| Kunej, Max J. (H)..... | Hutton Bldg. |
| Larson Bros. (B)..... | Hyde Bldg. |
| Long, Oliver J. (H)..... | W. 1924 Mansfield |
| Lyons & Price (H)..... | W. 503 Fourteenth |
| March Construction Co..... | W. 1002 Riverside, Spokane |
| Martin, F. E. (B)..... | Galax Hotel |
| McLellan, A. (B)..... | E. 932 Ermina |
| Medby, M. C. (B)..... | S. 3614 Arthur |
| Meyers, W. C. (B)..... | S. 2277 Tekoa St. |
| Morrin, S. G. (B)..... | Paulsen Bldg. |
| Norman, Nick (B)..... | 231 Waverly Place |
| Nyberg, Carl (H)..... | Realty Bldg. |
| Orino, Sam (H)..... | Realty Bldg. |
| Power, C. A. (H)..... | S. 1703 Grand |
| Siems, Spokane Co. (BPHR)..... | Realty Bldg. |
| Spokane Paper & Stationery Co..... | S. 152 Jefferson |
| Standard Asphalt Paving Co. (HP)..... | Chronicle Bldg. |
| Standard Oil Co. of Calif..... | Old National Bldg. |
| D. A. Sullivan & Co..... | Realty Building |
| Terteling, J. A., & Sons (HP)..... | 511 Sound Ave. |
| The American Bank..... | Spokane |
| Tobin, James, & Son (H)..... | Box 916 |
| Triangle Construction Co. (H)..... | W. 1220 Ide |
| True-House Construction Co. (B)..... | N. 119 Wall |
| Wheeler & England (HP)..... | Coeur d'Alene, Idaho |
| Young, Peter J. (B)..... | S. 11 Cedar St. |

Associate Members

| | |
|---|--------------------------------|
| Beall Pipe & Tank Corp..... | Realty Bldg. |
| Brandt Bros..... | W. 14 Main Ave. |
| Coeur d'Alene Hardware & Foundry..... | Wallace, Idaho |
| Commercial Importing Co..... | 617 Western Ave., W. 726 Wash. |
| Consolidated Supply Co..... | W. 1310 Ide Ave. |
| Construction Equipment Co..... | 1118 Ide Ave. |
| Feenaghty Machinery Co..... | N. 715 Division St. |
| W. P. Fuller & Co..... | N. 229 Post St. |
| General Machinery Co..... | E. 3501 Riverside |
| Gladding-McBean & Co..... | 524 Old National Bldg. |
| Hawey Fuel Co..... | N. 740 Division St. |
| Hofius-Ferris Equipment Co..... | W. 726 Wash. |
| Holley-Mason Hardware Co..... | S. 127 Howard |
| Jones & Dillingham Co..... | W. 715 First Ave. |
| Jones & Mitchell..... | Hutton Bldg. |
| Jong Lake Lumber Co..... | N. 348 Wall St. |
| W. S. McCree..... | 212 Symco Bldg. |
| J. E. McGovern Co..... | 550 Peyton Bldg. |
| Nott-Atwater Co..... | S. 157 Monroe St. |
| Old National Insurance Agency..... | Old National Bank Bldg. |
| Spokane Concrete Pipe Co..... | N. 227 Dakota |
| Spokane Culvert & Tank Co..... | N. End Division Street Bridge |
| Union Oil Co..... | 611 Chronicle Bldg. |
| Washington Brick, Lime & Sewer Pipe Co..... | S. 151 Washington St. |

PACIFIC

SKILL - INTEGRITY



RESPONSIBILITY

25¢
per Copy

CONSTRUCTOR

CONSOLIDATED WITH

Building and Engineering News

IN THIS ISSUE



OIL MIX SURFACE ON LOW COST HIGHWAYS

By T. H. Dennis, Maintenance Engineer, Division of
Highways, State of California

GENERAL FINAL PLAN FOR SAN FRANCISCO BAY BRIDGE APPROVED

COST OF LOCAL GOVERNMENT

BILL OF QUANTITIES VS. PRESENT SYSTEM OF BIDDING

CONSTRUCTION MATERIALS AND EQUIPMENT

UNIT BID SUMMARY : CONSTRUCTION NEWS



The A-C Model "L"

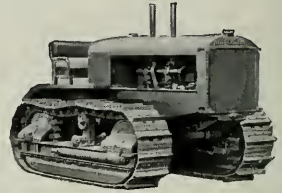
POWER—The Model "L" with its big 6-cylinder engine of Allis-Chalmers design and manufacture is built to handle the heaviest dirt moving equipment.

SPEED—A range of six speeds, 1.9 to 6.5 m.p.h. forward, and two in reverse provides the owner of a Model "L" with a speed for every need.

FOOTING—The balance of weight and power is ideal in the Model "L." It will keep its footing on side hills or on road grades while delivering full power.

ACCESSIBILITY—The engine, transmission, steering clutches and final drive are all easily accessible for adjustment and inspection. This feature of the Model "L" pleases ALL tractor men.

Power...Economy...Performance



**ALLIS-CHALMERS
TRACTORS and
EQUIPMENT**

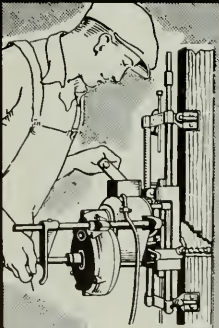
**Eby Machinery
Company, Ltd.**

35 MAIN STREET

DOuglas 1068

San Francisco

WAPPAT *Electric* TOOLS



Are Built to Last Longer

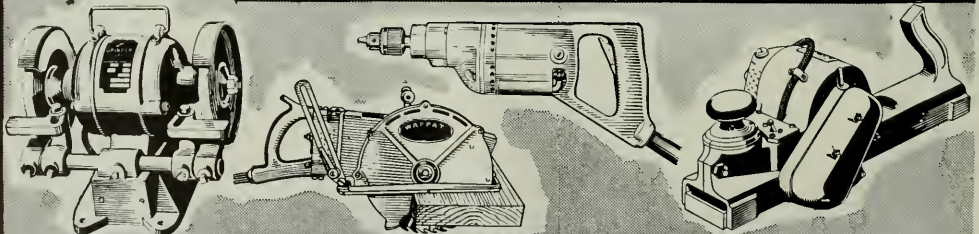
Cuts production costs . . . Speeds up the job . . . Makes for greater efficiency . . .
A size and type for every purpose.

Ask for a Demonstration

M. N. THACKABERRY

228 First Street, San Francisco
KEarny 4467

308 E. Third St., Los Angeles
TOOLS RENTED MUtual 7508



PACIFIC CONSTRUCTOR

With which is Consolidated Building and Engineering News

Official Publication of the Associated General Contractors of America
for the Eleven Pacific Coast States

J. P. FARRELL, *Editor*

SPENCER B. LANE, *Assoc. Editor, Assoc. M. Am. Soc. C. E.*

VOL. 15

SAN FRANCISCO, CALIF., JUNE 1, 1932

No. 10

Editorial Comment

Henry J. Kaiser, who was inducted into office as president of the Associated General Contractors at the spring meeting of the executive board in Washington on May 2 and 3, succeeds, by virtue of his office as vice-president at large, the late William A. Starrett, elected president at the annual convention in January. Mr. Kaiser is a road builder and general contractor of long standing on the Pacific Coast and is vice-president of Six Companies, Inc., which has the contract for the Hoover Dam. One of his large operations just previous to his Hoover Dam work was the construction of one of the longest sections of the Central Highway of Cuba. Taking his new office at the height of his business activity, Mr. Kaiser brings a wealth of energy and a close contact with construction problems that will be of great value to the association of which he is now the head.

We on the Pacific Coast are particularly proud of the fact that a San Francisco Bay District contractor will guide the activities of the National organization. The office of president, particularly at this time, calls for a man of wide business experience, one with foresight—and most important—a leader.

In Mr. Kaiser they have all these—and more.

* * * *

The funded debt of California's state government, counties, municipalities and districts, is not far from the billion dollar mark. A tabulation of the bonds issued by the various units of government and outstanding at the close of the fiscal year ended June 30, 1931, gives the grand total as \$868,574,000. The report was recently made public by the Committee on Governmental Expenditure and Taxation of the California State Chamber of Commerce.

Interest payments for the single fiscal year of 1930 took a total of \$40,884,000 from the taxpayers' pockets.

In 1912, twenty years ago, when the population of the state was only 2,595,000, the total outstanding bonds of all forms of government, amounted to \$119,647,000, or \$46.11 per capita, but year by year the sum has grown at a rate far outstripping the rate of population growth. In 1931 the total of \$868,574,000 was 626 per cent higher than the 1912 figure, while the population of 5,786,000 was only 136 per cent greater than twenty years ago. If every man, woman and child in the state had been required to assume the debt in 1931, the share of each would have been \$150.12.

Municipal bonds top the list of borrowings, the aggregate for all the cities being \$447,853,000, more than half of the total. The districts of the state come next with a total of \$251,676,000 borrowed for school buildings,

highways, irrigation projects and other improvements for district units. Third in size of its debt is the state government with a total of \$123,581,000 in bonds outstanding. The smallest burden of debt is borne by the counties, which in 1931 had only \$45,464,000 outstanding. The counties have reduced their total debt from its high mark in 1928, and the districts have lowered their total obligations from the peak of 1930, but the debts of the state have increased every year in the last two decades, and those of the cities in all but two years since 1912.

That the debt is still increasing was indicated in a report of State Controller Ray L. Riley, issued in April, which fixed the aggregate of all bonds at \$876,278,351, or \$154.35 per capita. The increase was recorded chiefly in the state debt, which had risen to \$131,234,500.

* * * *

E. J. Mattacks, carpenter contractor of San Jose, is in the Santa Clara County Jail on charges of violation of the contractors' license law. Bail has been fixed at \$250 cash or \$500 bond.

Irvine M. Johnson, of Oakland, will appear in court next Monday to answer charges of his having used the title of "architect" without having been given the right by the State Board of Architectural Examiners.

Last Tuesday, an application for a contractors' license filed with the State Department of Professional and Vocational Standards, charged with enforcement of the contractors' license law, was refused to Mrs. Gertrude Phipps, president of the Perfection Floor Company, on the grounds of misrepresentation.

Col. Huntington, registrar, declared Mrs. Phipps was not engaged in the contracting business, but that her name was "used as a subterfuge for her husband to permit him to engage in business."

Col. Huntington, in announcing denial of the application declared that "Phipps was not a responsible contractor"—that he had allegedly refused to pay his employees and failed to pay for material purchased for use in a building, even though he had been paid by his customer.

With the adoption of the Contractors' License Law—there were those who thought it was "just another one of those things."

With the adoption of the measure regulating the practice of architecture—there were those who figured it was just another law to break—without penalty.

We wonder!

The Northwest Construction Association, with headquarters in Seattle, is now actively functioning. The membership is made up of all elements of the construction industry to combat movements and programs seeking

(Continued on Page 4)

Limit Stakes and Levels

By THE EDITOR

The Board of Estimates and the city officials of Baltimore are without authority to attempt to set up a fixed schedule of wages and enforce it against contractors bidding or engaged on city work, the Maryland Court of Appeals determined in a unanimous decision. This decision upheld the ruling of Judge Samuel K. Dennis, of the Circuit Court, of Baltimore City against the legality of city officials establishing a scale of wages.

* * *

It's getting to the stage that contractors will be compelled to "play in their own backyards." The Texas State Highway Commission has issued an order providing that contracts on state-aid highway projects shall be awarded only to Texas contractors, who are defined in the order as any person, firm, association or corporation having been engaged in such work at least six months prior to the date of the order.

* * *

A drastic reduction in the engineering personnel of Westchester County, N. Y., took place on May 2, when 173 persons were dismissed in a move for economy. The number of engineers employed by the park commission was reduced from 144 to 71, and 18 architects were also dropped. In the county engineer's office the staff was reduced from 120 to 44.

* * *

A storm has been raised at Edmonton, Alberta, Canada, because of the adoption by the City Council of a form which applicants for unemployment relief must sign which contains a clause in which the applicant agrees that the assistance he receives becomes a direct liability against any estate that he then has or may have in the future. President Carl F. Berg, of the Edmonton Trades and Labor Council, opposed the adoption of the clause, which, he stated, "was hanging a millstone on the necks of the unemployed workers, and even their widows and orphans, should the unemployed die and leave any estate."

* * *

Sub-contractors in New Orleans have an effective scheme for the elimination of bid shopping on the part of general contractors. A day or so before general bids are to be opened, the proposals of all sub-contractors asked to submit bids are opened in the offices of the sub-contractors' association, both members and non-members of the group participating; owner, architect, engineer and general contractor are invited to be present at the opening. This procedure prevents general contractors from misrepresenting a low bid to other firms in an attempt to secure lower prices, though it is fully effective only if all sub-contractors refrain from secretly offering lower bids than their announced figure.

* * *

A Supreme Court decision issued recently at Lincoln, Neb., reads that surety companies signing contractors' bonds may be sued directly by material men in the case of Fowler against Doran, to which the National Surety Co. was a party. The decision holds that the beneficiaries of a contract may recover thereon, although not named as parties, where it appears expressly or by intention that

their rights and interests were contemplated and being provided for therein. Such bonds render the surety company liable for millwork manufactured under the order of the building which has little value for other uses. The court also holds that the rule of law relating to suits brought by third parties avoid duplication of litigation, which applies to private bonds as well as public ones.

* * *

The Texas State Highway Commission has issued an order providing that contracts on state-aid highway projects shall be awarded only to Texas contractors, who are defined in the order as any person, firm, association or corporation having been engaged in such work at least six months prior to the date of the order. In accordance with the policy of the Bureau of Public Roads against local preference laws on federal aid work, this order provides that it shall not apply to work where federal aid funds are involved. The bureau first stated its policy in connection with Massachusetts' local preference law, informing the awarding officials that it would not approve contracts for federal aid highway construction awarded to other than the low bidder, when the only objection to the low bidder was that he was not a resident of the state.

* * *

Senator Pittman, Democrat, Nevada, has introduced a tabulated list of eleven projects estimated to cost more than \$625,000,000 as examples of the type of work against which the government could issue bonds for advances to State agencies, under the \$2,000,000,000 plan sponsored by Senator Robinson, Senate Democratic leader. Pittman explained off the floor that each of the projects would repay through tolls its own cost, and interest charges. The list was prepared by the American Legion and the American Federation of Labor and includes: Bridge over Mississippi at New Orleans, \$14,500,000. High speed subway between Philadelphia and Camden, \$10,000,000. Bridge, San Francisco to Oakland, \$75,000,000. Portland—Tualatin Tunnel, Portland, Ore., unestimated. Tunnel under Hudson at New York, \$90,000,000. Bridge over East River in New York City, \$30,000,000. Power development of Columbia River in Washington and Oregon, to be repaid by consumers. Water works for a number of communities that already have planned them, between \$300,000,000 and \$500,000,000.

Editorial Comment

(Continued from Page 3)

to divert road and highway funds to purposes other than those intended—road work.

Street and highway building in Washington state, it is roughly estimated, provides employment directly and indirectly to between 75,000 and 100,000 persons. This, the largest industrial payroll in the state, is threatened. It is exposed to the covetous eyes of the politicians, of groups seeking to divert it into other channels not so productive of actual work.

The fight of the association is to protect the construction industry and to conserve road and highway funds which create jobs during the present emergency.

If the agitation now being encouraged in the state of Washington is not halted—if the present proposed legislative programs are adopted, Washington's road and highway funds will be lost to the industry.

Action! Immediate action is necessary. Such action the Northwest Construction Association promises to provide.

More power to the boys in the Pacific Northwest.

Oil Mix Surface on Low Cost Highways*

By T. H. DENNIS, *Maintenance Engineer, Division of Highways, State of California*

OIL MIX CONSTRUCTION is a subject with which you are all familiar, many present having initiated or aided in the development of present practices. Conceived to meet conditions not amenable to standard



T. H. DENNIS

practice, it has now been expected to the point where its special requirements of grading and binders are as exacting as that of the admittedly higher type pavements. Understand I am not discounting the value of this control but rather the tendency these restrictions have toward placing its cost and life expectancy on a par with the more expensive pavements.

That a close restrictive range in material grading is not essential is borne out by an examination of the gradings on many successful jobs. Variations of at least 200% appear between the amounts passing the ten, forty, eighty, and two hundred mesh screens. With this permissible variation, it would appear reasonable to anticipate stable results with a wide range of materials, providing the choice of binder was correct. I have in mind a situation where a considerable saving could be effected providing it was possible to use a nearby deposit of beach sand and gravel. Laboratory tests indicated a lack of stability, even with various combinations of fines and binder, due to the rounded grains of the material. Finally we had recourse to the early acid test—that is, we laid a small section on the road and tried it under traffic. We found that under the particular temperature conditions which prevailed a stable mix was possible if a hot E grade asphalt was used as a binder.

I mention these facts as an argument against any set specification for oil mixing. There should, of course, be a background for our work but it ought not to stifle initiative when conditions are unusual.

Early Development

The earliest use of oil for road purposes covers some six miles laid by Los Angeles County in 1898. By 1900 its use had become quite general among counties bordering the San Joaquin Valley. The oil used was a natural crude of approximately 14 gravity distributed from an ordinary water wagon through a perforated spray bar. No attempt was made to prepare the road surface prior to the application and but little attention was given to its maintenance after treatment. The treatment generally sufficed for a season, after which, due to a lack of maintenance, the deterioration of the road progressed in accordance with the nature of the soil and amount of traffic.

This lack of proper maintenance and the varying stability of the soils treated reacted unfavorably to the use of oil. The first directed effort to improve conditions was initiated by Fresno County. The rough and chunky oil surface was scarified, trued up and re-oiled, which not only improved the riding qualities of the surface but prolonged its life.

Development of Present Methods

The adoption of this method was by no means general, though successful oiled road surfaces were constructed in

Stanislaus County in 1909, San Bernardino County in 1916 and Riverside County in 1924. This early construction established the foundation of our present day practice.

In 1916 San Bernardino County, under the direction of County Engineer J. S. Bright (now with the Bureau of Public Roads) treated some 40 miles of desert road between Barstow and Needles with an oil containing 60% of asphalt. The material treated ranged from sand in some sections to sandy gravel in others. An analysis of the material shows 60% passing the No. 10 screen and 11% the 200, with a bitumen content of 8.1%. In 1927 this road was still in fair condition, though it had received little maintenance during the first eight years of its life and traffic had increased during that period from 100 to 400 vehicles daily.

In 1924 the State of Nevada used an oil containing 61 to 64.5% of 80 penetration asphalt to mix a ten-mile section of the Las Vegas-Beatty road in the Amargosa Desert. The road was trenched to a 3" depth and the excavated material windrowed at the sides. After the first application of oil upon the prepared subgrade the roadway was cultivated with a double action disc harrow. A second application of oil followed and was partially covered with sand from the shoulders to prevent the oil from collecting in large pools. Discing was resumed, followed by a large road grader which moved the oiled material into a windrow first on one side of the road and then on the other, and finally leveled it for the third application. The grader was found to be the most effective implement used for mixing. This procedure was repeated until the required amount of oil had been applied and mixed. On most of the project four applications were spread, the average gallonage per square yard being 3.39. When the surface became uniform in appearance, it was shaped with the grader to a crown approximating two inches and compacted with a sheepsfoot roller. For final smoothing a drag ten feet wide by twenty feet long was used in conjunction with an ordinary roller three feet in diameter, having a weight approximately 175 pounds per inch width. After the project was completed and the surface compacted portions of the surface were covered with road oil containing 85% asphalt of 80 penetration. This application varied with the surface condition, the average application being .58 of a gallon per square yard. An analysis of this material showed 90% passing the No. 10 screen and 10% passing the No. 200 with an oil content of 7.4%. Two years later the road was smooth, required but moderate maintenance, and in appearance resembled a sheet asphalt. A personal inspection some eight years later finds this road still giving service, the failures limited to surface raveling, pot holes and broken edges, the latter due in part to its narrow width. Its condition clearly demonstrates the stability of the original mixture and offers assurance of continued service under proper maintenance.

The treatment of metalled roads by the surface mixing process is merely a modification of the methods used on these natural soils. No new principles are introduced but there is a change of detail. Wisconsin began using the method in 1923, Wyoming experimentally in 1925 and California in 1926 on the initiative of District Engineer E. Q. Sullivan and District Maintenance Engineer J. E. Stanton of San Bernardino. The immediate occasion in each case was a section of road covered with too much loose material to warrant ordinary surface treatment.

* Paper presented at the annual convention of the County Engineers' Association of Calif., San Bernardino, Feb. 17-20, 1932.

PACIFIC CONSTRUCTOR

Consolidated with
BUILDING AND ENGINEERING NEWS

J. P. FARRELL, Editor SPENCER B. LANE, Assoc. Editor
Assoc. Mem. Am. Soc. C. E.

H. BAILY BRUNS, Advertising Manager

Publication Office: 545-547 Mission St., San Francisco
Telephones: GARfield 8744-8745

PACIFIC CONSTRUCTOR is the official publication of the Associated General Contractors of America for the eleven Pacific Coast states, issued on the first and fifteenth of each month. Printed and published by the Stark-Rath Printing and Publishing Co., 545-547 Mission Street, San Francisco. Subscription Price: \$5.00 per year, payable in advance. Single copies, 25c.

Mixing Treatment

The mixing treatment as now evolved utilizes various grades of fuel oil or road oils either emulsified or cut back to workable viscosities as a binder. It is mixed directly with the rock surfacing material, either on the road or at a central mixing plant. Either process permits of the most economical use of local materials. The surface obtained is somewhat similar to asphalt concrete and has been found to satisfactorily care for a traffic of from 500 to 1000 vehicles daily.

Road Mix

This process requires scarifying of the metal to the desired depth of treatment and shaping to the desired section. Oil is then applied in several uniform applications, each followed by harrowing until the total quantity is applied. The final application is followed by windrowing the treated material and then blading the windrows from side to side with graders until the metal is uniformly covered with oil. The mix is then spread to the desired section and maintained under traffic until compacted by blade grader, drag or roller.

The period of mixing is directly affected by the air temperature, viscosity of the oil, and character of the aggregate. Normally fifteen to twenty-five complete turns from one side of the road to the other are specified for finished work. Several mechanical mixing machines now on the market have demonstrated their ability to perform this work and should be permitted to compete with present methods. Due to lack of uniformity in the material or in the spread of oil, construction defects are apt to occur, such as fat or lean spots. When the surface is too rich in oil it may be rescarified and a small amount of new material brought from below. The percentage of oil may thus be reduced to the proper amount. If finished too lean, a seal coat is applied at the rate of 1-6 of a gallon per square yard and sufficient screenings applied to protect traffic.

The choice of binder used is affected by the conditions encountered. Where the rainfall is light fuel oil containing 60 to 70% of 80 penetrating asphalt is satisfactory. Where the rainfall is heavy a fuel oil containing 70 to 80 per cent of 80 penetrating asphalt will be found more suitable. Where heavy trucking is anticipated in addition to unfavorable weather, heavy road oils, either emulsified or cut back to workable viscosities should be used. A more recent practice has been the use of these heavy road oils cut back or emulsified as a seal for the light fuel oil mixes.

Plant Mix

The plant mix method offers a better opportunity for closer control of the proportioning of material and binder. The use of the method at present is economically limited to jobs where the aggregate for the mix is either delivered or manufactured at a central location. The product is delivered to the road in trucks and spread to the required thickness on a prepared subgrade. If the thickness

of the course exceeds three inches the material is windrowed to the sides with a blade grader and respread in light lifts. This is done to insure compaction from the bottom upward under traffic. A light seal of the same grade of oil used in the mix is usually applied to the top at the rate of 1-6 gallon per square yard as a protective measure.

Stability

It frequently happens that oil mix surfaces laid under apparently similar conditions do not always give equally satisfactory results. Studies undertaken by Mr. T. E. Stanton, Materials and Research Engineer, develop that the nature of the aggregate, particularly that portion passing the No. 200 mesh screen, has a very material bearing on the quality of the finished work. This is especially true when the surface characteristics of the material are such that there is still inherent stability.

This low stability is accentuated when the aggregate is of such quality that oil does not readily stick to the surface, and when moisture is present either at the time of construction or is subsequently introduced. Moisture has the effect of causing a complete separation of the fines from the asphalt oil binder. This is not especially serious in desert sections where there is little moisture present in the aggregate and the annual rainfall low, but has an important bearing on the stability of the oil treated surface at less favorable locations. Valuable tests have been developed to ascertain the resistance of the oiled material to traffic, weather and the presence of water. These tests are as follows:

Deformation Test—The determination of stability of the oil mix material under traffic is known as the Deformation Test. One thousand gram specimens of the aggregate, graded from 1" to dust, are treated with oil or asphalt and compacted in a cylindrical mold 4" in diameter. The specimens are compacted in a tamping machine to duplicate as closely as possible the degree of compaction obtained on the road. Before tamping the material is heated for 24 hours in an oven at 140 degrees F. and after compaction the temperature is again brought to 140 degrees F. before testing. The compacted specimen is then inserted in an expandable cylinder equipped with springs which have a fixed resistance to expansion to insure that all specimens have the same fixed lateral support during the test. The specimen is then subjected to a 15,000 pound load applied steadily at the rate of .05" per minute. The "stability" unit determined from this test is based on the accurately measured expansion for each 1000 pounds of load.

The expansion of the mold is measured in terms of .001" and the results translated to an arbitrary percentage scale in which 0 represents a material of no stability, such as a wet plastic clay, and 100% represents an absolute solid under the maximum load applied.

Information thus far obtained indicates that it is desirable to measure the relative stability under loads (a) up to 5,000 pounds, (b) between 5,000 and 10,000 pounds, and (c) between 10,000 and 15,000 pounds. Samples have been tested which were taken from apparently satisfactory surfaces and which showed good stability under laboratory test up to 5,000 pounds, but which indicated low stability under loads in excess of 5,000 pounds. It appears that roads built of such material would be stable for light weight traffic but unsatisfactory under heavy trucking. Material suitable for heavy duty roads should show a high "stability" under laboratory test of over 5,000-pound load.

The limits set for lowest satisfactory stability for the respective loads have been established on analysis of materials already tested. Further experience will probably modify the methods and interpretations of these tests.

MOISTURE TEST—The moisture test is made to ascertain the susceptibility of the combined mix to softening and disintegration in wet weather. This is accomplished by subjecting a compacted sample of the aggregate and oil, as mixed for use, to water penetration. The sample is completely submerged in water and measurement made of the swell in terms of thousands of an inch in 24 hours. A swell of more than .003" is considered unsatisfactory at the present time, but this figure may be changed in the future as experience indicates.

WATER-ASPHALT PREFERENTIAL TEST—The purpose of the Water-Asphalt Preferential Test is to determine the affinity of the fine particles in the aggregate for water. This test is very important and is performed in the following manner:

Fifty c.c. of heavy fuel oil (60-70% asphalt) is heated to 130° F. and placed in an 8-ounce specimen jar. Ten grams of dust, air dry, is mixed with the oil by means of an electric mixer of the soda fountain type for five minutes. One hundred c.c. of water heated to 130° F. is then added and stirred for five minutes. The mixture is then allowed to stand for about one hour, and the amount of settlement is then noted.

A satisfactory dust will remain in the oil and a poor

His research work has been conducted on plant mix jobs where the control of materials was assured. The results indicate that the proper amount of oil in any mixture of different sized particles depends, first, on the surface area equivalents, and second, on the fact that the average film thickness for similar aggregates must diminish with the average particle diameter.

In assigning surface area values to units of material the graphic method was used. Since the spherical surface area equivalents of a given weight of particles varies directly as the reciprocals of their diameters, it is possible to make a straight line curve from which the surface area values of any size of particles may be taken. In this case the reciprocals of the standard screen openings were plotted as abscissas, and calculated surface area values in square feet per pound plotted as ordinates. The average particle diameter for any group was assumed to be an average of the upper and lower screen openings, and a surface area equivalent for this diameter was assigned to the particular size. Constants were thus determined for each size material as separated by a standard testing screen, and these constants used to calculate surface area values for a graded sample.

The next step was to analyze a number of mixtures

EXAMPLE

APPLICATION OF TABLES AND CHART FOR FIXING OIL-AGGREGATE RATIO

(Assuming an aggregate graded as below)

| Standard Testing Sieve | Per cent Passing | Table No. 1 Pass.—Ret. | Proportion Each Size | Surface Area Constants | Surface Area of Sample | Same Sample by Table No. 4 S. A. Proportion Percent Each Size | Constant Sample | |
|------------------------|------------------|------------------------|----------------------|------------------------|------------------------|---|-----------------|--------------|
| No. 200 | 11 | 200 | .11 | 250 | = 27.5 | .11 × 250 = | 27.5 | |
| No. 100 | 18 | 100 | .07 | 120 | = 8.4 | | | |
| No. 80 | 20 | 80 | .02 | 75 | = 1.5 | | | |
| No. 50 | 25 | 50 | .05 | 55 | = 2.7 | | | |
| No. 40 | 29 | 40 | .04 | 36 | = 1.4 | .18 × 80 = | 14.4 | |
| No. 30 | 32 | 30 | .03 | 27 | = 0.8 | | | |
| No. 20 | 36 | 20 | .04 | 18 | = 0.7 | | | |
| No. 10 | 45 | 10 | .09 | 11 | = 1.0 | .16 × 18 = | 2.9 | |
| No. 3 | 60 | 3 | .15 | 5 | = 0.7 | | | |
| 1-Inch | 100 | 1 | .40 | 3 | = 1.2 | .55 × 4 = | 2.2 | |
| | | | | 1.00 | | | | |
| | | | | Surface area per lb. | | 45.9 sq. ft. | 1.00 | 47.0 sq. ft. |

(Error between tables will vary with different gradings)

Referring to chart it will be found that a surface area of 46 sq. ft. per lb. will require a Bitumen Index of .00089 (assuming a hard smooth aggregate such as quartz), hence .00089×46=.041 lbs. of oil to 1 lb. of aggregate. If a rough material such as granite it will require a higher curve, say No. 6, which for 46 sq. ft. will provide a coverage factor of .00108, which multiplied by 46=.05 lb. of oil per lb. of aggregate.

dust will separate out from the oil and settle to the bottom of the jar. Roads built with material that is unsatisfactory as determined by this test will tend to soften and disintegrate in the presence of water.

Results are reported as good, fair or poor, and the amount of separation stated in terms of percentage of the total dust.

Oil Determination

The determination of the amount of oil to use with a given aggregate is an important one. Experience indicated the necessity of modifying the McKesson-Frickstadt formula for oil determination, as the numerical coefficients give too low an oil content, as well as variable results when wide ranges in grading and type of aggregate were considered. Few examples of excess oil in the mix as formerly established have been observed, while a greater number have ravelled under traffic, indicating a lack of oil.

This matter has engaged the attention of F. N. Hveem, Assistant Testing Engineer for the Materials and Research Department of the Division of Highways.

and determine the amount of oil required to give satisfactory coverage. The resulting values were plotted using surface area equivalents as abscissas, and the pounds of oil per square foot of surface area as ordinates.

Methods

The most important phases of work in connection with the study of a given material are outlined as follows:

1. Surface area equivalents of a sample of aggregate may be determined from sieve analysis. The sample is sieved and the amount of each size expressed as a per cent of the total.
2. A constant is assigned for each size. This constant represents the surface area in square feet per pound of the particular size. The surface area equivalent for a given grading is obtained by multiplying the constant for each size by the percentage factor and adding the results for the various sizes of the given sample.
3. This method may be used in connection with any number of sieves desired. More accurate results are obtained with a large number of size dimensions particularly in the finer particles.

4. Variation of surface area between different materials of same grading, due to differences in shape and surface characteristics of the particles, must at present be estimated by inspection. Rough irregular particles have greater surface area than smooth spherical ones.

5. Variation in absorption must be determined by trial or laboratory tests. This variation is due to the capacity of different rock structures to attract and hold varying thicknesses of asphalt residues on their surfaces.

At the present time the formula is applied as indicated

Corrections may be necessary for aggregates having a specific gravity greatly above or below 2.6. A lighter aggregate should require more oil by weight and a heavier rock will require less. Small variations in specific gravity can be compensated for by means of the surface factor curves. In order to definitely determine and measure all the factors which may be present, and correctly evaluate their effect on oil content and quality of mix, it will be necessary to investigate the material in the laboratory and furnish the field men with constants that are correct

TABLE OF SURFACE AREA EQUIVALENTS

| TABLE # 1 10 SIEVES | | | TABLE # 2 7 SIEVES | | | TABLE # 3 7 SIEVES | | | TABLE # 4 4 OR 5 SIEVES | | | TABLE # 5 3 SIEVES | | |
|------------------------|-----------|-----------|-----------------------|-----------|-----------|-----------------------|-----------|-----------|----------------------------|-----------|-----------|-----------------------|-----------|-----------|
| SIEVES | SUR. AREA | CONSTANTS | SIEVES | SUR. AREA | CONSTANTS | SIEVES | SUR. AREA | CONSTANTS | SIEVES | SUR. AREA | CONSTANTS | SIEVES | SUR. AREA | CONSTANTS |
| PASS. | RET. | | PASS. | RET. | | PASS. | RET. | | PASS. | RET. | | PASS. | RET. |  | PASS. | RET. |
| #200 | Wash | % x 300 | #200 | | % x 250 | #200 | | % x 250 | #200 | | % x 250 | #200 | | % x 250 |
| #100 | #200 | % x 120 | #100 | #200 | % x 120 | | | | | | | | | |
| #80 | #100 | % x 75 | | | | #80 | #200 | % x 115 | | | | | | |
| #50 | #80 | % x 55 | #50 | #100 | % x 60 | | | | #40 | #200 | % x 80 | | | |
| #40 | #50 | % x 36 | #30 | #50 | % x 32 | | | | | | | #10 | #200 | % x 4.5 |
| #30 | #40 | % x 27 | | | | #40 | #80 | % x 50 | | | | | | |
| #20 | #30 | % x 18 | #10 | #30 | % x 15 | #20 | #40 | % x 20 | | | | #10 | #40 | % x 18 |
| #10 | #20 | % x 11 | | | | #10 | #20 | % x 11 | | | | | | |
| #3 | #10 | % x 5 | #3 | #10 | % x 5 | #3 | #10 | % x 5 | #3 | #10 | % x 5 | #3 | #10 | % x 5 |
| #1 | #3 | % x 3 | #1 | #3 | % x 3 | #1 | #3 | % x 3 | #1 | #3 | % x 3 | #1 | #10 | % x 4 |

* Still remaining in suspension over 15 seconds and removed by elutriation
 # Sand passing 200 mesh but not removed by elutriation

Note.— Value shown in tables #2,3,4 and 5, for passing #200 sieve applies to average dust. Will be in error for some materials

APPLICATION

Use table according to number of testing sieves used reducing number of sieves will reduce accuracy. By sieve analysis determine the amount of each size of aggregate. Express in terms of percent of total. Multiply the percent of each size by the constant given for that size. The constant is the equivalent area in sq.ft. of one pound of material of that size. Add results and total will represent surface area of the entire sample in terms of sq.ft. per lb.

in the table published herewith. This table is compiled to permit of using either a full set of testing sieves or a smaller number. The table to be used depending on the number of sieves available. The dust content should be determined by washing through a No. 200 sieve or by elutriation.

6. Having arrived at the surface area equivalent for the grading represented, the amount of oil required is calculated by multiplying the surface area by the "Bitumen Index" as indicated by chart published herewith. The "Bitumen Index" is a factor indicating the amount of oil in pounds required to cover one square foot of surface area. (See example.)

It has been established that the oil film or coverage factor must vary according to the size of the particles. A small particle will not carry as much oil per unit of surface area as larger particles.

The Bitumen Index chart gives the coverage factor range that may be applied to different surface area equivalents. It will be noted that in fine grading combinations which give high surface area equivalents, the coverage factor is smaller and the tolerance more restricted than in coarse combinations.

for the particular aggregate being used. Considerable difference in quality of results may be anticipated in different aggregates regardless of structural strength, resistance to abrasion or grading.

To translate the oil ratio into terms of per cent of the combined mix divide weight of oil by combined weight of aggregate and oil.

The "Bitumen Index" curves are numbered 0 to 10. These numbers are designated as surface factors or "curve numbers" and apply to rock surface textures of varying degree of roughness. The lower curves apply to smooth particles and the higher curves indicate increasing roughness.

In application, when the desirable position in the graduated curves has been fixed for a certain grading of a given aggregate, the same relative position (curve number) is to be maintained for all gradings of that aggregate. This will enable the construction forces to adjust the oil ratio to conform to variation and changes in grading as it affects surface area.

This chart, with Surface Area Equivalents, can be used to indicate the general relative stability values of aggregate. Any material that requires the lower surface factors

is usually not highly stable. The most satisfactory materials usually require oil curve line No. 3 and above. It is probable that any material requiring a Bitumen Index below .0007 will be more likely to show distress in wet weather than if a heavier coverage factor could be used.

Road Oil Mixes

The natural limitations affecting fuel oil mixes, such as weather and traffic, have invited the substitution of the heavier asphaltic road oils in the mix. This material, emulsified or cut back to a workable viscosity, provides

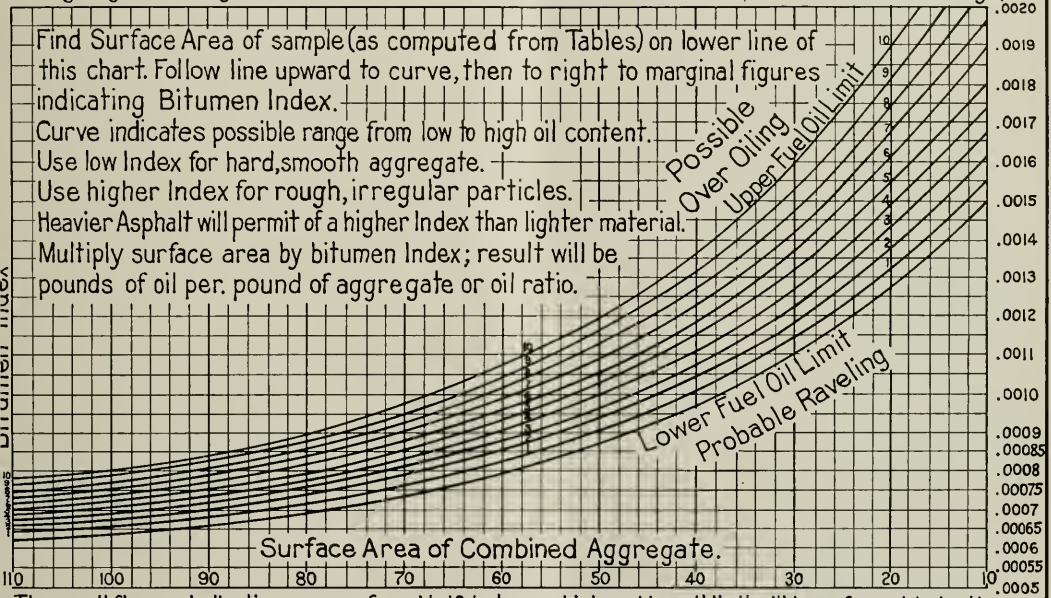
quantity of material, both aggregate and oil, and lessen the time of mixing. The resulting top is somewhat open and requires a seal. It provides an excellent medium for leveling rough and impervious bases.

Several sections of this type have been in service under very severe conditions for the past two years. While it is realized this is an approach to the penetration macadam, its ease in laying and excellent riding qualities make it a very desirable type.

Maintenance of the mixed treatments is performed

PLATE 6

Chart giving oil coverage factors for unit of surface area in combined mix (Bitumen Index Range)



The small figures indicating a range from 1 to 10 between high and low oil limit will be referred to by the Laboratory when recommending oil content for a particular aggregate.

the necessary stability and tightness to better withstand the effects of both weather and traffic. Sections of this type have been laid using both 94+ road oil and "E" Grade Asphalt having a penetration range of 110 to 120. The material was cut back with kerosene in amounts ranging from 17½% to 20%. Cleaners Naphtha can also be used as a solvent but is more expensive than kerosene and does not provide for as long a period of mixing under high temperature ranges.

The results secured with this type of surface during the past year have been so promising that some 285 miles are planned for the coming Biennium at locations where either traffic or weather conditions are beyond the limits of the light fuel oil material.

The method of road mixing is similar to that used in the light oil treatment. It appears desirable, however, to allow the mix to aerate for a period before final shaping and compaction so as to permit a partial escape of the solvent. Grading and rolling during the period of compaction is essential to a smooth riding surface.

The Elimination of Fines

The elimination of all fines below the ¼" screen in heavy asphaltic road oil mixes appears not only economical but practical. This elimination would reduce the quan-

either by applications of road oil covered with stone chips for shallow patching, or a premix of either fuel oil or road oil, emulsified or cut back with kerosene, mixed with a 1" to dust crusher run rock for deep patching. The premix used is similar in grading and oil content to that of the original mixture. The first road mix was laid in 1926, and some is still giving excellent service. Our experience with the plant mix is comparatively recent. The first section was constructed in the fall of 1928 in the foothill region of Tuolumne County. The desert region is a particularly suitable location, due to the light rainfall and traffic, and the plant mix type was first used there in 1929. The average yearly traveled way maintenance cost during the past two years on some 180 miles of plant mix, with an average traffic of 400 vehicles per day, has been \$170 per mile. To date 386 miles of fuel oil plant mix has been laid, principally in the desert sections, and 56 additional miles are planned for this year.

Importance to Petroleum Industry

In the decade from 1919 to 1929 (the last year for which figures are available) the output of crude oil very nearly tripled, and the trend of prices was downward, ranging from \$2.25 per barrel in 1919 to \$1.67 in 1929. This decrease in price has not been occasioned by in-

creased production, but rather improved methods of recovery. Reports to the U. S. Bureau of Mines on the first four months' output in California for 1930 show that out of 77,122,000 barrels of crude oil run to the stills, 36.4% was recovered as gasoline and 43.1% as residual fuel oil.

This proportion of fuel oil used on the highways to the total available is small. However, E. W. James, of the Bureau of Public Works, has been quoted as saying that from the standpoint of production and highway financing an annual consumption of 42,000,000 barrels on 1,000,000 miles of road is practicable. Noting that the consumption of 1927 approximated only 1,500,000 barrels, it is apparent that the present use is only about one-twentieth of what is feasible.

THE PREVAILING WAGE

(Editorial in the Los Angeles Times)

In holding the California prevailing wage law not applicable to incorporated charter cities, but applicable to such organizations as the Metropolitan Water District, the Supreme Court has done something to clarify the situation and to grant relief, which, as far as the cities are concerned, will do a great deal of good.

The law is a mischievous, back-firing piece of legislation, which penalizes taxpayers, prevents public work, reacts against wage earners and does no one any good but a few labor union bosses, but that, of course, is not the fault of the Supreme Court nor was it the Court's duty to appraise it.

It is possible to so administer the law as to do a minimum of harm, if the wage schedules are fixed at what genuinely is the prevailing wage, instead of with reference to the wholly artificial "union scale"—which does not govern the wages which union men actually receive, and if provision is made for changing schedules to meet the changing conditions.

But if intelligently administered, the law is useless, since any common-sense definition of the "prevailing wage" sets it at the figure produced by supply and demand, and it would be at that figure without the law. The expense of administration, and the possibility that contractors may be blackmailed by persons who threaten to charge them with violation of the law, would then remain as its principal burden upon the public.

URGE SIX-HOUR DAY

Adoption of the six-hour working day "at the earliest possible date" has been recommended by the Alameda County Building Trades Council to all affiliated unions, comprising 35 crafts, it is announced by Charles R. Gurney, secretary-treasurer of the council.

STATE ENGINEER PRESSES

COURT FIGHT ON HODGES DAM

State Engineer Edward Hyatt has asked the California Supreme Court to determine whether the state has authority to force repairs to be made to a dam which is considered unsafe or endangering life and property.

The action was carried before the high tribunal from the fourth district court of appeals, which recently ruled the state did not have the power to compel the city of San Diego or the San Diego Water Supply Company to repair the Hodges Dam, a unit of the city's water system, which has been found by the state engineer to be menacing the San Dieguito Valley because of its structural defects.

Hyatt alleges in the action that the dam has several large cracks, is situated on an earthquake fault and is endangering lives and property.

When the state engineer ordered the repairs to be made several months ago, the city voted on a proposition to expend \$160,000 for the work, and rejected it. The dam is owned by the San Diego Water Supply Company and leased by the city, and there is a difference of opinion which should make the repairs.

State Engineer Hyatt said the principal purpose of carrying the case to the supreme court was to obtain a clear definition of the powers of the state in enforcing the dam inspection law passed by the legislature three years ago, following the St. Francis Dam disaster in Southern California.

He stated that an adverse decision by the supreme court regarding the power of the state to enforce repairs would necessitate a revision of the method of enforcement.

The state has been working "affirmatively" in attempting to carry out the act by making inspections and ordering certain repairs to be made to the structure which would make it safe. The law also gives the state authority to bring injunction proceedings to prevent the use of defective dams altogether.

Another point involved in the Hodges Dam dispute is the matter of the city's liability in case the dam should fail, in view of the fact that the state has given the city notice the dam is unsafe.

The Hodges Dam, located about ten miles from the ocean, is 140 feet high and impounds 37,000 acre feet of water. The San Dieguito Valley is mostly agricultural.

"The council, in recommending the shorter work day, believes that it will prove the means of creating more jobs, and if adopted by other lines of industry would decrease the demands being made on the various charity organizations and city and county treasuries," Gurney declared in making the announcement.



HERCULES EXPLOSIVES

THE CONTRACTORS' FAVORITE

HERCULES POWDER CO.



Standard Oil Building

San Francisco

DOuglas 2330

Contractors Machinery Exchange

Rentals a Specialty

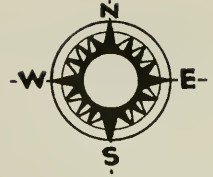
1135 · 57th Avenue

OAKLAND, CALIF.

FRuitvale 0715



Here To There And Back Again



LOOSE PAGES

We have written and torn up a dozen pages trying to produce something of interest to the "customers," and we are now at the eve before the "deadline" and still no copy.

* * *

As we sit before our typewriter, trying to weave words together, our mind wanders back over the trails we have trod—here and there a scene stands out, crystal clear.

"The vagrant Wind of Memory blowing across the Desert of Forgotten Things."

* * *

We will just write this page for ourselves, sketching those things Life has been unable to make us forget!

First Cigarette: (Had to go back to pick that one up!)

Bought a package of 20 "Home Run" for 5c. Afraid to take any home—tried to smoke them all—got home somehow but don't think I did any RUNning!

* * *

Big Game Hunter: Big enough to wear shoes, and out hunting with Granddad's muzzle-loading shot gun. (Remember the powder horn, box of caps and newspaper wadding?) Had just blown the daylights out of a jay-bird and was re-loading when I saw a bob-cat or panther slinking thru the brush. Got so excited (or scared) forgot to remove the ramrod, and fired. It was the end of that mountain lion—the end of the shotgun and almost my end!

Later, adult members of the family, picking up the pieces—found a stray tomcat pinned to the ground by the ramrod. Anyway, the aim was good!

* * *

First Great Love:

Don't remember her name, but she was the Soloist in the Church Choir. Prayed that Indians would kidnap her, and then single handed I would rescue her. Mortally wounded, I would expire—held close in her arms. A thousand such deaths I died—at the age of 12!

* * *

Somehow, I grew up and got big enough to wear shoes regularly, and follow the wagon away from home.

* * *

First Big Thrill:

"My first published manuscript, and the Publisher's check for \$15.00—and then I spend \$20.00 for extra copies with which to bore all my friends!"

* * *

Lines remembered on seeing a wind blown cypress tree on the Monterey Coast:

"Is it as clearly by your living shown which way the wind hath blown?"

Sunset: Aboard a tramp trader in the south Pacific, we dropped the hook just as the day was dying a violent death which had painted the sky and ocean with colors ranging from flaming gold to deep purple. The Society Islands. Along the silver crescent of beach were palm-thatched huts and behind a back-drop of dark green tropical jungle.

From the shore an outrigger canoe came shipward, paddled by lithe, brown bodied natives. In the bow sat a native girl dressed in a sarong with one flower in her night-black hair. This exquisitely beautiful bronze pagan, riding across a sea of color, 'neath a sky of flame!

* * *

Night, on an Arizona Desert—a few paces away, in a cottage was a woman (just another "lunger"). She was seated at a piano playing—bravely trying to forget a hopeless fight. I remember the music:

"Moonbeams turned to liquid drops of melody, softly splashing into a vast lake of velvety silence."

* * *

A Song I remember: an Armenian girl singing Robyn's "Answer." That also brings to mind as beautiful a name as I have ever known: "Shanora Saroyan"—of a tribe sired by the cold winters and nursed by the sudden springs of her native mountains; oppressed by Kurd and Turk—yet thru the centuries this race has kept its tribal lines intact.

* * *

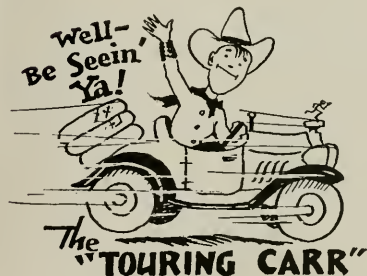
A SMILE that refuses to be forgotten:

She may think herself grown—but she is just a child. Has a delightful set of freckles and the sweetest, most wholesome smile I have ever seen! Kind of a kid old fools like me would like to take shopping, buy her an armful of things—just to see her smile again! This delightful youngster, a breath of the Springtime of Youth, who stirs vague memories of long-forgotten ideals, is selling pots and pans in the basement of a "five-and-ten."

* * *

Bought three tin pans for which I had no earthly use, then went out and gave a fake "blind-beggar" two bits for a worthless pencil!

* * *



General Final Plan For San Francisco Bay Bridge Is Approved

THE preliminary final design of the San Francisco-Oakland Bay Bridge was completed early in April and presented to Colonel Walter E. Garrison, Director of the



C. H. PURCELL

board means that final designs will be immediately.

The preliminary design calls for a cantilever type structure for the East Bay channel and a central anchorage type for the West Bay crossing.

The design for the East Bay structure calls for one 1400-foot center span, five 504-foot spans and fourteen short spans of 288 feet each to the Key Route mole. The East Bay structure will have a clearance of 185 feet above high water, graduating to 165 feet at the harbor line.

The central anchorage type recommended for the West Bay crossing calls for two 2310-foot spans and four 1160-foot side spans. To join the two independent structures a center anchorage is required, to which the cable from each side structure will be secured.

The center anchorage as designed will be 120x210 feet, with a clearance above high water graduating from 214 feet at the center to 180 feet at the harbor line.

The two structures will be connected by a single bore tunnel through Yerba Buena Island, approximately 500 feet in length, 70 feet wide and 50 feet high.

Foundation borings for the San Francisco approaches have been completed, according to Chief Engineer Purcell. Island borings and bay borings were completed in time to submit to the Board of Engineering Consultants.

Property owners of San Francisco and the East Bay communities will not be called upon to finance the cost of constructing approach facilities for the Bay Bridge, and both sides of the bay will receive identical treatment.

This was made plain in a statement recently issued by Colonel Garrison, Director of the State Department of Public Works, in amplification of his address at the ceremonies officially starting the bridge toward construction, held at Yerba Buena Island, February 24. Colonel Garrison's statement was embodied in telegrams sent to the Alameda Taxpayers' League and the Central Council of Civic Clubs of Alameda County. Those groups had an-

nounced petition campaigns against formation of assessment districts to finance approaches.

Colonel Garrison advised the groups as follows: "Arrangement of adequate approach facilities on both sides of the bay contemplate identical treatment. Our plans provide for adequate approach facilities connecting with the street systems of the East Bay cities and San Francisco without cost to abutting property or to the cities."

The San Francisco-Oakland Bay Bridge engineering staff are now conducting approach studies to determine locations, in co-operation with the Board of Engineers appointed by the city authorities. Final locations, however, cannot be determined until completion of the East Bay transportation study, which will undoubtedly result in a close working agreement or consolidation of the Key Route and the Southern Pacific.

Plans for the Bay Bridge now call for but two operating tracks for interurban cars. Two tracks will care for double the present commuter traffic. Investigation shows that it would be economically unsound to provide for additional facilities.

With provision being made for but two tracks, a merger or a close operating agreement between the Key System and the Southern Pacific Company will become necessary. The California Railroad Commission has advocated a merger of the two East Bay interurban systems since 1927.

It is agreed that this consolidation will result in operating economy without any detriment to the present service. Estimates of the saving due to the elimination of duplication run as high as \$800,000 per year. The engineers of the Bay Bridge have had several conferences with the officials of the two companies to the end that an agreement as to operating details and the rearrangement of tracks may be decided along with the plans for the east approach to the bridge.

Chief Engineer Purcell is hopeful that these negotiations may lead to a speedy agreement. The railroads have indicated their co-operation through the retention of H. G. Butler, consulting engineer of San Francisco, who is collaborating with the engineers of the bridge in a study of the best track arrangements and of all engineering problems. These investigations are now under way.

CONTRACTORS SUED FOR WAGES

Suit growing out of alleged failure to pay the city of Seattle's wage scale on contract jobs, has been filed at Seattle against Elliott, Stroud Bros. & Seabrook, San Francisco contractors, who recently built the West Seattle reservoir, with the Fidelity & Deposit Company of Maryland, the American Bonding Company of Baltimore and the city of Seattle all named codefendants.

The complaint was filed by William Gobel, employe on the job, as representing employes in the action which takes a lien on the reservoir and asks \$1851 in wages declared due.

It is alleged in the complaint that 40 workmen have that amount due in wages for overtime, Sundays and as the difference in the scale paid by the contractors and that specified by the city of Seattle on contract jobs.

Construction Materials and Equipment

TRADE NOTES—PERSONALS

J. S. TRITLE ELECTED V. P. OF WESTINGHOUSE SUPPLY CO.



J. S. TRITLE

J. S. Tritle has been elected vice-president in charge of operations of the Westinghouse Electric Supply Company, wholesale distributor of Westinghouse products to electrical dealers, contractors and industrial establishments. He will assume his new duties immediately in addition to his present position vice-president and general manager of the Westinghouse Electric and Manufacturing Company.

NEW TYPE OF VIBRATOR

WORKS WITHIN CONCRETE MASS

A new type of vibrator known as the Viber electric tamper, for internal compaction of concrete, is announced by the Viber Co., 1919 South Hoover Street, Los Angeles. The standard size Viber compactor consists of a 1 1/4-inch tube, 36 inches long, in which a shaft carrying an eccentric weight is caused to rotate by a one-third horsepower electric motor. The tube vibrates at a rate of 5,000 vibrations per minute. In operation, the tube is inserted into the concrete, compaction being obtained in from 30 to 45 seconds. For placing concrete in deep walls, the tamper is supplied with a flexible shaft which permits proper placing at any desired depth up to 20 feet. The machine operates on 110-volt current. Complete power units, including a self-contained generator, are supplied for use where electric current is not available.

SEEKS POWER PERMIT

Wm. C. Hammatt of San Francisco has filed application with the Federal Power Commission at Washington, D. C., seeking a preliminary permit for a proposed power project in Placer and El Dorado Counties, consisting of a 150,000 acre-foot reservoir at French Meadows, on Middle Fork of the American River and a series of three power developments extending along Middle and North Forks of American River.

PLANS PROGRESSING FOR SAN JACINTO TUNNEL CONSTRUCTION

The Engineering Department of the Metropolitan Water District, at Los Angeles, under the direction of F. E. Weymouth, general manager and chief engineer, is preparing plans for the proposed San Jacinto Tunnel as a part of the Colorado Aqueduct and bids will probably be asked on the work complete as one schedule and the east portion and the west portion as schedule Nos. 2 and 3, respectively. No call for bids, however, will be issued until after the Supreme Court decision validating the bonds has been received. The decision is expected about June 1.

Schedule No. 1 will be for the tunnel as a whole, approximately 12.7 miles. The tunnel will have a diameter of 16 feet, of horseshoe section, with concrete lining, using steel forms. The floor will be concrete, but will not be laid in the form. There will be a small amount of Gunite work.

Schedule No. 2 will be for the construction of the east portion of the tunnel, approximately one-half of the job. The east portal is located about two miles south of Cabazon.

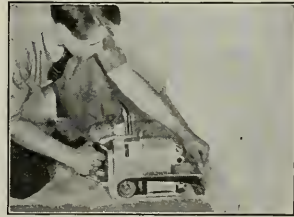
Schedule No. 3 will be for the west portion of the tunnel, approximately one-half. The west portal is located three miles north of San Jacinto.

Contractors will be permitted to bid on all or any one of the three schedules.

The time for completion of the work has been set at 69 months.

PORTER-CABLE DUSTLESS EDGER

A new Dustless Edger, a product of the Porter-Cable-Hutchinson Corp., Syracuse, N. Y., was recently placed on the market. The edging unit consists of a 1/4-inch



DUSTLESS EDGER-BELT TYPE

diameter front pulley covered with flexible rubber, idler arm support and adjustable bumper to prevent marring baseboard or quarter-round. A six bladed fan traveling at 10,000 r.p.m. creates a powerful vacuum which draws the dust through two ports located in back of the rear drive pulley. This dust is deposited in the bag where it can be easily removed by a beater (inside bag) through the zipper opening. If necessary, the bag can be removed from the machine by merely loosening the thumbscrew located at the neck. In the same manner the bag can be turned in any direction without affecting the efficiency of the vacuum. Not only does the vacuum system remove the dust but it also has another purpose and an important one, too. It prevents excessive clogging of the abrasive which, of course, means faster cutting, as the grit remains sharper, and longer belt life is the natural result.

Bill of Quantities vs. Present System of Bidding

By WM. E. HAGUE, *Secretary-Manager, Alameda County Chapter, A. G. C.*

AT THE April meeting of Alameda County Chapter of the Associated General Contractors the question of the quantity system on public building work was taken up.

The subject was opened by Mr. Frank L. Busse, engineer in the office of W. E. Lyons, who presented and read a paper on "Bill of Quantities vs. Present System of Bidding."

Following the reading of the paper there was an animated discussion, and practically all present tentatively endorsed the system for public work, while only two had any doubts, but expressed themselves as "willing to give it a try."

The adoption of this system has been advocated by increasing numbers of converts for several years past and its successful use by the State in calling for bids on all manner of engineering construction has been another distinct step toward its general adoption.

The discussion brought out many good reasons why the general contractor should seriously consider advocating the adoption of such a system. W. G. Thornally, chairman of the Stabilization Committee, in discussing the question, brought out the point that many contractors not well informed on estimating quantities would at least have the proper quantities of materials required for a project, and he thought many builders were better informed on the cost of handling the work than in establishing the correct quantities of materials required. He was of the opinion that establishment of the system would have the effect of eliminating a certain amount of the ruinous speculation now going on, inasmuch as the bidders would at least have the benefit of all figuring on an equal quantity of materials; whereas, at present, when ten men are figuring a job no two will establish the same bill of quantities. Thus ruinous competition exists from the outset. The lump sum bid seemed to be favored as more desirable than unit prices.

It was generally agreed that if a bill of quantities was furnished with public plans the present great difference in bids might be at least partially eliminated. It is anticipated the State would not be put to additional expense since the Architectural Division already has for long past been taking off a thorough bill of quantities on all building construction work. Since the April meeting some prominent engineers have been interviewed by the Stabilization Committee, and they all seem favorable to the system. A number of sub-contractors in various lines have also been contacted, and in nearly all cases, have expressed their unqualified approval of the system. It is felt that under the present system the gambling element is far too great, and results in continued and tremendous losses among the contractors in all lines, with consequent loss to the material and supply interests.

General opinion seemed to be that the quantity system could not successfully be introduced on private work at this time, if for no other reason than that the owners would object to the cost of a quantity survey.

The question will be studied further, and many parties of interest are being interviewed. Mr. Busse's paper is published herewith:

Bill of Quantities vs. Present System of Bidding

The proposition of a "bill of quantities" for bidding purposes is not a new idea, but one that has actually been in operation in European countries for years. The plan has worked out and

proved its merit in England over a considerable period of time. It is also used in our own State Highway Division of the State Department of Public Works, under the present unit price system.

Since we find at this time men in all branches of business honestly disposed to act on any plan that will benefit any particular phase of their business or another industry affecting their own, it is hereby suggested that the members of the building fraternity earnestly consider the following proposal, in that if they feel the same is worth while, they may confidently count on the support of all business men to help carry the plan into operation, owing to the great scope of businesses affected directly or indirectly by the building industry itself.

The proposition offered is that the State Architect's Department submit to each general contractor a "bill of quantities" together with the plans and specifications for all public works.

Whether the plan, if acted upon, is carried out on a lump sum or unit price basis is a secondary consideration. It is realized that much may be said for or against the unit price basis. However, the "bill of quantities" plan incorporating either basis will prove of inestimable value to the building industry, and the advantage gained on the whole will far offset any objections to the particular basis finally incorporated.

The fundamental idea of the "bill of quantities" plan is the elimination of the huge economic loss involved in our present system of bidding. It takes but little thought and judgment to realize the tremendous repetition of effort and time expended in simply taking off quantities from plans, as is now done by the general contractors individually as well as their respective sub-contractors, who are also called on to give a great amount of their time for the same single purpose. The same operation being repeated by a great number of men introduces not only a huge number of hours needlessly expended, but the human element of error is likewise introduced, making for unsatisfactory competitive bidding and needless loss of money to the individuals involved. In other words, this plan has for its purpose the elimination of the purely mechanical, routine time-consuming operations involved in the taking off of a true "bill of quantities."

It also may be noted here that the plan, through its very nature, will, in addition to the foregoing, encompass also the assurance to the state that it will receive all it wishes incorporated within the particular job, and at the same time readily enable the contractor to make a fair and legitimate charge for the same.

This plan, if adopted, need not represent any appreciable additional expense to the State, since the taking off of the quantities as required is virtually done now in making up the architect's or State's estimate of the value of any proposed job. In any event, any additional expense involved by the State would be but a drop in the bucket compared with the cost borne by the building industry today.

We must remember that the building industry, even with a "bill of quantities" in its hands, will still be expending a great amount of time and effort in submitting bids and is entitled to the relief that the above plan will afford as well as the much fairer and more equitable basis on which it may compete.

It may be argued by some that the "bill of quantities" plan will represent a disadvantage in that the contractor who knows his business will be brought down to the same plane as the man who is incompetent to actually make the required take-off correctly. Let it be understood that this plan holds no brief for the incompetent contractor, but as long as he does exist it will be much better for the capable contractor to have the satisfaction that the incompetent man at least has a complete "bill of quantities," and thereby be assured of a fairer basis of comparison in bids submitted respectively.

It may also be said in the same vein that the plan will do much to deprive the capable contractor of his own worth-while knowledge and secrets of the building business to the benefit of the incompetent man. For those who know their business, and this constitutes the majority, they will realize on honest reflection that the taking off of a true "bill of quantities" is not a matter involving any particular secret, but simply the accurate measuring and arithmetical computation of results obvious to

(Continued on Page 15)

The Cost of Local Government

THE local governments of California, which include counties, cities and special districts, cost the taxpayers in a single year, many millions more than was spent in the building and fortification of the Panama Canal, two and one-half times as much as will be spent in the construction of Hoover Dam. The total is found in a report made public by the Committee on Governmental Expenditure and Taxation, of the State Chamber of Commerce.

In 1930, according to the committee, the local units spent \$413,356,000, which was 277.5 per cent greater than the total expenditures of 1915, although the state's population had increased but 90.5 per cent in the same period.

Education involved the largest expenditure of any of the functional groups, aggregating \$151,658,000, or 36.6 per cent of the total. A part of this amount, \$27,117,000, was derived from state tax funds by subvention, and approximately four-fifths of the total was disbursed for oper-

spent by the counties and cities for maintenance and salaries, and the remaining one-third for new construction. The counties' share of the state gasoline tax amounted to 27.5 per cent of the revenues from which these expenditures were met. Local taxation provided the bulk of the cost.

Growth of communities brought new responsibilities for support of charities and corrective institutions to the local units of government, which were met with a generosity far out-pacing the 90.5 per cent increase from 1915 to 1930 in the state's population. In 1930 the total spent for these purposes amounted to \$29,278,000, which was a gain of 461.8 per cent over the amount spent in 1915. The counties bore 85.7 per cent of this burden.

Funded debts cost the local governments in 1930 a total of \$35,215,000 for interest payments, an increase of 359.8 per cent over the interest charges for 1915. The complete comparative tabulation follows:

EXPENDITURES BY LOCAL GOVERNMENTS OF CALIFORNIA CLASSIFIED ACCORDING TO GOVERNMENTAL FUNCTIONS

Fiscal Years Ending June 30, 1915 and 1930

| | 1915 | | 1930 | | Per Cent Increase 1915-1930 | |
|---|----------------|---------------|----------------|---------------|--------------------------------|---------------|
| | Total (000) | Per Capita | Total (000) | Per Capita | Total | Per Capita |
| TOTAL GOVERNMENTAL COST..... | \$109,486 | \$36.99 | \$413,356 | \$73.29 | 277.5 | 98.1 |
| General Government..... | 14,239 | 4.81 | 29,210 | 5.18 | 105.1 | 7.7 |
| Protection to Person and Property..... | 12,171 | 4.11 | 52,906 | 9.38 | 334.7 | 128.2 |
| Health and Sanitation..... | 5,046 | 1.70 | 16,767 | 2.97 | 232.3 | 74.7 |
| Highways, Streets and Bridges..... | 22,536 | 7.57 | 51,957 | 9.21 | 132.0 | 21.6 |
| Charities and Corrections..... | 5,211 | 1.76 | 29,278 | 5.19 | 461.8 | 194.9 |
| Education..... | 32,808 | 11.08 | 151,658 | 26.90 | 362.2 | 142.8 |
| Recreation..... | 3,988 | 1.35 | 12,669 | 2.25 | 216.9 | 66.7 |
| Agency Transactions for Districts (Counties)..... | 2,854 | 1.00 | 15,424 | 2.73 | 422.1 | 173.0 |
| Payment of Interest..... | 7,059 | 2.59 | 35,215 | 6.24 | 358.8 | 149.9 |
| Miscellaneous..... | 3,004 | 1.02 | 18,272 | 3.24 | 508.3 | 217.6 |

Source: Financial Transactions of Municipalities and Counties, Reports of the State Controller.

ating expenses, the major part of which went for the payment of salaries. One-fifth was spent for new buildings, playgrounds and other improvements. The cost of education to the counties and cities rose 362.2 per cent in the fifteen years between 1915 and 1930.

For "Protection to Person and Property," under which classification are grouped disbursements for law enforcement, fire protection, public administrators and various agricultural advisory and inspection services, the local governments expended in 1930 a total of \$52,906,000, or 12.8 per cent of the total. Disbursements for this group of governmental activities shared in the general upswing from the levels of 1915, the percentage of increase being 334.7 per cent.

Expenditures for highways, streets and bridges were only slightly less than those for the protection of person and property. Two-thirds of the total of \$51,957,100 was

Bill of Quantities

(Continued from Page 14)

anyone qualified to do this work. The operation costing each contractor and sub-contractor considerable money, when time consumed is taken into account—which must be done in the final analysis.

Regarding the point of secrets, ingenuity or resourcefulness on the part of the individual contractor who thoroughly understands his business, it may be pointed out here that these are all factors to be taken into account in the figuring of a job, to be sure, but do not enter into the matter of a take-off, represented by a "bill of quantities," but rather in the pricing of the job, since the above mentioned factors are entirely involved in the prosecution of the job, and therefore resolve themselves into cost items rather than a matter of quantities.

One thing more regarding the incompetent man. He has been in the building business, and every other business, for that matter, for years past and will continue to annoy the responsible members of this industry in spite of this plan or any other plan. Hence, it is urged that this plan be considered primarily in the light of how it will facilitate the work of the worth while members of the industry, because the more efficiently they are able to operate, the more secure and stronger will their position within the industry become.

Pacific Clay Products

General Offices: 650 Chamber of Commerce Bldg.,
1151 SOUTH BROADWAY
Los Angeles, Calif.

NOrmandie 4303

NOrmandie 7715

LEO HONEK

EXCAVATING CONTRACTOR
CONCRETE PAVEMENT BREAKING

Compressed Air Equipment

2941 Denby Avenue

Los Angeles, Calif.

PROPOSED COMMERCIAL MOTOR VEHICLE LEGISLATION PROTESTED

Resolution, relating to initiative petition regulating motor trucks.

Whereas, a proposed initiative petition is to be submitted to the voters by the Automobile Taxpayers League of California, which is designed to regulate, control, and change the entire method of taxation of commercial motor vehicles, and

Whereas, a study of the proposed initiative petition reveals that the principle purpose to be accomplished by the measure are as follows:

1. To reduce the present rate of gasoline tax imposed by the State, from 3c to 2c per gallon;

2. To apportion the remaining 2c per gallon of gas tax income on the basis of one-half to the State for highway maintenance, and the other half to the counties, as is now provided by the statute levying such tax;

3. To impose upon all commercial motor vehicles, a privilege plate tax, at the rate of a minimum of \$25.00 for a vehicle of 3000 lbs. gross weight or less, and an additional \$2.00 per 100 lbs., of gross weight over and above the first 3000 lbs.;

4. Provides that the additional estimated income from this special privilege tax on commercial vehicles, shall be used in the following manner:

(a) To replace the deficit in income from gasoline tax represented by the reduction from 3c to 2c per gallon;

(b) Any surplus after replacement of the deficit created by reduction of the gas tax from 3c to 2c per gallon, to be then diverted to the general fund of the state, and to be used for the payment of interest and redemption on State Highway Bonds, either now issued or to be issued.

5. Provides a reduction of the gross permissible weight of truck and load from 34,000 lbs. to 22,000 lbs., and reduces the allowable over-all length of any vehicle from 60 ft. to 35 ft., at the same time eliminating altogether the use of trailers;

6. Provides enforcement of the provision of such a nature that any vehicle apprehended, which is either overweight or over-length, or in any other manner violates the motor vehicle laws, shall be automatically forfeited and subject to sale, plus an additional penalty fine of double the required privilege tax;

7. This proposed privilege tax is in addition to all other forms of taxation now imposed on commercial motor

vehicles, and applies to every type of commercial vehicle, except passenger busses and electric trucks.

Be It Resolved, that we go on record against this proposed initiative measure as being economically unsound and undesirable from every standpoint, and specifically that it is contrary to public interest for the following reasons:

(a) The reduction of the gasoline tax from 3c to 2c per gallon would throw out of balance the ten-year plan for the improvement of the State Highway System, which is now well under way and which has met with universal approval among the people of the state;

(b) The anticipated revenue to come from the privilege tax assessed on commercial vehicles, which is to offset the deficit in revenue brought about by the reduction in the gasoline tax, will not be available for the reason that the additional taxation and the drastic reduction in gross weight and length of vehicle, are such that not more than 25% of the commercial vehicles now used on the highways would or could continue in business as economical carriers;

(c) The proposed limitation in gross weight of vehicles is such that it would greatly increase the cost of transportation of all products and commodities from the point of production to rail head, or any other point of delivery, and it is, therefore, contrary to public interest, and would add directly to the cost of all business;

(d) Studies of motor vehicle taxation, have revealed that commercial motor vehicles are now bearing their fair share of taxation in comparison to other carriers and lines of industry, therefore the levying of such a drastic tax represents unfair and discriminatory taxation of one particular industry.

CONTRACT AWARD POWER OF CITY DECLARED BY COURT

The petition of J. L. McClain, Los Angeles contractor, for a writ to compel the Los Angeles board of public works to execute a contract for construction of certain improvements—a test case—was denied by the California Supreme Court. The point at issue was failure of Los Angeles to adopt an ordinance allocating to itself the right to award contracts for street improvement before the State's special assessment investigation, limitation and majority protest act of 1931 became effective August 14, 1931.

TRIAL
SUBSCRIPTION BLANK

PACIFIC
SMALL - INTEGRITY
CONSTRUCTOR
RESPONSIBILITY

Daily
Construction Reports

PACIFIC CONSTRUCTOR,
545 Mission Street,
San Francisco, Calif.

.....1932

Dear Sirs:

Send me **WITHOUT COST** for a period of one week, sample copies of **PACIFIC CONSTRUCTOR** **DAILY NEWS SERVICE** covering up-to-the-minute tips on work contemplated, bids wanted, bids opened and contracts awarded for all types of engineering construction, materials and equipment.

Name.....

Address.....

City.....

CONSTRUCTION REVIVAL PROGRAM PROPOSED BY A. G. C. DIRECTORS

A concerted drive for enactment by Congress of legislation deemed necessary to remedy some of the present ills of the construction industry was made at the spring meeting in Washington on May 2 and 3 of the executive board of the Associated General Contractors, Engineering News-Record reports. Accepting the action of the policy committee of the Construction League, which met the previous week, the association promulgated a program for reviving construction, which called for federal organization and financing of a reconstruction corporation.

Construction Program

Summarized briefly, the proposed program is as follows:

1. That the federal government, through an act of Congress, immediately create a productive reconstruction work corporation.

2. That this corporation be provided with \$1,500,000,000 of capital through issuance of bonds of the United States.

3. That this corporation be empowered to make loans at cost to states, cities and other public agencies to finance self-supporting and self-amortizing public improvements.

4. That preference shall be given by the corporation in making loans to projects involving: the rehabilitation of slums and the creation of better housing facilities; the construction of sanitary improvements; the modernization of obsolete public utility plants; and the improvement of public transportation facilities.

5. That all loans made shall be on the basis of self-termination, shall be properly secured and shall contain provision for the regular payment of interest and amortization charges.

6. That the funds of the productive reconstruction-work corporation shall constitute a revolving fund to be used during the existence of the world-wide depression.

In approving this specific plan and program the Associated General Contractors continues its approval of other similar measures that conform to it in principle. It disapproves of proposals for direct doles or subsidies even in the face of present conditions that are driving large sections of the population to despair. It maintains that, through the launching of constructive works and the furnishing of employment, not only can relief from those conditions be afforded but the development of the national wealth will repay the cost of the outlay.

Legislation Approved

Foremost among the current legislative measures urged were the federal home-loan discount bank bill, the Metcalf bill for the extension of prevailing wage legislation to all classes of public construction, with a provision that the wage shall be predetermined; the Cochran bill for the creation of an administration of public works; the Blaine-Christopherson bill for uniform requirements in all government construction contractors; the emergency federal-aid highway bill for the relief of unemployment; and the bill requiring the employment of local architects on government work. The board also indorsed the retroactive repeal of the recapture clause of the transportation act, which its railroad contact committee believed is seriously hampering the development of the railroad facilities of the country.

Safety Platform Adopted

The following safety platform was adopted as approved by the cabinet of the association:

1. That manuals of safety regulations be prepared and revised by and for the industry in lieu of laws and legalized codes.

2. That it is the business first of every industry to support the American safety movement and to provide adequate safety programs that save personnel, pay dividends and insure profits.

3. That general contractors continually conduct their field operations in accordance with well-recognized standards of safe practices for protection of employees and the public.

4. That subcontractors in their shops and on their field work abide by standard practices for safety of their own and other employees.

5. That craftsmen and their helpers realize that safety rules are for their protection, that everlasting vigilance minimizes hazards, and that safety first and self-preservation are synonymous.

6. That the National Safety Council serve the central safety group to evolve adequate technique, proper procedure and psychological publicity.

7. That the Underwriters Bureau, through a national construction department, provide consistent insurance classifications and furnish joint local safety engineers for supervising construction-field operations.

8. That job safety committees be selected regularly to inspect safety appliances and recommend safe precautions and assist in first aid measures.

9. That all elements of the industry, through their national and local organizations, jointly co-operate through periodical safety meetings to minimize accidents severally and jointly.

PAVING BRICK STANDARD

IS REVISED BY COMMITTEE

The eleventh annual meeting of the Permanent Committee on the Simplification of Varieties and Sizes of Vitrified Paving Brick was held in Washington, D. C., on April 14, 1932.

The committee considered in detail the data collected by the National Paving Brick Association, covering the industry's 1931 shipments of paving brick.

For the benefit of the other members, G. F. Schlesinger, chief engineer and managing director of the association, analyzed the report and commented on the significance of the various sections.

After thorough discussion, it was unanimously decided to propose to the industry the following revisions to simplified practice recommendation No. R1-29, vitrified paving brick, drafted and adopted by the industry, and published by the U. S. Department of Commerce:

First—That the 4x3x8½-inch vertical fiber lug brick should be included in simplified practice recommendation R1-29 as a recognized variety.

Second—That the 4x3½x8½-inch vertical fiber lug-less brick should be dropped from the list of recognized varieties.

The former represents 22.6% of the 1931 shipments, while the latter averaged, during the last four years, less than 3%.

With these changes, the new list of six recognized varieties will cover 75.9% of the total shipments, as compared with 56.1% for the previous list.

Before the Department of Commerce can incorporate these proposed changes in the new edition of the printed recommendation, it is necessary that they be endorsed by the present acceptors. In accordance with the request of the Standing Committee, therefore, the division of simplified practice of the Bureau of Standards is circularizing all acceptors of record, in order to secure their approval of the proposed revision.

The committee unanimously re-elected Geo. F. Fisk, consulting engineer, Buffalo, N. Y., chairman of the Standing Committee for the ensuing year.

FEDERAL AID FOR DAY

LABOR PROJECTS OPPOSED

Reasons propounded by the New England Road Builders' Association why they oppose the use of federal aid funds for road construction under the day labor system:

(a) The construction of highways by day labor is wrong in principle because:

It is unjust, unfair and discourages private enterprise. It compels citizens to pay to be driven out of business. It usurps the opportunities of capital.

It encourages and creates waste, extravagance, delay, neglect, mistake, irresponsibility, indifference, high costs, and poor quality.

(b) The construction of highways by day labor is inefficient, and wasteful of public funds because:

The organization is inevitably over-manned, over-paid, and over-worked.

Employees are neither punished for bad work nor rewarded for good work.

Operations are routine.

Responsibilities are indeterminate.

Damages, delays, and costs do not affect the compensation, promotion or discharge of responsible individuals, nor do individuals benefit by honesty, economies, improvements or energy.

Positions are often politically routine or otherwise favored, and do not depend on merit.

The chief anxiety of a majority, at least, of employees is to get along as easily as possible and to prolong the job.

Official employees are in no way dependent on the economic success of the work.

The quantity and quality of the work done by government employees is less than that done by private employees.

The work is inspected by the same authority that executes it.

Officials in charge are not necessarily expert or experienced.

The work is likely to be fully or partly under political control, compelling the use of labor and materials irrespective of their actual value.

The work is more likely to be defective than contract work where the contractors are usually held to the specifications by rigid supervision and often by drastic decisions that are seldom applied to government forces.

(c) The construction of highways by day labor, even though undertaken in pursuance of a temporary economic theory or policy, will cause a permanent increase in the cost of state and local government because:

Once men are added to the government payroll it is difficult to discharge them when the particular work for which they were hired is completed, consequently some of them will become permanent additional government employees.

Road building machinery and equipment will be purchased to carry on the work and will have to be maintained in future years.

Day labor operations will be continued in future years in order to keep employed the men permanently added to the public payroll and the additional equipment purchased in pursuance of the temporary policy to conduct work on that basis.

If the Federal Bureau of Public Roads shall for one season become committed to the scheme of co-operating in sharing the expense of day labor operations, it will be extremely difficult, if not impossible, to withdraw, on account of the political pressure that will be exerted to continue the arrangement.

(d) If, despite established records and experience to

the contrary, it were assumed that day labor projects could be carried on economically, then no greater local employment would be provided than under the contract system because laws and regulations applicable to public contract work now require that contractors give preference in employment to local citizens. As compared with contract work, day labor operations might cause a shifting of employment from some men to others but would not bring about any greater employment except to the extent that the work would be over-manned, unnecessarily prolonged and uneconomically conducted.

(e) The planning and supervision of highway construction work are essentially governmental functions. The actual construction of highways has become a big private business institution. The government should adhere to its particular functions and leave the actual construction work to private business.

NEW FINANCIAL PLANS FOR CONTRACT INFORMATION BUREAU

A new plan of financing the Bureau of Contract Information, Inc., whereby contractors who have voluntarily filed their performance records may contribute \$10 yearly, is announced by the president, S. M. Williams. To date the group of surety companies which organized the bureau about three years ago has contributed a total of \$197,000 as the sole financial support of the institution.

The bureau was organized by the sureties for the purpose of collecting for their own use information concerning past performance of contractors. Soon after the organization Mr. Williams, as a trial, extended the services of the bureau to architects, engineers and public officials responsible for the award of contracts. This service soon became popular and more than 10,000 reports concerning contractors have been sent to awarding officials, the present rate being over 100 daily. Some 6,000 contractors have voluntarily filed their performance and financial records with the bureau.

The cost of dispensing information to those awarding contracts has become a financial burden on the original backers of the bureau. Rather than curtail the services to the original purpose of serving the survey companies alone, the bureau is now accepting annual contributions of \$10 from contractors, but only from those who have voluntarily filed their reports, on the ground that responsible contractors receive the most benefit from the services now rendered. If the response is sufficiently great the activities of the bureau will be carried on as at present. All funds received from contractors will be used only to defray the cost of supplying information to those responsible for the award of contracts. The surety companies will continue to finance the collection of information and the cost of services they require.

Offices of the Bureau of Contract Information have recently been moved to 729 15th St., N. W., Washington, D. C.

GRAHAM VISITS CONSTRUCTOR

G. A. Graham, general contractor, president of the Bakersfield Builders' Exchange, was a recent visitor to the office of Pacific Constructor. Graham was in San Francisco attending the convention of the Rotary Club. He reports conditions in the Kern County district similar to those in every other section of the state at the present time—everybody keeping in step and ready to proceed on the order to "March."

UNTREATED ROADS COST TOO MUCH ACCORDING TO ENGINEERS

Two papers, given at the 1932 Highway Conference of the University of Colorado, assert to the accepted fact that the necessary annual replacements of gravel on untreated roads cost too much, in actual money, without any consideration being given to the element of danger due to the dust hazard nor the lost time due to necessarily slower travel.

Mr. George W. Marks, District Engineer, Wyoming Highway Department, states, "Until four years ago we considered the gravel surface a fair standard. At that time the maintenance costs on these roads began to increase rapidly and it became apparent that something must be done to decrease the loss of material which on some projects amounted to as much as 20% a year. This loss was due as much to the wear as to the high winds prevalent in some sections of Wyoming. The oil mix seemed and in most cases proved to be the solution of our problems."

In Kansas, according to Mr. Frank S. Gilmore, Assistant Maintenance Engineer, the demand for all-weather roads was answered, between 1925 and 1930, by using various types of gravel for surfacing. "An increase in the amount and speed of the traffic using these gravel surfaces introduced new hazards and objections. During wet weather they become sloppy, slippery and rough. During dry weather they may or may not present a smooth surface, but if they carry any traffic whatever the dust not only becomes a nuisance but a source of real danger."

Oil processing these gravel surfaces has "reduced the maintenance costs and improved the roads—and we can be satisfied to know that future treatments will be adding to the existing surfaces rather than replacing lost materials."

BIDS ASKED FOR MARIN MEADOWS BOMBING BASE

Bids to construct various units of the Marin Meadows Bombing Base, in Marin County, will be considered by Captain H. B. Nurse, Constructing Quartermaster, at San Rafael, on June 4 and June 20.

On June 4 bids will be considered for grading and construction of a spur track and for entrance roads.

On June 20 bids will be received for the following units: Sewer system, involving 7,000 lin. ft. of pipe; water system, involving 18,000 lin. ft. pipe and a gas distributing system.

Electrical distributing system (underground), involving approximately 24,000 lin. ft. duct and street lighting system using ornamental concrete poles; roadways, drive-ways and walks; preparation of landing field and field drainage system, including 28,000 lin. ft. pipe (probably vit. clay type); installation of gas and oil distributing system, involving tanks, pumps, etc., for refueling planes on the field; three-story and basement barracks building, concrete construction, tile roof, 100 by 145 ft.; machine shop, concrete and structural steel, 111 by 200 ft.; hangar, 111 by 200 ft. with operations office and parachute section as wings to hangar; warehouse, one-story, concrete and structural steel, 111 by 200 ft.; radio building, one-story, masonry, tile roof, 18 by 34 ft.; one paint, oil and dope warehouse, masonry construction, one-story, 18 by 40 ft.; eight sets of officers' quarters, 48 by 51 ft. each, two-story and basement, masonry construction, tile roof; three double sets of non-commissioned officers' quarters, 38 by 58 ft., two-story and basement, masonry, tile roof.

HIGHWAY BILL WINS APPROVAL

The House Roads Committee, according to word from Washington, on May 24, approved the Almon bill to authorize appropriations of \$219,000,000 for highway construction.

The measure would authorize \$100,000,000 in federal highway aid to states in both the 1934 and 1935 fiscal years and \$7,500,000 for forest roads and trails each year.

It also would authorize \$2,000,000 for highway construction on public and non-taxable lands in 1933 and 1934 fiscal years.

The House already has approved a bill to authorize \$132,000,000 for highway construction in the next fiscal year, 1933.

The Almon measure would require that \$16,000,000 of the \$80,000,000 advanced to states under previous authorizations be deducted from the 1934 and 1935 allocations.

An oversize 1½-ton six-cylinder Indiana truck, powered with a 68 h.p. Hercules L-head type engine, will be sold and serviced by the White Co., Cleveland, Ohio, at a price of \$885. The truck, known as Model 85, has an allowable gross weight of 10,000 lbs. Five wheelbases and a complete line of bodies for every truck need are available.

Tips, Inc., 515 Cathedral St., Baltimore, Md., announces a new cutting and welding torch especially suited to the needs of contractors. The new torch, Type NVM, will cut and weld any thickness of metal within range of the process. A change of tips converts it from a cutting to a welding tool.

The Kron Co., Bridgeport, Conn., (formerly American Kron Scale Co.), has improved its line of scales in both appearance and operating mechanism. In the dial mechanism 48 bearing points have been eliminated. The six remaining bearing points are a specially designed anti-friction type. The sector has been so designed that it offsets all vibration present in the building in which the scale is located. A one-point adjustment permits the scale to be readjusted quickly when necessary.

For long-time operation under exceptionally severe operating conditions, a steel apron conveyor with a gravity seal feature has been perfected by Webster & Weller Mfg. Cos., 1856 North Kostner Ave., Chicago. The gravity seal is based upon a new method of attaching the conveyor pans to the chains by means of a patented pivot link. This feature permits the pans to overlap so snugly as to prevent any leakage of material and yet provides sufficient flexibility to enable the conveyor to travel evenly and without strain on the sprockets.

A safe, flashless device, known as the AB De-Ion circuit breaker, has been developed by the Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa., to take the place of carbon circuit breakers or fuses now in common use. The breaker operates like a switch, and when tripped by an overload can be reclosed quickly without removing and replacing anything. It cannot be blocked to prevent opening of the circuit. A time lag prevents tripping on slight momentary overloads.

The safety electric pushbutton announced by Lincoln Electric Co., Cleveland, Ohio, last year has been improved. The starting button has been placed inside of a larger stop button. The stop button can be operated from any angle by merely striking the front of the control box with the flat of the hand; the start button must be operated with the finger.

UNIT BID SUMMARY

Compiled from the Daily News Service of Pacific Constructor

WATER STORAGE RESERVOIR—REDWOOD CITY

REDWOOD CITY, San Mateo Co., Cal.—As previously reported, Neves & Harp, 891 Harrison St., Santa Clara, at \$18,856 under Alternate 2, submitted low bid to city council to construct water storage reservoir No. 3 in connection with the municipal water system, from plans prepared by C. L. Dimmitt, city engineer. Bids were taken under two specifications, as follows:

- Specification No. 1**
- (1) 8,624 cu. yds. excavation;
 - (2) 8,949 cu. yds. embankment;
 - (3) 1,200 cu. yds. borrow;
 - (4) 600 cu. yds. top soil stockpiled and spread;
 - (5) 110.7 cu. yds. concrete in column footings and ribs for expansion joints;
 - (6) 89.5 cu. yds. concrete in columns;
 - (7) 861.3 cu. yds. concrete paving;
 - (8) 23.2 cu. yds. concrete gutter;
 - (9) 68,316 lbs. reinf. steel;
 - (10) roof complete;
 - (11) 40 lin. ft. vit. clay pipe.

- Specification No. II**
- (1) 8,302 cu. yds. excavation;
 - (2) 8,809 cu. yds. embankment;
 - (3) 1,400 cu. yds. borrow;
 - (4) 600 cu. yds. top soil stockpiled and spread;
 - (5) 33.4 cu. yds. concrete in column footings;
 - (6) 88.1 cu. yds. concrete in columns;
 - (7) 382.7 cu. yds. concrete paving;
 - (8) 7.7 cu. yds. concrete gutter;
 - (9) 45,538 lbs. reinf. steel;
 - (10) roof complete;
 - (11) 40 lin. ft. vit. clay pipe.
- Complete bids follow:
- (A) Neves & Harp, Santa Clara, (I) \$24,248; (II) \$18,856.
 - (B) G. A. Graham, Bakersfield, (I) \$22,471; (II) \$19,277.
 - (C) W. O. Tyson, Redwood City, (I) \$29 bid; (II) \$20,167.
 - (D) Carl M. Swenson, San Jose, (I) \$23,919; (II) \$20,635.
 - (E) Lee J. Immel, Berkeley, (I) \$24,491; (II) \$20,904.
 - (F) I. Epp & Sons, San Francisco, (I) \$24,518; (II) \$21,123.

- (G) W. E. Lyons, Oakland, (I) \$23,689; (II) \$21,125.
- (H) John D. Carlson, San Jose, (I) \$25,812; (II) \$21,443.
- (I) B. A. Howkins, San Francisco, (I) \$27,894; (II) \$22,044.
- (J) G. W. Williams & Co., Burlingame, (I) \$28,153; (II) \$22,128.
- (K) S. J. Sjoberg, San Francisco, (I) \$27,286; (II) \$22,233.
- (L) Bundesen & Lauritzen, Pittsburg (I) no bid; (II) \$22,313.
- (M) MacDonald & Kahn, San Francisco, (I) \$28,033; (II) \$23,444.
- (N) Chas. Harney, San Francisco, (I) no bid; (II) \$23,476.
- (O) American Concrete Pipe Co., Oakland, (I) \$28,226; (II) \$23,735.
- (P) Clinton-Stephenson Const. Co., (I) \$23,864; (II) \$24,031.
- (Q) Western Motors Transfer Co., Santa Barbara, (I) no bid; (II) \$26,884.
- (R) H. C. Vensano Co., San Francisco (I) no bid; (II) \$31,964.

Unit bids follow:

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) |
|-----|------|-------|------|------|---------|---------|---------|---------|-------|-----------|-------|
| (A) | \$15 | \$20 | \$15 | \$20 | \$12.75 | \$13.75 | \$12.75 | \$16.75 | \$03 | \$5750.00 | \$190 |
| (B) | .20 | .20 | .26 | .65 | 11.25 | 18.75 | 8.95 | 9.75 | .0288 | 5413.00 | .40 |
| (C) | | | | | | | | | | | |
| (D) | .23 | .12 | .28 | .40 | 10.25 | 19.00 | 8.75 | 14.00 | .03 | 7500.00 | 1.00 |
| (E) | .25 | .20 | .25 | .60 | 10.00 | 16.00 | 9.00 | 12.00 | .03 | 6800.00 | .50 |
| (F) | .39 | .145 | .145 | .29 | 9.25 | 9.25 | 9.50 | 9.50 | .026 | 7439.00 | 1.00 |
| (G) | .225 | 1.125 | .255 | .45 | 11.40 | 23.20 | 9.60 | 11.70 | .0225 | 6047.65 | .50 |
| (H) | .32 | .16 | .265 | .425 | 11.70 | 17.48 | 9.94 | 9.71 | .0274 | 7450.00 | 2.00 |
| (I) | .20 | .24 | .275 | 1.10 | 12.50 | 25.00 | 13.25 | 13.50 | .03 | 5600.00 | 1.00 |
| (J) | .255 | .215 | .41 | .52 | 11.43 | 26.42 | 12.95 | 12.36 | .0294 | 6100.00 | .60 |
| (K) | .325 | .242 | .462 | .58 | 16.00 | 17.60 | 11.00 | 14.10 | .029 | 6227.00 | 1.50 |
| (L) | | | | | | | | | | | |
| (M) | .32 | .32 | .50 | .62 | 14.90 | 19.50 | 10.70 | 14.80 | .031 | 6323.00 | 1.20 |
| (N) | | | | | | | | | | | |
| (O) | | | | | | | | | | | |
| (P) | .195 | .24 | .26 | .50 | 12.50 | 29.00 | 11.00 | 12.50 | .0275 | 7400.00 | 2.00 |
| (Q) | .43 | .325 | .455 | 1.00 | 17.20 | 33.00 | 12.65 | 13.10 | .03 | 4368.00 | 1.20 |
| (R) | | | | | | | | | | | |

SPECIFICATION NO. I

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) |
|-----|------|------|------|------|---------|---------|---------|---------|-------|-----------|------|
| (A) | \$15 | \$20 | \$15 | \$20 | \$12.75 | \$13.75 | \$14.30 | \$15.00 | \$05 | \$5750.00 | 1.00 |
| (B) | .20 | .20 | .26 | .65 | 11.25 | 18.75 | 13.75 | 13.75 | .0489 | 5413.00 | .40 |
| (C) | .28 | .17 | .23 | .44 | 8.00 | 16.00 | 14.20 | 14.20 | .05 | 6121.40 | .50 |
| (D) | .23 | .12 | .28 | .40 | 10.25 | 19.00 | 12.90 | 12.90 | .0525 | 7500.00 | 1.00 |
| (E) | .25 | .20 | .25 | .60 | 10.00 | 16.00 | 14.00 | 14.00 | .05 | 6300.00 | .50 |
| (F) | .39 | .145 | .145 | .29 | 9.25 | 9.25 | 33.90 | 13.90 | .046 | 7439.00 | 1.00 |
| (G) | .23 | .12 | .30 | .475 | 12.40 | 24.40 | 16.00 | 18.11 | .055 | 6047.65 | .50 |
| (H) | .265 | .16 | .265 | .425 | 11.70 | 17.48 | 13.75 | 13.80 | .0511 | 7450.00 | 2.00 |
| (I) | .20 | .24 | .275 | 1.10 | 12.50 | 25.00 | 17.00 | 17.00 | .05 | 5600.00 | 1.00 |
| (J) | .295 | .245 | .41 | .52 | 11.43 | 26.42 | 13.95 | 14.60 | .0505 | 6100.00 | .60 |
| (K) | .34 | .24 | .46 | .58 | 13.20 | 18.90 | 14.20 | 14.20 | .051 | 6227.00 | 1.50 |
| (L) | .35 | .10 | .40 | .50 | 16.00 | 18.00 | 16.00 | 16.00 | .055 | 6700.00 | 1.00 |
| (M) | .32 | .32 | .50 | .62 | 11.50 | 19.50 | 15.30 | 15.30 | .0525 | 6330.00 | 1.20 |
| (N) | | | | | | | | | | | |
| (O) | | | | | | | | | | | |
| (P) | .195 | .24 | .26 | .50 | 12.50 | 29.00 | 13.00 | 15.00 | .0525 | 7500.00 | 1.00 |
| (Q) | .48 | .325 | .455 | 1.00 | 17.20 | 28.00 | 14.70 | 16.10 | .05 | 4692.00 | 1.20 |
| (R) | .50 | .25 | .50 | .75 | 16.63 | 28.23 | 13.55 | 13.55 | .055 | 8448.00 | 1.00 |
| (R) | .60 | .38 | .53 | .40 | 18.40 | 55.00 | 15.00 | 15.00 | .05 | 8970.00 | 1.00 |

BIDS OPENED

VENTURA & LOS ANGELES COS., Cal.—Kemper Const. Co., Ltd., 3701 S Overland Ave., Los Angeles, at \$19,712.94 submitted low bid to the State Highway Commission to apply seal coat to shoulders over about 21.2 mi. between Canejo Grade and Calabasas, and to oil shoulders over about 40.3 miles between Ventura and Castaic, involving:

- (1) 11,113 barrels of fuel oil;

- (2) 80 tons asphaltic road oil;
 - (3) 709 tons screenings;
- Complete bids follow:
- (A) Kemper Const. Co., Los Angeles, \$19,712.94.
 - (B) Southwest Paving Co., Los Angeles, \$21,664.60.
 - (C) Von der Hellen & Pierson, Castaic \$24,640.55.
 - (D) H. E. Cox & Son, Pasadena, \$26,423.00.
 - (E) Western Motors Transfer Co., Santa Barbara, \$28,150.31.

- (F) Oilfields Trucking Co., Taft, \$28,563.37.
 - (G) C. A. Ladeveze, Los Angeles, \$30,617.52.
- Unit bids follow:
- | | (1) | (2) | (3) |
|-----|--------|---------|--------|
| (A) | \$1.58 | \$12.75 | \$1.60 |
| (B) | 1.79 | 12.50 | 2.50 |
| (C) | 1.85 | 20.00 | 3.50 |
| (D) | 2.00 | 15.00 | 4.00 |
| (E) | 2.23 | 14.81 | 3.08 |
| (F) | 2.24 | 26.00 | 2.25 |
| (G) | 2.20 | 25.00 | 5.88 |

Water System—Government Work—Montana

BIG HORN COUNTY, Montana.—D. M. Manning, Hysham, Mont., submitted low bid to the Quartermaster, 9th Corps Area, Presidio, San Francisco, to construct an electric power line and water system at Custer Battlefield National Cemetery, Crow Agency, Big Horn County, Mont. The work comprises:

- (1-A) Construct an intake at Little Horn River, furnishing and laying about 2600 ft. 4-in. c. i. pipe and taking up and relaying about 1800 ft. of old 3-in. pipe. Pump installed in pump house.
- (1-B) Pump installed in sump, same as above.
- (2) Furnish and install motor driven pump in present pump house, capacity 60-g.p.m.
- (3) Construct 20,000-gallon concrete reservoir;
- (4) Install septic tank and sewage disposal system;
- (5) Install sprinkling system at cemetery.
- (6) Furnish and install water filter in basement of Superintendent's Lodge.
- (7) Construct 2200-volt 3-phase

electric power line approximately 3½ miles long from Crow Agency to cemetery.

- (8) Lump sum.
 - (9) Per cu. yd. for earth excavation.
 - (10) Per cu. yd. for rock excavation.
- Following is a complete list of bids:
- (A) D. M. Manning, Hysham.
 - (B) F. A. Cole, Cheyenne, Wyo.
 - (C) Baldwin & Butler, Berkeley.
 - (D) N. A. Pearson Const. Co., Sheridan, Wyo.
 - (E) E. Lindstrom, Billings, Mont.
 - (F) Addison Miller, Inc., St. Paul.
 - (G) Crane & Co., Billings, Mont.
 - (H) Calderwood Plumbing & Heating Co., Hardin, Mont.
 - (I) Rafn Morgan Elec. Co., Billings.
 - (J) Billings Electric Co., Billings.
 - (K) W. J. Brekke, Hardin, Mont.
 - (L) Byron Jackson Co., Berkeley.
 - (M) H. S. Tittle & Co., San Francisco.
 - (N) Butte Elec. & Mfg. Co., San Francisco.
- On item 7, Byron Jackson Co. bid \$918.
- On item 7, Billings Electric Co. bid \$2,880; W. J. Brekke, \$3,065; H. S. Tittle \$3,100 and Butte Elec. & Mfg. Co., \$3,900.

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) |
|------|---------|----------|-------------|------------|------------|-------------|---------|-----------|---------|
| (1a) | \$3,012 | \$ 5,071 | \$ 5,173.00 | \$6,299.00 | \$6,600.00 | \$ 8,235.00 | \$..... | \$..... | \$..... |
| (1b) | 3,012 | 5,128 | 5,153.00 | 6,215.** | 6,150.00 | 8,135.00 | ..... | ..... | ..... |
| (2) | ..... | 803 | 944.00 | 616.00 | 1,312.00 | 920.00 | 762 | ..... | ..... |
| (3) | 671 | 1,085 | 1,164.00 | 689.00 | 975.00 | 1,518.00 | ..... | ..... | ..... |
| (4) | 735 | 1,095 | 1,537.00 | 1,017.00 | 2,817.00 | 1,785.00 | ..... | ..... | ..... |
| (5) | 690 | 1,048 | 1,036.00 | 1,051.00 | 1,308.00 | 1,496.00 | ..... | ..... | ..... |
| (6) | ..... | 263 | 566.00 | 370.00 | 625.00 | 919.00 | ..... | ..... | ..... |
| (7) | ..... | 3,035 | 4,997.00 | ..... | 3,100.00 | 4,470.00 | ..... | 2,685 | ..... |
| (8) | ..... | 12,400 | 12,855.00 | 9,982.00 | 16,241.00 | 16,450.00 | ..... | 12,890.00 | ..... |
| (9) | ..... | 1 | 1.30 | 2.00 | .75 | 1.00 | ..... | .40 | ..... |
| | | | (a) | .50 | | | | | |
| (10) | ..... | 10 | 4.00 | 4.00 | 2.50 | 5.00 | ..... | .90 | ..... |
| | | | (a) | 2.00 | | | | | |

* On Prop. No. 2 alternate bid submitted at \$1,020 and \$850.
 ** Alternate bid \$1,290. Bids held under advisement.

EXTEND LEAVENWORTH ST.—SAN FRANCISCO

SAN FRANCISCO.—E. J. Treacy, Call Bldg., at \$7905.56 submitted low bid to Department of Public Works to improve Leavenworth Street between Fulton and McAllister Streets and reconstruct Fulton St. bet. Hyde and Market Streets, involving:

- (1) 750 cu. yds. grading cut;
- (2) 950 cu. yds. grading fill;
- (3) 195 ft. 12-in. V.C.P. sewer;
- (4) 5 12 x 8-in. vye branches;
- (5) 112 ft. 8-in. V.C.P. side sewer;
- (6) 1 brick manhole;
- (7) 5 brick catchbasins;
- (8) 870 ft. 10x16-in. granite curb;
- (9) 50 ft. 10x16-in. circular granite curb;
- (10) 930 ft. circular granite curb to be redressed and reset;
- (11) 10,650 sq. ft. asphalt. conc. pave.;
- (12) 4000 sq. ft. asphalt. conc. conform pavement;

- (13) 2000 sq. ft. asphalt. concrete surface along gutter removed and replaced;
- (14) 11,500 sq. ft. conc. sidewalk, one-course;
- (15) 3000 ft. 4-in. macadam sidewalk;
- (16) 6 reset electroliter standards;
- (17) 180 ft. granite curb salvaged;
- (18) 400 sq. ft. 4-in. broken rock sidewalk.

Complete bids follow:

| | |
|----------------------|-------------|
| (A) E. J. Treacy | \$ 7,905.56 |
| (B) Meyer Rosenberg | \$ 8,080.11 |
| (C) Eaton & Smith | \$ 8,438.50 |
| (D) Chas. L. Harney | \$ 8,688.00 |
| (E) M. J. Lynch | \$ 9,164.75 |
| (F) Theo. Cohn | \$ 9,260.45 |
| (G) Fry Imp. Co. | \$10,123.61 |
| (H) MacDonald & Kahn | \$11,462.90 |

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) |
|------|-------|-------|-------|-------|-------|-------|-------|-------|
| (1) | \$.25 | \$.25 | \$.40 | \$.10 | \$.40 | \$.40 | \$.01 | \$.10 |
| (2) | .01 | .10 | .01 | .20 | .01 | .10 | .86 | .70 |
| (3) | | 1.00 | 1.26 | 1.50 | 1.00 | 1.75 | 1.25 | 1.60 |
| (4) | | 4.00 | 1.00 | 1.00 | 1.00 | 1.50 | 1.00 | 2.00 |
| (5) | | .80 | .85 | 1.00 | 1.00 | 1.00 | .90 | 1.20 |
| (6) | | 80.00 | 45.00 | 70.00 | 85.00 | 75.00 | 70.00 | 80.00 |
| (7) | | 25.00 | 20.00 | 70.00 | 50.00 | 50.00 | 45.00 | 60.00 |
| (8) | | 3.00 | 3.85 | 4.00 | 3.60 | 4.00 | 4.75 | 3.68 |
| (9) | | 5.80 | 5.85 | 6.00 | 5.00 | 6.00 | 6.75 | 5.30 |
| (10) | | .65 | .30 | .40 | 1.00 | .75 | .21 | .94 |
| (11) | | .25 | .255 | .21 | .05 | .24 | .244 | .229 |
| (12) | | .05 | .06 | .08 | .28 | .10 | .06 | .0625 |
| (13) | | .07 | .08 | .10 | .07 | .08 | .07 | .14 |
| (14) | | .13 | .12 | .11 | .11 | .11 | .12 | .123 |
| (15) | | .07 | .06 | .05 | .07 | .02 | .05 | .062 |
| (16) | | .01 | 25.00 | 10.00 | 25.00 | 35.00 | 50.00 | .01 |
| (17) | | .10 | .10 | .25 | .20 | .10 | .50 | .30 |
| (18) | | .02 | .05 | .03 | .025 | .03 | 2.00 | .025 |

CHURCHILL COUNTY, Nev.—As previously reported, Dodge Bros., Fallon, Nev., at \$16,999.32 awarded contract May 11 by State Highway Commission to furnish asphaltic fuel oil, applying and mixing it with a crushed rock or crushed gravel surface on a portion of the state highway in Churchill County, bet. 3.59 miles south of Fallon and Fallon, 9.59 miles in length. Project involves:

- (1) 202,505 gals. asphalt. fuel oil applied to roadway surface;
- (2) 9.59 miles mixing asphalt. fuel oil with crushed rock or crushed gravel surface;
- (3) 9.57 miles rebuild and finish shoulders (average haul, 5.527 mi.);

Work to be Performed Within the City of Fallon.

- (4) 49,898 gals. asphalt. fuel oil applied to roadway surface;
- (5) 22,177 sq. yds. mix asphalt. fuel oil with crushed rock or crushed gravel surface (average haul 0.478 miles).

Complete bids follow:

| | |
|------------------------------------|-------------|
| (A) Dodge Bros., Inc., Fallon | \$16,999.32 |
| (B) A. D. Drumm Jr., Fallon | \$18,640.31 |
| (C) J. N. Tedford, Fallon | \$19,063.90 |
| (D) Jack Casson, Hayward, Calif. | \$21,226.46 |
| (E) Nevada Constr. Co., Fallon | \$22,027.55 |
| (F) U. B. Lee, San Leandro, Calif. | \$22,306.02 |
| (G) Nevada Rock & Sand Co., Reno | \$22,596.42 |
| (H) Engineer's Estimate | \$20,264.51 |

Unit Bids Follow:

| | (1) | (2) | (3) | (4) | (5) |
|-----|---------|----------|----------|---------|-------|
| (A) | \$.0475 | \$400.00 | \$300.00 | \$.0475 | \$.04 |
| (B) | | .052 | 450.00 | 29.00 | .05 |
| (C) | | .054 | 475.00 | 35.00 | .0575 |
| (D) | | .06 | 499.00 | 35.00 | .0575 |
| (E) | | .065 | 450.00 | 80.00 | .0625 |
| (F) | | .06 | 550.00 | 30.00 | .06 |
| (G) | | .06 | 500.00 | 50.00 | .06 |
| (H) | | .065 | 500.00 | 50.00 | .055 |

LOS ANGELES AND ORANGE Cos., Cal.—Martin Bros. Trucking Co., 1389 Gladys Ave., Long Beach, at \$12,057.20 submitted low bid to State Highway Commission to treat with fuel oil about 24.9 miles of earth shoulders between Newport and the Orange-Riverside County line, between Long Beach and Seal Beach and at Lomat, involving 7010 barrels heavy fuel oil.

Complete bids follow:

| | |
|---------------------------------------|--------|
| Martin Bros. Trucking Co., Long Beach | \$1,72 |
| Southwest Paving Co., Los Angeles | \$1,95 |
| Oilfields Trucking Co., Taft | \$2,24 |
| C. A. Ladevce, Los Angeles | \$2,28 |
| Von der Hellen & Pierson, Castaic | \$2,80 |
| \$19,908.00. | |

SAN DIEGO COUNTY, Cal.—Southwest Paving Co., 712 Lankershim Bldg., Los Angeles, at \$30,183.30 submitted low bid to State Highway Commission to treat with fuel oil about 60.2 miles earth shoulders bet. San Diego and San Diego - Riverside County line, involving: (1) 15,170 bbls. heavy fuel oil. Complete bids follow:

| | |
|-----------------------------------|-------------|
| Southwest Paving Co., Los Angeles | \$1.99 |
| total | \$32,463.80 |
| R. E. Hazzard, San Diego | \$2.14 |
| Miracle Co., San Diego | \$2.47 |
| Marten Bros. Truck, Long Beach | \$2.75 |
| Oilfields Trucking Co., Taft | \$2.87 |
| total | \$43,537.96 |
| C. W. Wood, Stockton | \$3.35 |
| total | \$50,815.50 |

CONTRACT AWARDED—NEVADA STATE

WASHOE & Ormsby Counties, Nev.—Jones & King, Hayward, Calif., at \$32,751.50 awarded contract by State Highway Commission May 12 to reconstruct 13.72 miles of highway between Washoe Summit and Carson City, involving:

- (1) 109,400 cu. yds. rdwy. excav.
- (2) 4,300 cu. yds. struc. excav.
- (3) 108,740 cu. yds. sel. borrow excav. in place;
- (4) 263,495 yd. sta. overhaul;
- (5) 94,591 sq. yds. subgrade for pave.;
- (6) 177 demolish culvert inlets and outlets;
- (7) 66 cu. yds. demolish concrete;
- (8) 80,139 lin. ft. remove fence;
- (9) 24,808 lin. ft. remove and reconstruct fence;
- (10) 91,725 lin. ft. construct fence;
- (11) 9 lateral headgates;
- (12) remove stone foundation;
- (13) 630 cu. yds. Class A concrete;
- (14) 181 cu. yds. Class B concrete;
- (15) 1,760 lin. ft. 15-in. corr. metal pipe in place;
- (16) 2,354 lin. ft. 18-in. do;
- (17) 976 lin. ft. 24-in. do;
- (18) 236 lin. ft. 30-in. do;
- (19) 228 lin. ft. 36-in. do;
- (20) 140 lin. ft. 48-in. do;
- (21) 874 lin. ft. 24-in. corr. metal siphon pipe in place;
- (22) 333 lin. ft. remove pipe culverts;
- (23) 1,421 lin. ft. remove & reset pipe culverts;
- (24) 2,024 lin. ft. 8-in. perf. corr. metal pipe in place;
- (25) 25 cu. yds. cement rubble masonry;
- (26) 130 cu. yds. rip rap;
- (27) 520 lin. ft. stand. timber guard rail;
- (28) 192 monuments;

- (29) 58 remove trees;
- (30) 66,275 lbs. reinforcing steel;
- (31) 13.72 miles painting center line;
- (32) 2 drop boxes;
- (33) 2 F. A. markers;
- (34) 13.72 miles finish roadway;
- (35) 66,043 sq. yds. asph. paint hinder;
- (36) 9,800 sq. yds. demolish concrete pavement;
- (37) 5,910 lin. ft. enlarge expansion joints;
- (38) 20,200 tons asph. concrete base course;
- (39) 21,000 tons asph. concrete leveling course;
- (40) 18,900 tons asph. conc. wearing course;
- (41) 145,033 lin. ft. side forms;
- (42) 13.72 miles construct shoulders;
- (43) wooden diversion box;
- (44) 150 lin. ft. remove and replace 2-in. water pipe;
- (45) 1 move barn;
- (46) 1 extend artesian well pipes.

- Complete bids follow:
- (A) Jones & King, Hayward, Calif., \$32,751.59.
 - (B) Basalt Rock Co., Napa, Calif., \$239,760.69.
 - (C) Harrahhan Co., San Francisco, \$340,156.67.
 - (D) Clark & Henery Const. Co., San Francisco, \$340,366.19.
 - (E) Union Paving Co., San Francisco, \$356,576.37.
 - (F) Isbell Const. Co., Carson City, 363,775.31.
 - (G) Dodge Bros., Inc., Fallon, 391,009.81.
 - (H) Nevada Rock & Sand Co., Reno, \$401,025.85.

(I) Engineer's estimate, \$438,249.53.

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| (1) | 26 | 35 | 30 | 37 | 25 | 35 | 30 | 31 | 35 |
| (2) | 120 | 80 | 125 | 85 | 80 | 100 | 50 | 50 | 75 |
| (3) | 31 | 30 | 25 | 29 | 30 | 30 | 30 | 28 | 35 |
| (4) | .005 | .01 | .01 | .01 | .01 | .01 | .02 | .02 | .02 |
| (5) | .07 | .075 | .07 | .07 | .09 | .05 | .09 | .10 | .10 |
| (6) | 6.00 | 7.50 | 4.00 | 5.00 | 3.00 | 3.00 | 5.00 | 4.00 | 2.50 |
| (7) | 2.50 | 5.00 | 1.50 | 6.00 | 3.00 | 6.00 | 5.00 | 2.50 | 4.00 |
| (8) | .015 | .015 | .03 | .02 | .01 | .02 | .02 | .03 | .03 |
| (9) | .03 | .07 | .09 | .06 | .05 | .035 | .05 | .06 | .10 |
| (10) | .10 | .10 | .12 | .09 | .10 | .12 | .12 | .15 | .15 |
| (11) | 18.00 | 20.00 | 10.00 | 16.00 | 12.00 | 12.75 | 25.00 | 12.50 | 10.00 |
| (12) | 200.00 | 100.00 | 75.00 | 50.00 | 100.00 | 100.00 | 50.00 | 40.00 | 50.00 |
| (13) | 17.00 | 20.00 | 22.00 | 23.00 | 25.00 | 20.50 | 22.50 | 25.00 | 32.00 |
| (14) | 16.00 | 19.00 | 21.00 | 22.00 | 24.00 | 20.50 | 25.00 | 24.00 | 30.00 |
| (15) | 1.20 | 1.10 | 1.25 | 1.10 | 1.25 | 1.26 | 1.00 | 1.00 | 1.00 |
| (16) | 1.30 | 1.30 | 1.50 | 1.35 | 1.30 | 1.40 | 1.25 | 1.15 | 1.25 |
| (17) | 2.00 | 2.05 | 2.00 | 2.05 | 2.00 | 1.90 | 2.00 | 1.70 | 2.00 |
| (18) | 2.20 | 2.75 | 2.50 | 2.90 | 3.00 | 2.50 | 2.50 | 2.20 | 2.50 |
| (19) | 3.00 | 4.00 | 4.00 | 4.00 | 3.50 | 3.75 | 3.50 | 3.50 | 3.50 |
| (20) | 6.00 | 6.00 | 6.00 | 6.50 | 7.00 | 6.75 | 6.50 | 6.00 | 6.00 |
| (21) | 2.50 | 3.30 | 2.75 | 2.69 | 3.00 | 3.15 | 2.50 | 2.15 | 2.50 |
| (22) | .36 | .50 | .50 | .50 | .50 | .50 | .50 | .50 | .50 |
| (23) | .60 | .70 | 1.00 | 1.00 | .50 | 1.50 | .75 | .75 | 1.00 |
| (24) | 1.40 | 1.05 | 1.25 | 1.10 | 1.50 | 1.20 | 1.50 | .80 | 1.25 |
| (25) | 10.00 | 12.00 | 10.00 | 12.00 | 10.00 | 10.00 | 15.00 | 10.00 | 10.00 |
| (26) | 1.80 | 2.50 | 4.00 | 2.00 | 3.00 | 2.50 | 2.50 | 2.50 | 4.00 |
| (27) | 1.00 | .80 | 1.00 | .70 | 1.00 | .80 | .75 | .80 | 1.00 |
| (28) | 2.30 | 2.50 | 2.50 | 3.00 | 3.00 | 3.00 | 2.50 | 2.50 | 3.00 |
| (29) | 6.00 | 10.00 | 10.00 | 10.00 | 5.00 | 2.50 | 5.00 | 10.00 | 15.00 |
| (30) | .05 | .035 | .05 | .04 | .04 | .045 | .04 | .05 | .06 |
| (31) | 150.00 | 25.00 | 80.00 | 10.00 | 80.00 | 40.00 | 90.00 | 100.00 | 100.00 |
| (32) | 60.00 | 20.00 | 25.00 | 50.00 | 50.00 | 100.00 | 30.00 | 80.00 | 75.00 |
| (33) | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 |
| (34) | 150.00 | 100.00 | 100.00 | 100.00 | 110.00 | 108.00 | 100.00 | 100.00 | 100.00 |
| (35) | .015 | .015 | .015 | .01 | .015 | .02 | .02 | .02 | .02 |
| (36) | .04 | .25 | .25 | .25 | .20 | .35 | .30 | .25 | .30 |
| (37) | .10 | .10 | .15 | .25 | .10 | .20 | .20 | .30 | .20 |
| (38) | 2.98 | 2.85 | 3.00 | 3.03 | 3.05 | 3.25 | 3.60 | 3.70 | 3.75 |
| (39) | 3.02 | 2.91 | 3.00 | 3.00 | 3.25 | 3.27 | 3.87 | 3.95 | 4.00 |
| (40) | 3.13 | 3.19 | 3.10 | 3.00 | 3.70 | 3.51 | 4.00 | 4.00 | 4.50 |
| (41) | .12 | .13 | .12 | .11 | .13 | .105 | .11 | .13 | .15 |
| (42) | 150.00 | 100.00 | 150.00 | 100.00 | 175.00 | 100.00 | 100.00 | 100.00 | 100.90 |
| (43) | 250.00 | 20.00 | 20.00 | 20.00 | 20.00 | 35.00 | 20.00 | 20.00 | 20.00 |
| (44) | .20 | .40 | .40 | .20 | .20 | .50 | .25 | .50 | .50 |
| (45) | 250.00 | 75.00 | 75.00 | 50.00 | 100.00 | 53.00 | 100.00 | 100.00 | 100.90 |
| (46) | 50.00 | 15.00 | 10.00 | 10.00 | 10.00 | 13.00 | 20.00 | 20.00 | 15.00 |

BIDS OPENED

OAKLAND, Calif.—Duncanson-Harrelson Co., 1405 deYoung Bldg., San Francisco, at \$22,258 submitted low bid to city council to construct 8th St. culvert extension and Lake Merritt control house and gates, consisting of eight concrete boxes, approximately 53 ft. long and 6x6-ft., a concrete, steel and tile Lake Merritt control house and steel control gates. Bids were taken as follows:

- (1) (lump sum) per lin. ft. of pile;
 - (2) (lump sum) all other items.
- Project involves:
- (1) 7900 lin. ft. wood bearing piles in place;
 - (2) 1132.2 cwt. steel sheet piling in place;
 - (3) 3942 cu. yds. reinf. concrete in. steel excess backfill;
 - (4) 8909 lbs. str. steel in place;
 - (5) 8 steel gates with c. i. guides, ak seats, springs and stems;
 - (6) 8 gates hoists & gars, bearings, clutches, shafting, cover and appurtenances;
 - (7) 1 75-hp. 3-phase, 220-volt, 600-rev. per min.;
 - (8) 1 reversible line starter for same;
 - (9) 900 sq. ft. tile roofing;
 - (10) 13 window sash, glazed in place;
 - (11) 2 double doors with appurtenances;
 - (12) 2.2 M.B.M. lumber roof framing;
 - (13) 2 metal ladders;
 - (14) 66 lin. ft. hand railing;
 - (15) 228 sq. ft. metal flooring;
 - (16) 153 ft. do;
 - (17) 112 metal steps;
 - (18) 2 wooden steps.

Complete bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) |
|--|-----|-----|-----|-----|-----|-----|-----|-----|----------|
| (A) Duncanson-Harrelson, San Francisco | | | | | | | | | \$22,258 |
| (B) Barrett & Hilp, S. F. | | | | | | | | | 22,653 |
| (C) E. T. Lesure, Oakland | | | | | | | | | 22,656 |
| (D) Jacobs & Pattiani, Oakland | | | | | | | | | 22,990 |
| (E) M. B. McGowan, S. F. | | | | | | | | | 23,617 |
| (F) A. J. Grier, Oakland | | | | | | | | | 24,670 |
| (G) R. B. McNeil, Oakland | | | | | | | | | 24,691 |
| (H) A. W. Kitchen, S. F. | | | | | | | | | 24,703 |
| (I) N. H. Sjoberg, S. F. | | | | | | | | | 24,843 |
| (J) Schuler & McDonald, Oakland | | | | | | | | | 25,086 |
| (K) L. C. Seidel, Oakland | | | | | | | | | 25,339 |
| (L) J. J. Moore Co., Oakland | | | | | | | | | 25,691 |
| (M) Hutchinson Co., Oakland | | | | | | | | | 25,917 |
| (N) Fredrickson and Watson, Oakland | | | | | | | | | 26,700 |
| (O) Clinton Const. Co., S. F. | | | | | | | | | 28,730 |

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) |
|-----|------|-----|-----|-----|-----|-----|-----|-----|-------------|
| (A) | .26 | | | | | | | | \$20,204.00 |
| (B) | .37 | | | | | | | | 19,630.00 |
| (C) | .48 | | | | | | | | 18,884.00 |
| (D) | .10 | | | | | | | | 22,200.00 |
| (E) | .16 | | | | | | | | 22,353.00 |
| (F) | .30 | | | | | | | | 22,300.00 |
| (G) | .46 | | | | | | | | 20,957.00 |
| (H) | .37 | | | | | | | | 21,750.00 |
| (I) | .40 | | | | | | | | 21,689.00 |
| (J) | .32% | | | | | | | | 22,499.00 |
| (K) | .50 | | | | | | | | 21,439.00 |
| (L) | .52 | | | | | | | | 21,583.00 |
| (M) | .23 | | | | | | | | 24,100.00 |
| (N) | .18 | | | | | | | | 23,600.00 |
| (O) | .30 | | | | | | | | 26,360.00 |

BIDS OPENED

SAN FRANCISCO.—Union Paving Co. Call Bldg., at \$457.25 submitted only bid to Department of Public Works to improve Shields Ave. between Victoria and Heat Streets, where not already improved, involving:

- (1) 50 ft. armored conc. curb, \$1.75;
- (2) 29 ft. 6-in. V.C.P. side sewer, \$2;
- (3) 725 sq. ft. asph. conc. pave., \$44.

Estimated cost \$500. 28

BIDS OPENED

VENTURA COUNTY, Calif.—United Concrete Pipe Co., Box 1, Station H, Los Angeles, at \$69,689 submitted low bid to State Highway Commission, Sacramento, to grade and pave with Portland cement concrete and asphalt concrete about 2 1/2 miles between Montalvo and Oxnard, involving:

- (1) 1200 cu. yds. rdwy. excav. without class;
- (2) 4200 cu. yds. imp. borrow;
- (3) 600 cu. yds. struc. excav.;
- (4) 21,000 sq. yds. subgrade for pave;
- (5) 13,000 sq. yds. asphalt binder;
- (6) 7600 tons asphalt concrete;
- (7) 4250 cu. yds. Class A Port. cem. conc. (pave.);
- (8) 70 cu. yds. Class "A" Port. cem. conc. (struc.);
- (9) 102,000 lbs. bar reinf. steel (pave and struc.);
- (10) 100 lin. ft. 12-in. corr. metal pipe;
- (11) 150 lin. ft. 24-in. do;
- (12) 30 lin. ft. 24-in. stand. reinf. conc. pipe;
- (13) 1110 cu. yds. exist. pave. remove and dispose of;
- (14) 5050 lbs. misc. iron and steel (struc.);
- (15) 20 culvert markers;
- (16) 142 sta. finish rdwy;
- (17) 48 monuments complete in place.

State will furnish corrugated metal pipe.
Complete bids follow:
(A) United Concrete Pipe Co., Los Angeles, \$69,689.00.
(B) Kovacevich & Price, Los Angeles, \$70,351.50.
(C) Griffith Co., Los Angeles, \$70,919.00.
(D) Van der Hellen & Pierson, Castaic, \$75,376.25.
(E) H. E. Cox & Son, Pasadena, \$76,547.50.

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) |
|-----------|-------|-------|-------|-------|-------|
| (1)..... | .40 | .35 | .50 | .50 | .50 |
| (2)..... | .40 | .40 | .50 | .45 | .45 |
| (3)..... | .70 | .75 | .75 | .40 | .85 |
| (4)..... | .10 | .07 | .09 | .06 | .08 |
| (5)..... | .02 | .02 | .03 | .03 | .04 |
| (6)..... | 3.20 | 3.45 | 3.30 | 3.95 | 3.70 |
| (7)..... | 7.50 | 7.35 | 7.25 | 7.45 | 7.75 |
| (8)..... | 15.00 | 15.50 | 20.00 | 14.00 | 18.00 |
| (9)..... | .04 | .0875 | .04 | .04 | .04 |
| (10)..... | .25 | .25 | .50 | .35 | .50 |
| (11)..... | .40 | .35 | .75 | .40 | .50 |
| (12)..... | 3.00 | 3.50 | 3.50 | 3.00 | 3.50 |
| (13)..... | 1.00 | 1.75 | 1.50 | 2.00 | 2.00 |
| (14)..... | .06 | .06 | .08 | .075 | .08 |
| (15)..... | 1.50 | 1.50 | 2.50 | 2.00 | 2.00 |
| (16)..... | 5.00 | 3.00 | 5.00 | 5.00 | 8.00 |
| (17)..... | 2.00 | 2.50 | 2.50 | 2.50 | 2.50 |

DAILY NEWS SERVICE

If you are interested in a daily construction news service featuring all types of building and engineering construction, send for free sample copies of Daily Pacific Builder. Subscription price, \$150 per month or \$15.00 per year when paid in advance.

Daily Pacific Builder features in each issue, timely reports on work contemplated, bids wanted, bids opened and contracts awarded for all types of building and engineering construction, machinery and equipment, Government work, supplies and equipment, business opportunities, etc.

Daily Pacific Builder is the only publication publishing listings of building permits, building contracts, mechanics liens, etc., in Northern and Central California.

Send for sample copies today or phone GARfield 8744.

Daily Pacific Builder
545 Mission St.

H STREET (AMERICAN RIVER) BRIDGE—SACRAMENTO

SACRAMENTO, Cal.—Pacific Bridge Co. foot of E. Salmon Street. Portland, at \$140,613.5 submitted low bid to county supervisors to construct the H St. Bridge over the American River. Bridge will have a roadway 32 ft. wide with 5-ft. sidewalks on each side, involving:

- (1) 1410,000 lbs. struc. steel;
- (2) 42,000 lbs. rebar steel;
- (3) 245,000 lbs. reinf. steel;
- (4) 1600 cu. yds. conc. (pier, 5 sacks)
- (5) 430 cu. yds. conc. (triple 6 sacks)
- (6) 550 cu. yds. struc. and floor slab, concrete, 6 sacks;
- (7) 230 cu. yds. approach concrete (6 sacks);

- (8) 5 cu. yds. rail concrete (9 sacks);
- (9) 594 cu. yds. paving concrete, 9-7-40 ft. long, 6x16;
- (10) 2700 lin. ft. concrete piles, 30 to 40 ft. steel piles 8-in. H section, 42 lbs. per pile;
- (11) 5800 lin. ft. redwood, dense se-
- (12) 5500 lin. ft. redwood, dense se-
- (13) 100,000 lb. m. ft. Douglas fir struc. 40 ft. long;
- (14) 36,000 lb. m. ft. redwood, dense se-
- (15) 17,000 lb. m. ft. redwood, dense se-
- (16) 17,000 lb. m. ft. redwood, dense se-
- (17) 17,000 lb. m. ft. redwood, dense se-
- (18) 6000 yds. embankment in place;
- (19) dump sum. remove present bridge and pier, dismantle and reassemble.

Complete bids follow:
(A) Pacific Bridge Co., Portland \$140,613.50.
(B) Lord & Bishop, Sacramento \$154,420.
(C) M. B. McGowan, San Francisco, \$160,885.20.
(D) E. T. Lesure, Oakland, \$164,439.25
(E) Duncanson & Harrelson, S. F., \$164,474.10.
(F) Bryant & Hill, S. F., \$164,492.00.
(G) Fredrickson & Watson, Oakland, \$167,082.00.

Unit bids follow:
(H) J. W. Terrell, Sacramento, \$167,761.00.
(I) Korca & Caletti, San Rafael, \$168,989.55.
(J) Pomeroy Co., Seattle, \$173,738.40.
(K) Mercer-Fraser Co., Eureka, \$174,892.00.
(L) C. W. Wood, Stockton, \$177,130.
(M) J. E. Folsch, Sacramento, \$178,450.
(N) Healy-Thibault Const. Co., S. F., \$187,670.00.
(O) Nittry Bros., Los Angeles, \$193,858.00.
(P) MacDonald & Kahn, San Francisco, \$205,251.00.

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) |
|------|----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| (1) | \$.0412 | \$.043 | \$.05 | \$.04 | \$.0485 | \$.0425 | \$.045 | \$.045 | \$.0431 | \$.0475 | \$.0465 | \$.045 | \$.04 | \$.06 | \$.04 | \$.0625 |
| (2) | .0255 | .099 | .0833 | .08 | .085 | .08 | .08 | .08 | .09 | .10 | .087 | .08 | .07 | .08 | .09 | .092 |
| (3) | .11 | 1.602 | 16.0059 | 22.14 | 20.6835 | 26.0635 | 26.0635 | 17.687 | 21.575 | 21.575 | 26.0635 | 26.0635 | 32.05 | 18.063 | 35.04 | 21.401 |
| (4) | 11.43 | 1.450 | 8.30 | 11.00 | 8.30 | 10.80 | 8.30 | 10.80 | 6.65 | 18.50 | 12.00 | 20.00 | 12.00 | 20.00 | 20.00 | 12.50 |
| (5) | 10.32 | 15.00 | 13.40 | 12.00 | 12.50 | 13.50 | 13.50 | 9.00 | 11.50 | 12.00 | 17.50 | 15.00 | 18.00 | 15.00 | 14.40 | 9.36 |
| (6) | 5.81 | 9.00 | 9.00 | 7.50 | 13.00 | 8.50 | 8.00 | 14.00 | 9.00 | 9.00 | 8.00 | 11.50 | 12.00 | 12.00 | 12.00 | 9.36 |
| (7) | 50.00 | 50.00 | 38.00 | 70.00 | 70.00 | 83.00 | 60.00 | 75.00 | 100.00 | 40.00 | 90.00 | 75.00 | 40.00 | 40.00 | 75.00 | 11.00 |
| (8) | 6.00 | 10.00 | 10.50 | 9.63 | 9.00 | 8.00 | 8.00 | 14.00 | 9.00 | 8.65 | 8.00 | 3.50 | 3.00 | 3.00 | 3.00 | 2.20 |
| (9) | 3.00 | 2.50 | 1.85 | 4.55 | 1.50 | 2.50 | 2.50 | 3.50 | 2.00 | 2.45 | 3.50 | 3.50 | 2.00 | 2.00 | 2.50 | 2.20 |
| (10) | 1.37 | 1.20 | 1.30 | 1.08 | 1.33 | 1.70 | 1.80 | 1.80 | 1.00 | 1.00 | 1.00 | 1.30 | 1.20 | 1.20 | 1.50 | 1.48 |
| (11) | .67 | .55 | .60 | .79 | .85 | .85 | .75 | .75 | .72 | .75 | .80 | .80 | .70 | .80 | .80 | .66 |
| (12) | 44.30 | 21.00 | 41.00 | 33.00 | 43.00 | 28.30 | 44.00 | 60.00 | 41.40 | 55.20 | 39.00 | 50.00 | 60.00 | 40.00 | 41.50 | 10.00 |
| (13) | 108.00 | 75.00 | 120.00 | 140.00 | 125.00 | 120.00 | 120.00 | 120.00 | 120.00 | 120.00 | 120.00 | 120.00 | 120.00 | 120.00 | 120.00 | 120.00 |
| (14) | 108.00 | 75.00 | 120.00 | 140.00 | 125.00 | 120.00 | 120.00 | 120.00 | 120.00 | 120.00 | 120.00 | 120.00 | 120.00 | 120.00 | 120.00 | 120.00 |
| (15) | 91.00 | 75.00 | 70.00 | 62.00 | 79.00 | 61.50 | 75.00 | 75.00 | 85.50 | 72.85 | 65.00 | 82.00 | 80.00 | 80.00 | 81.00 | 121.00 |
| (16) | 3000.00 | 3148.00 | 4760.00 | 3278.00 | 3300.00 | 2900.00 | 3300.00 | 3250.00 | 3602.00 | 3000.00 | 3500.00 | 3500.00 | 3275.00 | 3500.00 | 3000.00 | 3000.00 |
| (17) | 23 | .45 | .475 | .40 | .36 | .30 | .50 | .50 | .75 | .50 | .25 | .50 | .25 | .50 | .50 | .53 |
| (18) | 2000.00 | 2000.00 | 4400.00 | 2000.00 | 5000.00 | 3500.00 | 2500.00 | 4500.00 | 6000.00 | 2000.00 | 4800.00 | 3000.00 | 2000.00 | 5200.00 | 6000.00 | 6100.00 |

CONCRETE PAVE., CULVERTS—PASADENA

PASADENA, Los Angeles Co., Cal.—J. E. Haddock, Ltd., 357 N. Chester Ave., Pasadena, awarded contract by City Directors May 16 at \$67,020.26 for improvement of Colorado St., bet. east city limits and Mentor Ave., involving:

- (1) 376,530 sq. ft. 9-7-7-9-in. cem. conc. pave.;
- (2) reinf. conc. culvert and 100 ft. 30-in. corr. iron culvert;
- The items as bid on were:
- (1) Sec. A, cem. conc. pave. (per lin. ft.) incl. grading, paving, and refill with asph. conc. of extra area excavated for pavement forms);
- (2) Sec. B, same as description in (1);
- (3) Pedestrian lane stripes and arrows, bid per sq. ft. of stripe (cost to be additional to payment for stand. stripe);

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | Totals |
|-----|-------|------|------|-------|--------|------|------|-----|------|------|------|-------------|
| (A) | 54.75 | 4.65 | 3.60 | 37.00 | 135.00 | 1400 | 950 | 105 | 1680 | 860 | 5500 | \$67,020.26 |
| (B) | 5.00 | 5.00 | .35 | 3.50 | 1100 | 1375 | 1000 | 100 | 1500 | 700 | 600 | 69,856.10 |
| (C) | 5.20 | 5.20 | .50 | 4.00 | 1100 | 1400 | 800 | 70 | 1500 | 500 | 600 | 72,216.18 |
| (D) | 5.50 | 5.50 | .03 | .30 | 1100 | 1950 | 1100 | 150 | 1400 | 500 | 600 | 75,674.26 |
| (E) | 5.84 | 5.45 | .30 | 2.50 | 1000 | 1700 | 1000 | 100 | 1900 | 800 | 700 | 78,103.96 |
| (F) | 5.90 | 5.40 | .35 | 3.00 | 1400 | 1900 | 1100 | 100 | 1800 | 850 | 600 | 78,856.16 |
| (G) | 5.95 | 5.95 | .10 | 1.50 | 1500 | 1400 | 1000 | 65 | 1800 | 700 | 500 | 81,726.12 |
| (H) | 6.90 | 6.68 | .10 | 2.00 | 1357 | 1657 | 1250 | 53 | 1610 | 550 | 520 | 92,540.66 |

(4) Lettering in pave. (bid per each letter);

- (5) Const. culvert, Michigan Ave.;
- (6) do Hill Ave.;
- (7) do Sierra Bonita Ave.
- (8) do Allen Ave.;
- (9) do Craig Ave.;
- (10) do Roosevelt Ave.;
- (11) do Huntington Dr.

Each of items (5) to (11) incl. include excav. and backfill, constr. of culvert and/or intake, outlets and connecting drains, and the construction or reconstruct. of curb, gutter, walk and pavement.

The bids were as follows:

- (A) J. E. Haddock, Ltd.
- (B) Griffith Co.
- (C) Osborn Co.
- (D) Basich Bros. Constr. Co.
- (E) Hall-Johnson Co.
- (F) J. L. McClain.
- (G) Geo. R. Curtis Paving Co.
- (H) L. A. Paving Co., Inc.

BIDS OPENED

SAN LUIS OBISPO COUNTY, Calif.—Stewart & Nuss, Inc., 410 Thorne Ave., Fresno, at \$5874 submitted low bid to District Engineer, State Highway Commission, San Luis Obispo, to treat 11.8 miles of earth shoulders with fuel oil between San Luis Obispo and Morro. Complete bids follow: Stewart & Nuss, Fresno, \$178; \$5,874.00.

Granite Const. Co., Watsonville \$1.81 \$5973.00.

Teager and Ruskovich, Atascadero, \$1.83, \$6039.00.

Santa Maria Const. Co., Santa Maria, \$1.835; \$6055.50.

Tiffany-McReynolds & Tiffany, San Jose, \$1.95; \$6435.00.

Walter Roselip, San Luis Obispo, \$2.07; \$6831.00.

Oilfields Trucking Co., Taft, \$2.29; \$7557.00.

BIDS OPENED

SAN DIEGO—IMPERIAL Counties, Cal.—R. E. Hazard Contracting Co., 2548 Kettner Blvd., San Diego, at \$107.32 submitted low bid to District Engineer, State Highway Commission, Los Angeles, for highway oiling as follows: San Diego and Imperial Counties, bet. Viejas Creek and Myers Creek and bet. National City and San Ysidro, 47.3 miles in length, earth shoulders to be treated with fuel oil; and San Diego County, bet. National Blvd. and Ctay, 0.9 mile in length, seal coat to be applied, involving:

- (1) 2960 bbls. heavy fuel oil in place;
- (2) 23 tons asphaltic road oil in place;
- (3) 200 tons fine screenings in place.

(A) R. E. Hazard Contracting Co.

(B) Miracle Construction Co.

(C) C. R. Dennis.

The bids were:

| | (1) | (2) | (3) | Totals |
|-----|--------|---------|--------|----------|
| (A) | \$3.40 | \$16.00 | \$1.50 | \$10,732 |
| (B) | 6.80 | 75.00 | 3.50 | 22,553 |
| (C) | 8.40 | 15.00 | 3.75 | 25,959 |

AWARD

SAN FRANCISCO.—Fay Imp. Co., Phelan Bldg., at \$4,167.40 awarded contract by State Harbor Commission to pave Pier No. 23, involving:

(1) 113,000 sq. ft. 1½-in. Topeka wearing surface;

(2) 60 tons wearing surf. and binder;

(3) 400 sq. ft. concrete sidewalk.

Complete list of bids follows:

(A) Fay Improvement Co., \$4,167.40.

(B) Pacific Pavements Co., \$4,213.00.

(C) Pacific States Const. Co., \$4,672.00.

(D) Eaton & Smith, \$4,690.50.

Unit bids follow:

| | (1) | (2) | (3) |
|-----|---------|--------|-------|
| (A) | \$.0338 | \$5.00 | \$.12 |
| (B) | .035 | 3.70 | .09 |
| (C) | .039 | 3.75 | .10 |
| (D) | .0385 | 5.00 | .10 |

CORE DRILLING—ALASKA—GOVERNMENT

MATANUSKA DISTRICT, Alaska.—Following is a complete list of bids received April 30 by the Department of the Interior, Washington, D. C., for core drilling in the Matanuska District, Alaska, all bids being taken under advisement. Project involves:

- (A1) drilling 4500 to 5500 ft.;
- (A2) recovery of core;
- (B1) drilling 3500 to 4500 ft.;
- (B2) recovery of core;
- (C1) drilling 2500 to 3500 ft.;
- (C2) recovery of core;
- (D) drilling through over-burden;

| | (A1) | (A2) | (B1) | (B2) | (C1) | (C2) | (D) | (E2) |
|-----|--------|--------|--------|--------|--------|--------|--------|----------|
| (1) | \$4.93 | \$3.00 | \$5.18 | \$3.60 | \$5.43 | \$3.00 | \$7.45 | \$25.00 |
| (2) | 4.80 | 1.50 | 5.50 | 1.50 | 6.50 | 1.50 | 5.00 | 350.00 |
| (3) | 6.75 | 5.00 | 7.00 | 5.00 | 7.50 | 5.00 | 7.50 | 250.00 |
| (4) | 4.00 | 4.00 | 5.00 | 4.00 | 6.00 | 4.00 | 12.00 | 100.00 |
| (5) | 2.50 | 5.50 | 2.50 | 6.55 | 2.50 | 8.35 | 7.40 | no ch'ge |
| (6) | 3.40 | 3.50 | 3.50 | 3.50 | 4.00 | 3.50 | 9.00 | 350.00 |
| (7) | 5.90 | 1.10 | 6.65 | 1.25 | 7.75 | 1.50 | 5.00 | 200.00 |

(E) amount for each additional set up more than four.

Bidders follow:

- (1) Dan G. Longtin, San Francisco.
- (2) Pennsylvania Drilling Co., Pittsburgh.
- (3) E. J. Longyear Exploration Co., Minneapolis.
- (4) Sullivan Machinery Co., Chicago.
- (5) Sprague & Henwood Corporation, Scranton, Pa.
- (6) Lynch Brothers, Seattle.
- (7) Mott Core Drilling Co., Huntington, W. Va.

Unit bids follow:
 pipe sewer and 5429 73 lin. ft. of either vit. clay sewer or cent. conc. pipe sewer, incl. conc. reinforcement, if required, structures, etc.
 Construction of this section will involve pipe as follows:
 5249.73 ft. 18-in. pipe, 2000-D load pipe;
 660.12 ft. 15-in. pipe, 2100-D load pipe;
 360.12 ft. 15-in. pipe, 2000-D load pipe;
 4314.56 ft. 15-in. pipe, 1900-D load pipe.
 A total of 13,225.03 lin. ft. of sewer.
 9 manholes B;
 1 junction chamber F;
 27 junction chambers G;
 1 trap manhole.
 The bids were:

NORTH OUTFALL SEWER—LOS ANGELES

LOS ANGELES, Cal.—M. Miller, 303 W-2nd St., submitted low bids to the Board of Public Works to construct Sect. 34-E, North Outfall Sewer from Vanowen Ave. to Whiteoak Ave. to Vanowen St. and Corbin Ave. Bids taken as follows:

- (1) Type No. 1—13,225.03 lin. ft. vit. clay pipe sewer, incl. conc. reinforcement, if required, structures, etc.
- (2) Type No. 2—13,225.03 lin. ft. cent. conc. pipe san. sewer, incl. conc. struc. etc.
- (3) Type No. 3—13,225.03 lin. ft. san. sewer, incl. 7975.30 lin. ft. cem.

| | (I) | (II) | (III) |
|-----------------------|-------------|----------|----------|
| M. Miller | \$41,533.37 | \$43,000 | \$41,000 |
| Mike Radich | 43,800.00 | 48,000 | 43,600 |
| Leo Miletech | 44,851.00 | 46,000 | 44,851 |
| Mano Construction Co. | 45,000.00 | 46,500 | 47,000 |
| Gogo & Rados. | 46,337.00 | 46,593 | 46,075 |
| M. N. Guho | 45,500.00 | 46,200 | 44,250 |
| Simmovich & Pritch | 49,000.00 | 51,000 | 47,800 |
| Artukovich Bros. | 49,200.00 | 48,880 | 47,871 |
| Culjak & Zelko | 52,000.00 | 55,000 | 51,500 |
| J. C. Hickey | 67,000.00 | 70,000 | 70,000 |
| Engineer's estimate | 48,132.00 | 49,642 | 47,879 |

**SUB-CONTRACTORS
MATERIALMEN**

Stop Your Losses

Credit information on general contractors, owners, builders and individuals.

MATERIALMEN'S CREDIT BUREAU

J. E. Higgins, General Manager

564 Market St.—KEarney 6245-46
Night Phone DOuglass 5304
San Francisco

ARIZONA STATE HIGHWAY WORK

ARIZONA STATE—V. R. Dennis Construction Co., 3911 5th Ave., San Diego, awarded contract by State Highway Commission April 28, at \$61,303.08 (bidding on regular specifications), for highway construction and oil processing on the Blythe-Wickenburg Highway, F. A. 98-G. The work, which begins about two miles west of Quartzite and extends easterly 3.6 miles, consists of the grading, draining, placing of subgrade stabilizer and oil processing, and is to be completed on or before Sept. 15, 1932, involving:

ROADWAY

- (1) 16 squares clear and grub;
- (2) 2355 cu. yds. rdwy. excav. (un-class.);
- (3) 2133 cu. yds. drainage excav. (un-class.);
- (4) 349 cu. yds. struc. excav. (un-class.);
- (5) 28,026 cu. yds. borrow excav. (un-class.);
- (6) 3020 cu. yds. borrow excav. (un-class.);
- (7) 107,004 sta. yds. earthwork overhaul;
- (8) 2834 cu. yrs. subgrade stabilizer;
- (9) 4009 cu. yd. mi. subgrade stabilizer, haul;
- (10) 119 cu. yds. class A concr. (incl. cement);
- (11) 81 cu. yds. class B concr. (incl. cement);
- (12) 10,4:1 lbs. reinf. steel (CIP);
- (13) 66 lin. ft. 24-in. C.M.P. (CIP exc. excav.);
- (14) 60 lin. ft. 30-in. C.M.P. (CIP exc. excav.);
- (15) 324 lin. ft. 36-in. C.M.P. (CIP exc. excav.);
- (16) 667 lin. ft. std. line fence (CIP);
- (17) 757 M. gal. water applied to rdwy.;
- (18) 200 hrs. rolling fills and subgrade stab.;
- (19) 5197 cu. yds. mineral aggregate;
- (20) 6095 cu. yd. mineral aggregate, haul;
- (21) 88,356 gal. oil applied to rdwy.;
- (22) 3,534 mi. mix. lay. down and finishing;
- (23) 272 cu. yds. screenings for seal coat;
- (24) 7,068 mi. formation and shaping;
- (25) 305 cu. yds. shoulder material;
- (26) 586 cu. yd. shoulder material, haul;

STRUCTURES OVER 20 FT. CLEAR SPAN

- (27) 47 squares clearing and grubbing;
- (28) 14,700 cu. yds. drainage excav. (un-class.);
- (29) 755 cu. yds. structural excav. (un-class.);
- (30) 10 cu. yds. class AA concr. (incl. cement);
- (31) 373 cu. yds. class A concr. (incl. cement);
- (32) 85 cu. yds. class B concr. (incl. cement);
- (33) 36,175 lbs. reinf. steel (CIP);
- (34) 176.5 M.B.M. treated timber (CIP)
- (35) 11.0 M.B.M. untreated timber (CIP);
- (36) 7 timber test piles (CIP);
- (37) 3700 lin. ft. treated timber (CIP);
- (38) 50 lin. ft. treated timber piles cut-off;
- (39) 148 cast iron piles points (CIP);
- (40) 16 water barrels (CIP);
- (41) 45 cu. yds. mineral aggregate (CIP);
- (42) 52 cu. yd. mineral aggregates, haul;
- (43) 399 gal. oil applied to rdwy. (CIP)
- (44) .025 mi. mix. lay. down and finishing;
- (45) 2 cu. yds. screenings for seal coat (CIP);
- (46) 10 cu. yds. sand for bridge floor coat (CIP);

ALTERNATE

- In lieu of Items 34 and 35:
- 190.5 M.B.M. redwood timber C.I.P.;
- NON-FEDERAL AID
- (47) 189 cu. yds. mineral aggregate;
- (48) 39 cu. yds. mineral aggregate, haul;
- (49) 3200 gal. oil applied to roadway (CIP);
- (50) 0.112 mi. mix. lay. down and finishing;
- (51) 10 cu. yds. screening for seal coat (CIP);
- (52) 50 cu. yds. stklpld. mat. mix. with road oil;

(53) 5 cy. mi. overhaul of oil mix to be stpk.

- Total bids were:
- (A) V. R. Dennis Constr. Co., \$61,303.08; alt., \$61,685.08.
 - (B) Lewis Bros., Winslow, Ariz., \$65,448.12; alt., \$66,535.12.
 - (C) Ralph Pleasant Co., Phoenix, \$65,687.77; alt., \$66,486.27.
 - (D) Canon & Royden, Phoenix, \$67,230.45; alt., \$67,221.07.
 - (E) Lee Moor Constr. Co., El Paso, \$68,741.73; alt., \$70,451.73.
 - (F) Martin Bros. Trucking Co., Long Beach, \$70,142.63; alt., \$71,761.13

| Unit bids follow: | (A) | (B) | (C) | (D) | (E) | (F) |
|-------------------|----------|----------|---------|----------|---------|---------|
| | \$ 10.00 | \$ 20.00 | \$ 5.00 | \$ 16.00 | \$ 3.60 | \$ 5.00 |
| (1) | | | | | | |
| (2) | .15 | .30 | .21 | .30 | .18 | .40 |
| (3) | .16 | .22 | .18 | .19 | .29 | .25 |
| (4) | .75 | .80 | .90 | 1.00 | .75 | .50 |
| (5) | .15 | .20 | .18 | .22 | .18 | .24 |
| (6) | .30 | .30 | .32 | .32 | .35 | .34 |
| (7) | .01 | .01 | .01 | .015 | .005 | .015 |
| (8) | .50 | .55 | .48 | .50 | .62 | .60 |
| (9) | .12 | .10 | .085 | .10 | .15 | .11 |
| (10) | 19.00 | 20.00 | 21.00 | 20.00 | 22.85 | 19.00 |
| (11) | 19.00 | 10.00 | 21.00 | 20.00 | 21.25 | 19.00 |
| (12) | .04 | .021 | .025 | .04 | .045 | .04 |
| (13) | 2.00 | 2.00 | 2.00 | 3.50 | 2.50 | 2.00 |
| (14) | 3.00 | 3.00 | 2.55 | 4.00 | 3.40 | 2.50 |
| (15) | 5.00 | 5.00 | 3.75 | 5.50 | 4.90 | 4.00 |
| (16) | .10 | .05 | .10 | .05 | .07 | .10 |
| (17) | 1.25 | 2.50 | 1.75 | 2.50 | 1.00 | 2.00 |
| (18) | 2.00 | 4.00 | 4.00 | 4.00 | 2.50 | 3.00 |
| (19) | .50 | .55 | .48 | .40 | .70 | .60 |
| (20) | .12 | .10 | .085 | .10 | .15 | .11 |
| (21) | .05 | .055 | .058 | .05 | .055 | .056 |
| (22) | 500.00 | 500.00 | 465.00 | 500.00 | 600.00 | 500.00 |
| (23) | 2.00 | 1.50 | 2.30 | 2.00 | 1.75 | 2.00 |
| (24) | 25.00 | 40.00 | 23.00 | 50.00 | 35.00 | 50.00 |
| (25) | .50 | .55 | .48 | .50 | .70 | .60 |
| (26) | .12 | .10 | .085 | .10 | .15 | .11 |
| (27) | 10.00 | 20.00 | 5.00 | 20.00 | 5.00 | 3.50 |
| (28) | .16 | .20 | .21 | .21 | .35 | .25 |
| (29) | .75 | .80 | .90 | 1.00 | .75 | .90 |
| (30) | 70.00 | 50.00 | 65.00 | 60.00 | 60.00 | 60.00 |
| (31) | 19.00 | 20.00 | 21.00 | 20.00 | 21.00 | 19.00 |
| (32) | 18.00 | 19.00 | 21.00 | 20.00 | 21.00 | 19.00 |
| (33) | .04 | .031 | .025 | .04 | .045 | .04 |
| (34) | 80.00 | 75.00 | 84.00 | 81.00 | 76.00 | 85.00 |
| (35) | 60.00 | 58.00 | 84.00 | 75.00 | 76.00 | 85.00 |
| (36) | 50.00 | 90.00 | 35.00 | 100.00 | 45.00 | 30.00 |
| (37) | 1.00 | .95 | 1.05 | .75 | 1.20 | 1.00 |
| (38) | .75 | .7125 | .7875 | .57 | .90 | .75 |
| (39) | 2.00 | 2.00 | 2.50 | 2.50 | 2.35 | 3.00 |
| (40) | 10.00 | 4.00 | 8.00 | 5.00 | 5.00 | 8.00 |
| (41) | .50 | .55 | .48 | .50 | .70 | .60 |
| (42) | .12 | .10 | .085 | .10 | .15 | .11 |
| (43) | .05 | .055 | .058 | .05 | .055 | .056 |
| (44) | 500.00 | 500.00 | 465.00 | 2000.00 | 600.00 | 500.00 |
| (45) | 2.00 | 1.50 | 2.30 | 2.00 | 1.75 | 2.00 |
| (46) | .50 | 1.50 | 2.30 | 5.00 | 1.75 | 3.00 |
| (47) | 76.00 | 75.00 | 83.00 | 75.75 | 80.00 | 88.00 |
| (48) | .50 | .60 | .48 | .50 | .70 | .60 |
| (49) | .12 | .10 | .085 | .10 | .15 | .11 |
| (50) | .05 | .055 | .058 | .05 | .055 | .056 |
| (51) | 500.00 | 500.00 | 465.00 | 500.00 | 600.00 | 500.00 |
| (52) | 2.00 | 1.50 | 2.30 | 3.00 | 1.75 | 2.00 |
| (53) | 3.00 | 2.00 | 3.00 | 4.00 | 1.75 | 3.00 |

TRACTOR ATTACHMENT—GOVERNMENT

WASHINGTON, D. C.—Following bids received by Bureau of Supplies & Accounts, Navy Department, Washington, D. C., May 10, under Schedule No. 7815, to furnish San Francisco or Pearl Harbor, T. H., one road building and earth moving attachment for tractor:

- *American Tractor Equip. Co., 3501 Horton St., Oakland, (A) \$1342.00; (C) \$1280.00; (D) \$1330.00.
- ** E. E. Staley, 1616 Leland Ave., Springfield, Ill., (A) \$1180.90; (C) \$1,272.50; (D) \$1309.75.
- ***Laplant Choate Mfg. Co., Inc., 3015 First Ave., Cedar Rapids, Iowa, (A) \$1737.50 (C) \$1825.25 (D) \$1889.00.
- Honolulu Iron Works, P. O. 3140, Honolulu, T. H., (A) \$2350.00; (C) \$2,245.00; (D) \$2245.00.
- ****Isaacson Iron Works, 2917 E Marginal Way, Seattle, (C) \$1490.00.
- Robinson Tractor Co., 1705 E 12th St., Oakland, (C) \$2156.00; (D) \$2172.00.
- Mack-Woodriddle, Inc., 2114 E 9th, Los Angeles, (D) \$2250.00.
- Theo. H. Davis Co., Inc., Honolulu, T. H., \$1,325 or \$1,350 or \$1,750 or \$2,050.

* discount 2%, 10 days; ** discount 2%, 30 days; *** net; **** discount 3%, 20 days.

ARIZONA STATE.—N. G. Hill and Co., 1344 E. McKinley St., Phoenix, submitted low bid to State Highway Commission at Phoenix May 2, at \$26-059.78 for highway construction on the Prescott-Ashford Highway, F. A. Prof. 62-A, 2nd reopening, and 62-B, 1st reopening. The work, which begins 4.3 miles south of Ash Fork Junction and extends southerly approx. 19.4 miles consists of the grading, draining, and oil processing of both projects and is to be completed on or before January 31, 1932, involving:

Federal Aid Project No. 62-A, 2nd Reopening—Roadway

- (1) 35,539 cu. yds. rdwy. excav. (un-class.);
- (2) 2,715 cu. yds. drainage do;
- (3) 3,200 cu. yds. slides and over-breakage;
- (4) 1,658 cu. yds. struc. excav. (un-class.);
- (5) 61,358 cu. yds. borrow do;
- (6) 41,476 cy. mi. borrow haul;
- (7) 4,118 cu. yds. borrow excav. (un-class.);
- (8) 201,566 sta. yds. earthwork over-haul;
- (9) 66,381 cu. yd. subgrade stabilizer;
- (10) 140,199 cy. mi. subgrade stabilizer haul;
- (11) 497 cu. yd. Class A conc. (incl. cement);
- (12) 117 cu. yds. Class B do;
- (13) 41,104 lbs. reinf. steel;
- (14) 520 lin. ft. 24-in. C.M.P. (except excavation);
- (15) 760 lin. ft. 30-in. do;
- (16) 418 lin. ft. 36-in. do;
- (17) 42 lin. ft. 42-in. do;
- (18) 42 cu. yds. cem. rubble masonry;
- (19) 1 cattle guard (except excav. concrete and reinf. steel);
- (20) 6,410 lin. ft. cable road guard;
- (21) 10 cu. yds. remove old concrete;
- (22) 1,000 cu. yds. excav. old rdwy. fill;
- (23) 1,758 M. gals. water applied to roadway;
- (24) 1,000 hours rolling fills and sub-grade stabilizer;
- (25) 2 corr. metal catchbasins;
- (26) 223,494 sq. yd. prepared subgrade or road surface;
- (27) 27,937 cu. yds. mineral aggregate;
- (28) 502,861 gals. oil applied to rdwy. (road oil);
- (29) 19,029 ml. mix, lay down and fin.;
- (30) 55,873 gals. cut-back asph. cem.;
- (31) 1,625 cu. yds. screening for seal coat;
- (32) 7,588 cu. yds. shoulder material;
- (33) 15,882 cy. mi. shoulder material haul;

Structures Over 20-ft. Clear Span

- (34) 2,540 cu. yds. drainage excav. (un-class.);
- (35) 941 cu. yds. struc. excav. (un-class.);
- (36) 4 cu. yds. Class A-A concrete (including cement);
- (37) 664 cu. yds. Class A do;
- (38) 46 cu. yds. Class B do;
- (39) 63,370 lbs. reinf. steel;
- (40) 171 cu. yds. mineral aggregate;
- (41) 3,079 gals. oil applied to rdwy. (road oil);
- (42) 0.108 ml. mix, lay down and fin.;
- (43) 342 gals. cut-back asph. cem.;
- (44) 10 cu. yds. screenings for seal coat;

Non-Federal Aid

- (45) 380 cu. yds. stockpiled material mixed with road oil;

Federal Aid Project No. 62-B—1st Reopening—Roadway

- (46) 85 cu. yds. rdwy. excav. (unclass)
- (47) 103 cu. yds. borrow excav. (un-class., including haul);
- (48) 183 cu. yds. subgrade stabilizer;
- (49) 412 cy. mi. subgrade stabilizer haul;
- (50) 498 lin. ft. reconstr. road guard;
- (51) 610 sq. yd. prepare subgrade or road surface;

- (52) 76 cu. yd. mineral aggregate;
 - (53) 1,373 gals. oil applied to rdwy.; (road oil);
 - (54) 0.052 ml. mix, lay down and fin.;
 - (55) 153 gals. cut-back asph. cement;
 - (56) 4 cu. yds. screenings for seal coat
 - (57) 21 cu. yds. shoulder material;
 - (58) 47 cy. mi. shoulder material haul;
- Structures Over 20-ft. Clear Span**
- (59) 5 cu. yd. rdwy. borrow excav. (unclass.);
 - (60) 4,848 cu. yds. rdwy. excav. (un-class.);
 - (61) 700 cu. yds. subgrade stabilizer;
 - (62) 1,480 cu. mi. subgrade stabilizer haul;
 - (63) 2,102 lin. ft. reconstruct rd. gd.;
 - (64) 2,332 sy. yd. prepare subgrade or road surface;
 - (65) 319 cu. yds. mineral aggregate;
 - (66) 5,749 gals. oil applied to rdwy. (road oil);
 - (67) 0.217 ml. mix, lay down and fin.;

- (68) 639 gals. cut-back asph. cem.;
- (69) 19 cu. yds. cuts. screenings for seal coat;
- (70) 73 cu. yds. shoulder material;
- (71) 168 cy. mi. shoulder material haul

Non-Federal Aid

- (72) 10 cu. yds. stockpiled material mixed with road oil;
- Total bids were:
- (A) N. G. Hill & Co., Phoenix, \$260,-593.78;
 - (B) Steels & Graham Co., Tucson, \$273,716.83.
 - (C) Phoenix-Tempe Stone Co., \$297,-839.20.
 - (D) Orr & Rawls, El Paso, \$305,585.46.
 - (E) Ralph Pleasant, Phoenix, \$307,-566.15.
 - (F) Everly & Adison, Albuquerque, N. M., \$324,267.63.
 - (G) Packard & Tanner, Phoenix, \$332,-379.66.

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) |
|------|--------|--------|--------|--------|--------|--------|--------|
| (1) | \$.56 | \$.48 | \$.55 | \$.75 | \$.62 | \$.70 | \$.75 |
| (2) | .30 | .30 | .15 | .25 | .24 | 1.00 | .25 |
| (3) | .42 | .36 | .4125 | .5625 | .45 | .525 | .5625 |
| (4) | 1.00 | .95 | .85 | 1.10 | 1.00 | 1.40 | 1.10 |
| (5) | .26 | .175 | .19 | .23 | .22 | .25 | .23 |
| (6) | .13 | .12 | .11 | .12 | .15 | .20 | .12 |
| (7) | .30 | .175 | .20 | .20 | .29 | .25 | .20 |
| (8) | .02 | .01 | .015 | .005 | .015 | .01 | .005 |
| (9) | .40 | .43 | .47 | .70 | .46 | .50 | .70 |
| (10) | .08 | .10 | .11 | .09 | .10 | .09 | .09 |
| (11) | 19.00 | 21.00 | 22.00 | 24.00 | 22.00 | 21.00 | 24.00 |
| (12) | 19.00 | 22.50 | 22.00 | 24.00 | 22.00 | 21.00 | 24.00 |
| (13) | .04 | .04 | .04 | .05 | .04 | .045 | .05 |
| (14) | 2.85 | 2.25 | 1.90 | 2.15 | 2.00 | 2.25 | 2.15 |
| (15) | 3.70 | 2.75 | 2.30 | 2.60 | 2.50 | 2.65 | 2.60 |
| (16) | 4.50 | 4.25 | 2.60 | 4.15 | 3.80 | 3.80 | 4.15 |
| (17) | 5.90 | 5.00 | 4.50 | 5.00 | 4.40 | 4.50 | 5.00 |
| (18) | 8.00 | 10.00 | 7.00 | 9.00 | 12.00 | 15.00 | 9.00 |
| (19) | 400.00 | 375.00 | 450.00 | 455.00 | 400.00 | 500.00 | 455.00 |
| (20) | .60 | .75 | .60 | .80 | .65 | .80 | .80 |
| (21) | 7.00 | 10.00 | 5.00 | 3.00 | 8.00 | 4.00 | 9.00 |
| (22) | .25 | .25 | .20 | .15 | .28 | .25 | .15 |
| (23) | 4.00 | 4.00 | 4.00 | 4.50 | 3.50 | 5.00 | 4.50 |
| (24) | 2.00 | 2.50 | 2.00 | 2.50 | 2.00 | 2.50 | 2.50 |
| (25) | 30.00 | 75.00 | 75.00 | 60.00 | 75.00 | 25.00 | 60.00 |
| (26) | .005 | .005 | .015 | .015 | .005 | .01 | .0125 |
| (27) | 1.10 | 1.85 | 2.00 | 1.70 | 2.08 | 1.80 | 1.70 |
| (28) | .056 | .0525 | .06 | .06 | .06 | .063 | .06 |
| (29) | 400.00 | 450.00 | 500.00 | 400.00 | 450.00 | 500.00 | 400.00 |
| (30) | .09 | .10 | .10 | .085 | .09 | .10 | .085 |
| (31) | 2.00 | 4.25 | 2.25 | 3.50 | 2.75 | 3.25 | 3.50 |
| (32) | .40 | .50 | .47 | .70 | .46 | .60 | .70 |
| (33) | .08 | .10 | .11 | .09 | .10 | .09 | .09 |
| (34) | .30 | .30 | .15 | .25 | .24 | .50 | .25 |
| (35) | .00 | .95 | .85 | 1.10 | 1.00 | 1.50 | 1.10 |
| (36) | 65.00 | 70.00 | 85.00 | 72.00 | 65.00 | 60.00 | 72.00 |
| (37) | 19.00 | 21.00 | 22.00 | 24.00 | 22.00 | 21.00 | 24.00 |
| (38) | 19.00 | 20.00 | 22.00 | 24.00 | 22.00 | 21.00 | 24.00 |
| (39) | .04 | .04 | .04 | .05 | .04 | .045 | .05 |
| (40) | 1.10 | 1.85 | 2.00 | 1.70 | 2.08 | 1.80 | 1.70 |
| (41) | .056 | .0525 | .06 | .06 | .06 | .063 | .06 |
| (42) | 400.00 | 450.00 | 500.00 | 400.00 | 450.00 | 500.00 | 400.00 |
| (43) | .09 | .10 | .10 | .085 | .09 | .10 | .085 |
| (44) | 2.00 | 4.25 | 2.25 | 3.50 | 2.75 | 3.25 | 3.50 |
| (45) | 2.00 | 4.50 | 4.25 | 5.00 | 4.25 | 3.50 | 5.00 |
| (46) | .56 | .48 | .55 | .75 | .62 | .70 | .75 |
| (47) | .30 | 1.75 | .25 | .25 | .29 | .25 | .25 |
| (48) | .40 | .43 | .55 | .70 | .46 | .50 | .70 |
| (49) | .08 | .10 | .11 | .09 | .10 | .09 | .09 |
| (50) | .30 | .60 | .45 | .75 | .65 | .80 | .75 |
| (51) | .005 | .005 | .015 | .0125 | .005 | .01 | .0125 |
| (52) | 1.10 | 1.85 | 2.00 | 1.70 | 2.08 | 1.80 | 1.70 |
| (53) | .056 | .0525 | .06 | .06 | .06 | .063 | .06 |
| (54) | 400.00 | 450.00 | 500.00 | 400.00 | 450.00 | 500.00 | 400.00 |
| (55) | .09 | .10 | .10 | .085 | .09 | .10 | .085 |
| (56) | 2.00 | 4.25 | 2.25 | 3.50 | 2.75 | 3.25 | 3.50 |
| (57) | .40 | .50 | .47 | .70 | .46 | .60 | .70 |
| (58) | .08 | .10 | .11 | .09 | .10 | .09 | .09 |
| (59) | .56 | .48 | .55 | .75 | .62 | .70 | .75 |
| (60) | .30 | 1.75 | .25 | .25 | .29 | .25 | .25 |
| (61) | .40 | .43 | .47 | .70 | .46 | .50 | .70 |
| (62) | .08 | .10 | .11 | .09 | .10 | .09 | .09 |
| (63) | .30 | .60 | .45 | .75 | .65 | .80 | .75 |
| (64) | .005 | .005 | .015 | .0125 | .005 | .01 | .0125 |
| (65) | 1.10 | 1.85 | 2.00 | 1.70 | 2.08 | 1.80 | 1.70 |
| (66) | .056 | .0525 | .06 | .06 | .06 | .063 | .06 |
| (67) | 400.00 | 450.00 | 500.00 | 400.00 | 450.00 | 500.00 | 400.00 |
| (68) | .09 | .10 | .10 | .085 | .09 | .10 | .085 |
| (69) | 2.00 | 4.25 | 2.25 | 3.50 | 2.75 | 3.25 | 3.50 |
| (70) | .40 | .50 | .47 | .70 | .46 | .60 | .70 |
| (71) | .08 | .10 | .11 | .09 | .10 | .09 | .09 |
| (72) | 2.00 | 4.50 | 4.25 | 5.00 | 4.25 | 3.50 | 5.00 |

CONTRACT AWARDED—NEVADA STATE

MINERAL COUNTY, Nev.—As previously reported, A. D. Drumm, Fallon, Nevada, at \$40,774.57 awarded contract May 11 by State Highway Commission to furnish, heat and apply asphaltic fuel oil, mixing it with a crushed rock or crushed gravel surface and apply seal coat on 13 miles east of Hawthorne and Dutch Creek, 24.07 miles in length. Project involves

- (1) 536,483 gals. asph. fuel oil applied to roadway surface;
- (2) 13.27 ml. mix asph. fuel oil with 18 foot width crushed rock or crushed gravel surface;
- (3) 10.42 ml. mix asph. fuel oil with 20 ft. width crushed rock or crushed gravel surface;
- (4) 0.38 ml. mix asph. fuel oil with 26 foot width crushed rock or crushed gravel surface;
- (5) 13.27 ml. sanding seal coat 18 ft. width;
- (6) 10.42 ml. sanding seal coat 20 ft. width;
- (7) 0.38 ml. sanding seal coat 26 ft. width;

(8) 24.07 mi. reulld and finish shoulders.
 NOTE: The oil shall be delivered at the following railway sidings and in the quantities shown:
 Kinkhead 219,912 gallons
 Thorne 316,571 gallons
 Average haul on entire contract, 6,480 miles.

Complete bids follow:
 (A) A. D. Drumm, Jr., Fallon, \$40,774.57.
 (B) Jack Casson, Hayward, Cal., \$41,563.57.
 (C) Basalt Rock Co., Napa, Cal. \$42,208.58.
 (D) Dodge Bros., Inc., Fallon, \$44,162.27.
 (E) J. N. Tedford, Fallon, \$47,984.01.
 (F) U. B. Lee, San Leandro, Calif., \$51,166.00.
 (G) Nevada Rock & Sand Co., Reno, \$52,335.30.
 (H) Engineer's estimate, \$57,183.74.

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) |
|----------|---------|----------|---------|----------|---------|---------|---------|---------|
| (1)..... | \$.052 | \$.0565 | \$.054 | \$.0575 | \$.058 | \$.065 | \$.065 | \$.074 |
| (2)..... | 440.00 | 400.00 | 400.00 | 450.00 | 550.00 | 525.00 | 600.00 | 550.00 |
| (3)..... | 440.00 | 400.00 | 400.00 | 450.00 | 550.00 | 550.00 | 650.00 | 600.00 |
| (4)..... | 440.00 | 450.00 | 400.00 | 600.00 | 600.00 | 600.00 | 700.00 | 800.00 |
| (5)..... | 75.00 | 33.00 | 110.00 | 50.00 | 100.00 | 100.00 | 50.00 | 100.00 |
| (6)..... | 75.00 | 45.00 | 110.00 | 50.00 | 100.00 | 110.00 | 55.00 | 100.00 |
| (7)..... | 75.00 | 45.00 | 110.00 | 100.00 | 100.00 | 140.00 | 60.00 | 150.00 |
| (8)..... | 20.00 | 25.00 | 40.00 | 50.00 | 50.00 | 35.00 | 50.00 | 50.00 |

VENICE BLVD. SEWER—LOS ANGELES

LOS ANGELES, Cal.—Mike Radich, 410 N Formosa Ave., submitted low bid to board of public works May 18 at \$129,775.00 to construct sewers in Venice Blvd., bet. Sawtelle Blvd. and Centinella Ave. and other streets in Venice Blvd. and Lincoln Blvd. Sewer District, a total of 26,306.77 lin. ft. of sewer under the 1911 act, involving:

1631.55 ft. 27-in. vit. sewer, 91 27x6-in. wyes;

1978.93 ft. 24-in. do 114 24x6-in. wyes;

720.71 ft. 21-in. do 31 21x6-in. wyes;

895.31 ft. 18-in. do 67 18x6-in. wyes;

3591.13 ft. 15-in. do 220 15x6-in. wyes;

7452.54 ft. 12-in. do 298 12x6-in. wyes;

3300.54 ft. 8-in. cem. sewer, 85 12x6-in. wyes;

5734 ft. 6-in. house connections (cem. pipe), inc. 226 6x½-in. bends;

39 standard manhole "B";

32 stand. junction chamber "F";

8 do "G";

3 do "H";

3 stand. drop manholes "S";

2 stand. trap manholes;

6 stand. flushing struc. No. 0, special shallow;

1 stand. flushing struc. No. 1, shallow;

1 stand. flushing struc. No. 2, standard;

95 stand. manhole frame & cover sets 4 existing struc. to be remodeled;

12 10x6-in. sadders;

186 vert. ft. of 6-in. chimney pipe, including 26 6-in. ¼ bends, 26 6-in. ¼ bends, 26 6x6-in. wyes;

Bids were taken on items as follows:
 (1) sanitary sewer;

(2) 5732 ft. house sewers;

(3) 186 ft. chimney pipe;

(4) 26,429 sq. ft. Class AA resurf.;

(5) 649 sq. ft. Class A resurf.;

(6) 171 sq. ft. Class C resurf. (4-in.);

(7) 20,025 sq. ft. Class C resurf. 8-in.

(8) 211 sq. ft. Class C resurf. (10-in.);

(9) 638 sq. ft. Class D resurf.;

(10) 1641 sq. ft. D. G. resurf. (4-in.);

The total bids were:
 (A) M. Radich, \$129,775.
 (B) M. Miller, \$135,268.30.
 (C) Peter S. Tomich, \$136,747.33.
 (D) Granch & Granch, \$137,500.
 (E) J. C. Hickey, \$155,060.20.
 (F) Engineer's estimate, \$102,050.34.

The unit bids were:

| | (A) | (B) | (C) | (D) | (E) |
|-----------|--------------|--------------|--------------|--------------|-------------|
| (1)..... | \$118,150.00 | \$117,000.00 | \$120,000.00 | \$122,500.00 | \$88,740.00 |
| (2)..... | 1.00 | 1.50 | 1.50 | 1.50 | 1.20 |
| (3)..... | 2.00 | 2.00 | 2.00 | 2.00 | 2.25 |
| (4)..... | .02 | .03 | .05 | .02 | .02 |
| (5)..... | .10 | .15 | .12 | .15 | .15 |
| (6)..... | .10 | .30 | .20 | .30 | .15 |
| (7)..... | .22 | .40 | .30 | .25 | .25 |
| (8)..... | .30 | .50 | .30 | .35 | .30 |
| (9)..... | .25 | .25 | .30 | .30 | .25 |
| (10)..... | .05 | .05 | .05 | .05 | .08 |

BIDS OPENED

BERKELEY, Alameda Co., Calif.—Contra Costa Building Material Co., Berkeley, and Transit Concrete Co., Ltd., Oakland, submitted identical bids to city council to furnish sand as ordered to Corporation Yard, All-

ton Way and West Street, during fiscal year commencing July 1, 1932. Bids as follow:
 Fine sand \$1.30 per ton
 Medium-1 M 1.90 per ton
 Medium-4 M 1.90 per ton
 Medium-M. P. 1.50 per ton

Bids held under advisement.

INDIO, Riverside Co., Cal.—Gist & Bell, 130 Bonita Ave., Arcadia, submitted low bid to Coachella Valley Storm Water District, at \$17,072, for channel work and levee protection work in Deep Canyon project and in flood channel near Point Happy, involving:
 (1) 136,000 cu. yds. excavation;
 (2) 3000 lin. ft. of wire netting and 2-in. pipe channel protection work.
 (A) Gist & Bell.
 (B) T. G. Smith.
 (C) J. P. Immel.
 (D) Martin Eros, Trucking.
 (E) Mecca Constr. Co.
 (F) Pearson & Dickerson
 (G) Dimmitt & Taylor.
 (H) C. H. Hudson.
 (I) A. A. Alexander.
 (J) Clark & Campbell.
 (K) C. G. Willis & Sons.
 (L) Pecos H. Callahan.
 (M) McCray Co.
 (N) T. M. Morgan Faving Co.
 (O) Frank Cuffe.
 (P) J. E. Haddock, Ltd.
 (Q) T. C. Rogers.
 (R) Breedlove Bros. & Co.
 (S) Mano Constr. Co.

| | (1) | (2) | Total |
|----------|-------|------|-------------|
| (A)..... | \$12 | \$22 | \$17,072.00 |
| (B)..... | .115 | .50 | 17,286.00 |
| (C)..... | .117 | .45 | 17,398.80 |
| (D)..... | .1225 | .26 | 17,541.00 |
| (E)..... | .11 | .80 | 17,564.00 |
| (F)..... | .1332 | .50 | 19,904.88 |
| (G)..... | .145 | .25 | 20,578.00 |
| (H)..... | .148 | .50 | 21,787.20 |
| (I)..... | .156 | .23 | 22,014.40 |
| (J)..... | .163 | .40 | 22,233.20 |
| (K)..... | .165 | .40 | 22,422.00 |
| (L)..... | .16 | .60 | 23,744.00 |
| (M)..... | .169 | .40 | 24,331.60 |
| (N)..... | .164 | .65 | 24,449.60 |
| (O)..... | .185 | .75 | 34,906.00 |
| (P)..... | .174 | .67 | 25,877.60 |
| (Q)..... | .188 | .50 | 27,243.20 |
| (R)..... | .189 | .60 | 27,699.00 |
| (S)..... | .25 | .50 | 49,340.00 |

FAIRFIELD, Montana—Until June 20, 2 P. M., under Specifications No. 536, bids will be received by U. S. Bureau of Reclamation, Fairfield, Montana, to construct 12 miles of open drains, and drainage structures incidental thereto, on the Greenfields division, Sun River Project, Montana; work is located near Fairfield. Project involves:
 (1) 340,000 cu. yds. drain excavation;
 (2) 400 cu. yds. excavation for struc.;
 (3) 12,000 cu. yds. backfill about structures;
 (4) 155 cu. yds. concrete;
 (5) placing 7000 lbs. reinf. bars;
 (6) laying 3176 lin. ft. corr. metal pipe.

This invitation does not cover purchase of materials which are to be furnished by Government.
 Specifications obtainable from above office on deposit of \$50.

BIDS OPENED

SAN FRANCISCO.—M. Bertolino, 3251 26th, at \$575 submitted low bid to Department of Public Works to construct 5,000 sq. ft. one-course concrete sidewalks in Van Ness Ave. bet. Broadway and Vallejo Sts., etc. Estimated cost, \$800.
 Complete bids follow:
 (A) M. Bertolino \$1.15
 (B) J. D. O'Hare 1.35
 (C) M. J. Lynch14
 (D) S. F. Const. Co. 1.65
 (E) A. B. Gerding18

| | Unit | Total |
|----------------------|-------|-------|
| (A) M. Bertolino | | \$575 |
| (B) J. D. O'Hare | | 675 |
| (C) M. J. Lynch | | 700 |
| (D) S. F. Const. Co. | | 825 |
| (E) A. B. Gerding | | 900 |

BIDS OPENED

SAN FRANCISCO.—Eaton & Smith, 715 Ocean Ave., at 1899.70 submitted low bid to the Department of Public Works to improve crossing of 37th Ave. and Rivera St., involving:

- (1) 700 cu. yds. excavation;
- (2) 94 sq. ft. unarmored concrete curb;
- (3) 660 sq. ft. 1-course concrete side-walks;
- (4) 3 brick catchbasins;
- (5) 105 ft. 10-in. V.C.P. sewer;
- (6) 80 ft. 8-in. do;
- (7) 70 ft. 15-in. do;
- (8) 20 ft. 8-in. V.C.P. side sewers;
- (9) 1 brick manhole;
- (10) 4893 sq. ft. asphalt. conc. pavement.

Estimated cost, \$2500.
Complete bids follow:

| | |
|--------------------------|-----------|
| (A) Eaton & Smith..... | \$1899.70 |
| (B) E. J. Treacy..... | 1985.01 |
| (C) Union Paving Co..... | 2044.53 |
| (D) Meyer Rosenberg..... | 2100.90 |
| (E) Fay Imp. Co..... | 2161.39 |
| (F) Chas. L. Hamery..... | 2194.72 |

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) |
|------------|-------|--------|-------|-------|-------|-------|
| (1) \$.20 | \$.15 | \$3.05 | \$.20 | \$.22 | \$.22 | ..... |
| (2) | .60 | 1.00 | .40 | .70 | .62 | .75 |
| (3) | .12 | .13 | .135 | .15 | .14 | .14 |
| (4) | 70.00 | 75.00 | 75.00 | 90.00 | 90.00 | 80.00 |
| (5) | 1.00 | .75 | 1.00 | 1.50 | 1.25 | 1.00 |
| (6) | 1.35 | 1.00 | 1.00 | 1.50 | 1.25 | 1.50 |
| (7) | 1.25 | 1.50 | 1.75 | 2.00 | 2.00 | 3.75 |
| (8) | 1.50 | 2.50 | 2.00 | 2.00 | 2.20 | 2.50 |
| (9) | 70.00 | 85.00 | 75.00 | 90.00 | 95.00 | 80.00 |
| (10) | .20 | .22 | .216 | .20 | .22 | .24 |

AWARD

INGLEWOOD, Los Angeles Co., Cal.—Pacific Clay Products Co., 1151 S Broadway, Los Angeles, awarded the contract by city council May 23, at \$2417.07 for furnishing vitrified sewer pipe as follows:

- (1) 5600 ft. 8-in. pipe;
- (2) 3900 ft. 6-in. pipe;
- (3) 186 6-in. 1/2 bends;
- (4) 218 8x6-in. wye branches;
- (5) 218 6-in. pipe stoppers.

Alternate bids on cement concrete pipe were taken but only one bid received.
Bids follow:
United Concrete Pipe Corp. (concrete)—(1) \$152 (2) \$133 (3) \$285 (4) \$855 (5) \$95; total, \$1620.20.

Pacific Clay Products Co. (vitrified)—(1) \$245 (2) \$19 (3) \$41 (4) \$1 (5) \$0.45; total \$2417.07.

Gladding, McBean & Co. (vitrified)—(1) \$2575 (2) \$195 (3) \$40 (4) \$110 (5) \$0.45; total \$2526.51.

DAILY NEWS SERVICE

If you are interested in a daily construction news service featuring all types of building and engineering construction, send for free sample copies of Daily Pacific Builder. Subscription price, \$150 per month or \$1500 per year when paid in advance.

Daily Pacific Builder features in each issue, timely reports on work contemplated, bids wanted, bids opened and contracts awarded for all types of building and engineering construction, machinery and equipment, Government work, supplies and equipment, business opportunities, etc.

Daily Pacific Builder is the only publication publishing listings of building permits, building contracts, mechanics liens, etc., in Northern and Central California.

Send for sample copies today or phone GARFIELD 8744.

Daily Pacific Builder

545 Mission St.
San Francisco, Calif.

GRADE, CONC. AND ASPH. CONC. PAVE.—LOS ANGELES

LOS ANGELES, Cal.—Griffin Co., 502 Los Angeles Railway Bldg., Los Angeles, submitted low bid to board of public works May 11, at \$74,900.41 for the improvement of 58th St. bet. Arbon Blvd. and Western Ave. (containing 1,386 sq. ft. 8-in. conc. base; 8150 sq. ft. 8-in. conc. paving; 225,693 sq. ft. oiled rdway; quantities are as follows:

- (1) Grading not figured;
- (2) 257,171 sq. ft. 6-in. conc. paving;
- (3) 1386 sq. ft. 8-in. conc. base;
- (4) 8150 sq. ft. 8-in. conc. paving;
- (5) 225,693 sq. ft. oiled rdway;
- (6) 224 tons asph. conc. base;
- (7) 144 tons asph. conc. wearing surf;
- (8) 10 sq. ft. Class C resurf;
- (9) 538 ft. curb armor;
- (10) 33,311 ft. unimp. high curb;
- (11) 80,483 sq. ft. 1-course walk;
- (12) 80,483 sq. ft. 1-in. concrete walk (driveways);
- (13) 9951 sq. ft. 6-in. conc. gutter;
- (14) 128 sq. ft. 8-in. conc. gutter;
- (15) 48 sq. ft. 8-in. comb. gutter;
- (16) storm drain complete;
- (17) sanitary sewer complete;
- (18) 1445 ft. 6-in. vit. house sewers;
- (19) removed 10 manholes and 2 lamp posts;
- (20) ornamental lighting conduit.

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) | (18) | (19) | (20) | Totals | |
|----------|---------|-------|------|------|-------|-------|-------|------|--------|------|-------|------|------|------|-------|-------|-------|------|-------|-------|-------------|-----------|
| (A)..... | \$9,250 | \$12 | \$11 | \$16 | \$925 | \$250 | \$260 | \$20 | \$1.00 | \$30 | \$865 | \$11 | \$15 | \$19 | \$18 | \$350 | \$725 | \$75 | \$100 | \$325 | \$74,900.41 | |
| (B)..... | 9,250 | 1.22 | 1.22 | 1.45 | 0.215 | 2.40 | 2.40 | 1.5 | 1.90 | .285 | 1.0 | 1.1 | 1.23 | 1.14 | 1.33 | 650 | 5275 | 79 | 30 | 380 | 75,402.54 | |
| (C)..... | 14,700 | 1.13 | 1.1 | 1.5 | .02 | 3.00 | 3.00 | .20 | 1.00 | .27 | .09 | 1.3 | 1.6 | .20 | .20 | 625 | 4300 | 80 | 80 | 400 | 75,705.12 | |
| (D)..... | 13,500 | 1.23 | 1.2 | 1.8 | .022 | 3.00 | 3.00 | .25 | 1.00 | .30 | 1.1 | 1.5 | .20 | .20 | 600 | 5100 | 500 | 75 | 24 | 80 | 81,956.10 | |
| (E)..... | 13,500 | 1.33 | 1.1 | 1.65 | .0275 | 3.20 | 3.20 | .25 | 1.00 | .33 | .09 | 1.2 | 1.8 | .225 | 215 | 545 | 5650 | 60 | 55 | 400 | 82,675.12 | |
| (F)..... | 16,500 | 1.33 | 1.1 | 1.5 | .024 | 4.00 | 4.00 | .25 | 1.00 | .36 | .10 | 1.2 | 1.8 | .20 | 200 | 400 | 4600 | 60 | 150 | 375 | 84,958.02 | |
| (G)..... | 13,500 | 1.33 | 1.1 | 1.5 | .024 | 4.00 | 4.00 | .25 | 1.00 | .36 | .10 | 1.2 | 1.8 | .20 | 200 | 400 | 4150 | 60 | 150 | 375 | 84,958.02 | |
| (H)..... | 12,200 | 1.17 | 1.0 | 1.1 | 1.75 | .05 | 3.00 | .30 | 1.00 | .37 | .10 | 1.1 | 1.7 | .20 | 15 | 425 | 5000 | 75 | 60 | 500 | 86,217.35 | |
| (I)..... | 14,000 | 1.14 | 1.2 | 1.8 | .03 | 3.50 | 3.50 | .30 | 1.00 | .33 | .09 | 1.1 | 1.8 | .20 | 20 | 500 | 4500 | 5000 | 75 | 60 | 500 | 85,612.85 |
| (J)..... | 13,000 | 1.14 | 1.4 | 1.8 | .025 | 3.00 | 3.00 | .25 | 1.00 | .34 | .10 | 1.2 | 1.8 | .20 | 50 | 450 | 4000 | 1000 | 100 | 60 | 475 | 87,002.11 |
| (K)..... | 13,500 | 1.14 | 1.4 | 1.8 | .025 | 3.00 | 3.00 | .25 | 1.00 | .34 | .10 | 1.2 | 1.8 | .20 | 50 | 450 | 4000 | 1000 | 100 | 60 | 475 | 87,002.11 |
| (L)..... | 12,500 | 1.14 | 1.4 | 1.5 | .02 | 3.70 | 3.70 | .22 | 1.00 | .33 | .11 | 1.0 | 1.3 | .215 | 215 | 700 | 7000 | 1000 | 100 | 60 | 425 | 87,287.92 |
| (M)..... | 12,500 | 1.425 | 1.2 | 1.6 | .0225 | 2.80 | 2.80 | .25 | 1.00 | .33 | .11 | 1.2 | 1.6 | .215 | 215 | 650 | 5000 | 1000 | 100 | 180 | 80 | 87,225.47 |
| (N)..... | 11,500 | 1.17 | 1.5 | 1.8 | .0235 | 3.15 | 3.15 | .24 | 1.00 | .34 | .10 | 1.15 | 1.6 | .18 | 200 | 450 | 5720 | 800 | 50 | 420 | 88,005.13 | |
| (O)..... | 15,500 | 1.14 | 1.4 | 1.8 | .03 | 3.75 | 3.65 | .40 | 1.10 | .33 | .10 | 1.15 | 1.6 | .20 | 225 | 520 | 5200 | 1000 | 100 | 60 | 480 | 90,103.14 |
| (P)..... | 13,500 | 1.15 | 1.35 | 1.6 | .037 | 3.00 | 3.00 | .25 | 1.00 | .35 | .11 | 1.2 | 1.8 | .20 | 225 | 520 | 5200 | 1000 | 100 | 60 | 480 | 90,103.14 |
| (Q)..... | 13,500 | 1.15 | 1.35 | 1.6 | .037 | 3.00 | 3.00 | .25 | 1.00 | .35 | .11 | 1.2 | 1.8 | .20 | 225 | 520 | 5200 | 1000 | 100 | 60 | 480 | 90,103.14 |
| (R)..... | 12,500 | 1.15 | 1.35 | 1.7 | .04 | 3.50 | 3.50 | .30 | 1.10 | .37 | .10 | 1.15 | 1.7 | .20 | 225 | 520 | 4250 | 750 | 105 | 75 | 856 | 92,041.20 |
| (S)..... | 12,500 | 1.15 | 1.35 | 1.7 | .04 | 3.50 | 3.50 | .30 | 1.10 | .37 | .10 | 1.15 | 1.7 | .20 | 225 | 520 | 4250 | 750 | 105 | 75 | 856 | 92,041.20 |
| (T)..... | 21,000 | 1.33 | 1.1 | 1.9 | .0725 | 3.10 | 3.10 | .25 | 1.00 | .30 | .25 | 1.00 | 1.35 | .25 | 1,000 | 400 | 5000 | 6000 | 81 | 60 | 700 | 93,665.83 |
| (U)..... | 17,000 | 1.575 | 1.5 | 2.05 | .07 | 4.00 | 4.00 | .30 | 1.10 | .38 | .12 | 1.45 | 1.85 | .22 | 900 | 500 | 4500 | 4500 | 75 | 150 | 640 | 96,201.34 |
| (V)..... | 13,571 | 1.45 | 1.5 | 2.0 | .13 | 4.00 | 4.00 | .30 | 1.10 | .38 | .12 | 1.4 | 1.85 | .22 | 900 | 500 | 4500 | 4500 | 75 | 150 | 640 | 96,201.34 |
| (W)..... | 13,400 | 1.44 | 1.5 | 2.05 | .131 | 4.00 | 4.00 | .30 | 1.10 | .38 | .12 | 1.4 | 1.85 | .22 | 900 | 500 | 4500 | 4500 | 75 | 150 | 640 | 96,201.34 |
| (X)..... | 13,400 | 1.44 | 1.5 | 2.05 | .131 | 4.00 | 4.00 | .30 | 1.10 | .38 | .12 | 1.4 | 1.85 | .22 | 900 | 500 | 4500 | 4500 | 75 | 150 | 640 | 96,201.34 |
| (Y)..... | 13,400 | 1.44 | 1.5 | 2.05 | .131 | 4.00 | 4.00 | .30 | 1.10 | .38 | .12 | 1.4 | 1.85 | .22 | 900 | 500 | 4500 | 4500 | 75 | 150 | 640 | 96,201.34 |
| (Z)..... | 13,400 | 1.44 | 1.5 | 2.05 | .131 | 4.00 | 4.00 | .30 | 1.10 | .38 | .12 | 1.4 | 1.85 | .22 | 900 | 500 | 4500 | 4500 | 75 | 150 | 640 | 96,201.34 |

- (K) J. McCray Company.
- (L) L. B. Konevoda.
- (M) Ed. Johnson & Sons.
- (N) John Papay.
- (O) Alex. D. Chalmers.
- (P) F. W. Reschke.
- (Q) J. J. McChain.
- (R) Leo Milteloh.
- (S) Rob. Bosko.
- (T) Geo. H. Oswald.
- (U) Arthur E. Pearson.
- (V) Campbell-Reichert Co.
- (W) Los Angeles Paving Co.
- (X) J. A. Thompson.
- (Y) A. A. Stillwell.
- (Z) City Engineer.

ENGINEERING NEWS

BRIDGES

TACOMA, Wash.—W. E. Berry, Pierce County Engineer, is preparing estimates of cost for a bridge in Marine View Drive at Caledonia to be 2,000-ft. long 50-ft. high and 30-ft. wide. Type of construction not yet determined.

SEATTLE, Wash.—Thomas Hunt, King County Engineer, has submitted preliminary plans to the State Highway Commission for approval, for a bridge over the Blaine River near Kummer; two spans and approaches; total length 600 ft. Alternate bids will be taken for concrete and steel construction. Estimated cost \$86,000. Bids will be asked shortly.

UKIAH, Mendocino Co., Cal.—Whitened and Whited, Santa Rosa, at \$14,500 cu. yd. awarded contract by the city trustees to construct concrete culvert on Main St. over Gibson Creek. Lyon and Rossiter bid \$15 cu. yd. and Helwig Const. Co. \$17.01 cu. yd.

LOS ANGELES COUNTY Calif.—Dinnitt & Taylos, 815 E. 59th Street, Los Angeles, at \$47,478.25 awarded contract by State Highway Commission to construct three bridges at points between four and eight miles south of Gorman Station.

EUREKA, Humboldt Co., Cal.—The county supervisors have rescinded contract (previously reported) originally awarded to J. W. Hatterman of Willows at \$3,699 with \$27 cu. yd. for extra concrete work, to construct reinforced concrete bridge over Supply Creek in the Hoopa Indian Reservation. The contract was re-awarded to the Helwig Const. Co., Sebastopol, at \$3,497.75 and \$26.15 cu. yd. for extra concrete.

WASHINGTON STATE—D. Nygen, Lloyd Bldg., Seattle, at \$178,144 awarded contract by State Highway Commission to construct a bridge 858 ft. 5 in. long over Stillaguamish River on State Road No. 1 bet. Island School and East Stanwood in Snohomish County, consisting of three 200-foot steel spans and five 50-ft. concrete girder approach spans, with 48 foot rdwy. and two 4-ft. sidewalks. Next two low bidders were:
Strong & McDonald, Inc., Tacoma, \$180,629.

Lewler-Woodard Co., Seattle, \$181,874.

EUREKA, Humboldt Co., Cal.—Until June 14, 2 P. M., bids will be received by Fred M. Kay, county clerk, to refoor Salt River suspension bridge at Ballon's ford on the highway between Fernbridge and Ferndale in Road District No. 1. Estimated cost \$3000. Plans obtainable from Frank E. Kelly, county surveyor at Eureka.

SACRAMENTO, Cal.—Pacific Bridge Co., foot of E Salmon St., Portland, Ore., at \$149,519.35 awarded contract by county supervisors to construct the H Street Bridge over the American River. Bridge will have a roadway 32-ft. wide with 5-ft. wide sidewalks on each side. Complete bids published in issue of May 10.

EUREKA, Humboldt Co., Cal.—County Surveyor Frank E. Kelly preparing plans for removing the Dyer-ville Bridge to Redway, after the state highway traffic on the Redwood Highway is routed across the new bridge at Dyerville. The cost of removal and setting it up again with approaches is placed at between \$15,000 and \$20,000. A new concrete structure at Redwood, the surveyor estimated, would cost, \$35,000. The supervisors voted to use the old structures.

SAN BERNARDINO, Cal.—Howard L. Way, county surveyor, preparing plans for a bridge on N Orange St. across the Santa Ana River, between Redlands and Highland; will be 320 ft. in length with a 30-ft. roadway, of steel and concrete construction.

WASHINGTON STATE—Until June 14, 10 A. M., bids will be received by State Highway Commission, Olympia, Wash., for highway construction as follows:

Pave with Port. cem. conc. about 5.9 miles of State Road No. 3, Dayton north, F. A. P. No. 157-A in Columbia County involving also construction of 40-ft. concrete girder bridge and other items.

Construct two conc. girder bridges across Methow River on Methow Valley Highway bet. Pateros and Carlton in Okanogan County, consisting of one bridge 408 feet long and one bridge 290 ft. long, both with 24 ft. rdways. Certified check 5% required with bid. Specifications obtainable from County Engineer of county in which work is located and from District Engineer of Department of Highways, on deposit of \$2, returnable.

RIVERSIDE, Riverside Co., Calif.—City council seeks authority of State Railroad Commission to remove the old Southern Pacific single track underpass and rebuild the structure, on Main St. north of First St. Plans prepared by R. E. Brown, city engineer, call for widening underpass to same width as Main St., which is 53 ft. between curbs and 90 ft. between property lines. The city engineer's plan calls for the use of 212,400 lbs. structural steel. The estimated cost is \$23,419. The Southern Pacific submitted a counter proposal providing for the use

of the present abutments and providing a width of 32 ft. for the roadway with two 6-ft. sidewalks at a cost of \$15,000. J. C. Dunnigan, structural engineer for the railway, contends that the present timber span can be remodeled to handle future rail traffic.

SAN RAFAEL, Marin Co., Cal.—See "Government Work and Supplies" in this issue. Bids wanted by Captain H. B. Nurse, Constructing Quartermaster, 829 Fourth St., San Rafael, for various units of construction in connection with the Marin Meadows Bombing Base, bids for which will be opened on June 4 and June 20.

PLUMAS COUNTY, Cal.—F. H. Neilson, 96th St., Orland, at \$2237.49 awarded contract by State Highway Commission to construct a reinforced concrete girder bridge across Western Pacific Railroad Tunnel near Keddle, consisting of one 40-ft. span on concrete abutments.

SANTA ROSA, Sonoma Co., Cal.—Until June 14, 12 noon, bids will be received by Geo. F. Sanborn, county clerk, to construct a 39-ft. reinforced concrete bridge over Warm Springs Creek, in First Supervisorial District, involving:

- (1) 20,900 lbs. reinforcing steel;
- (2) 134 cu. yds. Class A concrete;
- (3) 6 cu. yds. Class E concrete;
- (4) 104 cu. yds. structure excavation.

Plans obtainable from E. A. Peugh, county surveyor, at Santa Rosa.

GLENDALE, Los Angeles Co., Cal.—City Engineer J. C. Alben has completed plans for the abutments and wing walls for widening of the Lower Canada Blvd. bridge over Verdugo Wash. Estimated cost, \$16,000. The proposed construction will consist in widening the existing 28-ft. bridge on each side to make a finished width of 58 ft. including a 6-ft. pedestrian walk on each side. The length is 84 ft. The existing bridge is a concrete and steel girder structure. The total estimated cost \$40,000, of which the county supervisors have allocated \$15,000.

SALINAS, Monterey Co., Cal.—J. H. Graham, Route 1, Salinas, at \$22,236 awarded contract by county supervisors to construct five bridges over the Cholame Creek near Parkfield in Supervisorial District No. 4, involving:

- (1) 3650 lin. ft. Steel H section piling in place;
- (2) 73 drive steel piles;
- (3) 161,500 lbs. struc. steel in place;
- (4) 32,922 lbs. erect 15-in. I beams;
- (5) 166,600 ft. b.m. lumber in place;
- (6) 47 cu. yds. Class B concrete;
- (7) 2425 lbs. square formed reinf. bars;
- (8) 2 erect steel spans;
- (9) 49 cu. yds. struc. excav.;
- (10) 15,289 sq. ft. asph. covers on floor

Complete bids follow:

| | |
|-----------------------------------|-------------|
| J. H. Graham, Salinas..... | \$22,236.00 |
| *J. E. Fitzsimmons, Lodi..... | 23,488.97 |
| Lord & Bishop, Sacramento..... | 23,896.02 |
| Frank Bryant, S. F..... | 23,910.09 |
| B. A. Howkins, S. F..... | 24,210.41 |
| Wm. Lane, Paso Robles..... | 24,885.01 |
| A. W. Kitchen, S. F..... | 25,798.13 |
| Ealdwin & Butler, Sacramento..... | 27,076.21 |
| M. E. McGowan, S. F..... | 28,618.18 |
| Clark & Campbell, L. A..... | 28,939.13 |

*Bid rejected on account of error in bid bond. Unit bids will be published in Monday's issue.

SKILSAW Portable Electric Hand Saws (four models).

SKILSAW Portable Electric Sander.

SKILSAW Radial Arm Attachments.

SYNTRON Portable Electric Hammers (four models, motorless).

MALL Flexible Shaft Machines (50 models).

Electric Drills, Grinders, Buffers, Routers, Lock Mortisers.

Peter H. Nelson

Labor Saving Portable Electric Tools

1246 Mission St., San Francisco
UNderhill 7662

SALES : SERVICE : RENTALS

MARION and Linn Counties, Ore.—Odom & Durette, Salem, at \$103,710 submitted low bid to State Highway Commission to construct bridge over Santiam River on the Pacific Highway at Jefferson, involving 2100 cu. yds. excavation, 4,240 cu. yds. conc., 630,000 lbs. metal reinforcement and 1,620 lin. ft. concrete rail.

VENTURA, Ventura Co., Cal.—Directors of Joint Highway District No. six (Maricopa-Carpinteria Highway) will ask bids in the immediate future to construct a steel and reinforced concrete bridge over Coyote Creek on the Maricopa Highway; estimated cost \$20,000. Chas. W. Petit, Court House, Ventura, is engineer for the district.

OAKLAND, Cal.—Until June 9, 9 P. M., bids will be received by W. W. Chappell, city clerk, to construct reinforced concrete trestles in portions of Park Blvd. bet. Estates Drive and Mountain Blvd., involving:
(1) 1,453.5 cu. yds. concrete in place;
(2) 250,310 lbs. reinf. steel in place.
Engineer's estimate, \$36,000. Specifications obtainable from above office. Certified check 10% required with bid. Walter N. Prickstad, city engineer.

LOS ANGELES, Calif.—Charles W. Pettifer Co., 733 W 14th St., Long Beach, awarded contract by county supervisors May 23, at \$72,953 to construct concrete and steel bridge on Firestone Blvd. over the Los Angeles river. W. D. Armstrong, county river bridge engineer, 32th floor, Hall of Records, Bridge will be of the steel girder type, with concrete piers, decks and railing, twelve 40-ft. spans, with a 54-ft. roadway, and two pedestrian walks, each 7 ft. 2 1/2-in. Rock rip-rap will be placed along the approaches and abutments. Bids were opened May 16.

SAN RAFAEL, Marin Co., Calif.—Cartano & Co., San Rafael, at \$2,996,250 awarded contract by county supervisors to construct a reinforced concrete bridge between Fallon and Two Rocks, located at Fallon Corners. It was previously reported that Cartano's bid was rejected because contractor was an alien. Upon further consideration the contract was awarded. Complete bids published in issue of May 6.

DREDGING, HARBOR WORKS & EXCAVATIONS

LOS ANGELES, Cal.—Recommendation has been made by County Flood Control Engineer E. C. Eaton that the contract for channel excavation in Balona Creek be awarded to J. P. Holland, Inc., on the low bid of \$21,073. The work involves 86,000 cu. yds. material. Complete list of bids published in issue of May 12.

ALAMEDA, Cal.—Bids will be asked shortly by Captain Leander Larson, Constructing Quartermaster, Benton Field Air Depot, 33 Pacific Avenue, Alameda, for a seawall and hydraulic fill at Benton Air Field, involving approximately:
(1) 8500 tons rip rap;
(2) 1,620,000 cu. yds. of fill.

SIERRA CITY, Sierra Co., Cal.—E. O. Carvin, Sierra City, desires bids for digging 2,000 ft. of ditch, to be 2-ft. wide at bottom, 18-in. deep with proper slope of upper bank, in ordinary mountain side formation; or running 100 ft. of 4 1/2 x 5 1/2-in. in the clear tunnel in two different places; formation soft granite. Tools, cars and track

steel and compressed air furnished by the company, the bidder to maintain self. Possibilities of both tunnels being extended 1,000 ft. Payments of 75 per cent for work completed will be made on the first and fifteenth of each month and promptly settled upon completion. Operations to start June 15.

Further information obtainable from above.

ALAMEDA, Alameda Co., Cal.—Until June 14, 11 A. M., bids will be received by Captain Leander Larson, Constructing Quartermaster, Benton Field Air Depot, 33 Pacific Avenue, Alameda, for a seawall and hydraulic fill at Benton Air Field, involving approximately:
(1) 5020 tons rip-rap;
(2) 1,620,000 cu. yds. of fill.
Plans and specifications available

LONG BEACH, Cal.—Public Service Director A. H. Adams has completed preliminary sketches for yacht anchorage and marine race course on the ocean front bet. 46th and 73rd Places. The project is estimated to cost \$2,820,000, including construction of a rock breakwater extending oceanward from 46th Place a distance of approximately 3500 ft., thence easterly 7000 ft., and thence 3000 ft. towards the shore. Included in the plans are the purchase of a site and erection of a yacht clubhouse, 30x450 feet. Other adjuncts of the project include a marine service station, a judges' float and miscellaneous structures. Bonds will be voted to finance the project.

LOS ANGELES, Cal.—J. P. Holland, Inc., Star Route No. 76401, San Bernardino, awarded contract by county supervisors at \$21,070, or 24.5 cu. yd. for excavation of channel on Ballona Creek, from Roosevelt Highway west-city, involving:
(1) 86,000 cu. yds. excavation for excavation of channel and construction of levees complete.

STOCKTON, San Joaquin Co., Cal.—Until June 7, 3 P. M., under Circular Proposal No. 32-384, Specifications No. 4518, bids will be received by U. S. Engineer Office, California Fruit Bldg., Sacramento, for making test borings through and near certain existing levees on Venice and Mandeville Island in the San Joaquin river, about 17 miles downstream from the city of Stockton. Contract involves 1-950 lin. ft. test boring. Specifications obtainable from above office.

INDIO, Riverside Co., Cal.—Gist and Bell, 130 Bonita Ave., Arcadia, have been officially awarded the contract by board of trustees of the Coachella Valley Storm Water District, at \$17,072 for channel work and levee protection work in Deep Canyon project and in flood channel near Ft. Happy, involving:
(1) 136,000 cu. yds. excavation;
(2) 3000 lin. ft. wire netting and 2-in. pipe channel protection work.

Plans and specifications prepared by consulting engineer, G. N. Adams, 218 Rowan Bldg., 458 S Spring St., Los Angeles.

SANTA CLARA CO., Cal.—A proposal to establish a \$500,000 new port on the southern end of San Francisco bay has been tentatively approved by the House Rivers and Harbors Committee, according to a word from Washington. The Government would pay \$300,000 initial cost. The project would open up the Santa Clara valley to ocean traffic. The improvement asked is a channel through San Bruno shoal

500 feet wide and 27 feet deep; a channel 300 feet wide and 27 feet deep from Dumbarton Point to the mouth of Guadalupe river, with a turning basin 600 feet wide, 1,200 feet long and 30 feet deep at the lower end of the channel.

STREET LIGHTING SYSTEMS

SAN RAFAEL, Marin Co., Cal.—See "Government Work and Supplies" in this issue. Bids wanted by Captain H. B. Nurse, Constructing Quartermaster, 829 Fourth St., San Rafael, for various units of construction in connection with the Marin Meadows Bombing Base, bids for which will be opened on June 4 and June 20.

MACHINERY AND EQUIPMENT

EUREKA, Humboldt Co., Cal.—Following bids submitted to State Bureau of Purchases, Sacramento, to furnish f.o.b. Eureka for Division of Highways Shop No. 1, one gasoline engine driven air compressor mounted on rubber tired roller bearing trailer, actual delivery of free air at 90 lbs. pressure under ordinary working conditions at sea level to be not less than 75 cu. ft. per minute. Both gasoline engine and compressor to be equipped with approved type of air filter of ample capacity to prevent loss of power in engine and of volumetric efficiency in compressor. Dry type centrifugal will not be acceptable. Gasoline engine to be equipped with approved type of oil filter, HW or equal.

| | |
|---------------------------------|--------|
| Gardner Denver | \$1360 |
| Ingersoll-Rand | 1360 |
| Sullivan Machinery | 1360 |
| Rich Machinery | 1360 |
| Chicago Pneumatic | 1379 |
| Curtis Pneumatic Mach. Co. | 1556 |
| Edward A. Bacon | 1795 |
| Taylor & Sullivan | 1870 |

REDDING, Shasta Co., Cal.—Butte Tractor Co. at \$1655 submitted low bid to State Purchasing Agent, Sacramento, to furnish one 30-hp. track-laying type tractor with canopy top, standard equipment, street plates and high type grouser, or equal. Turn-in allowance required on Best 30 tractor CHC 156.

Complete bids follow:

| | |
|--------------------------------------|--------|
| Butte Tractor Co. | \$1655 |
| R. A. Bowden | 1787 |
| Sacramento Tractor & Equip. Co. | 1988 |
| Associated Equipment Co. | 2002 |
| Eby Machinery Company | 2125 |
| Marysville Equip. Co. | 2385 |

DENVER, Colo.—Until June 16, 2 P. M., under Specifications No. 535, bids will be received by U. S. Bureau of Reclamation, Denver, to furnish one motor-operated tandem cylinder gate hoist, with a capacity of 264,000 pounds for the bottom gate and 270,000 pounds for the top gate, with stems and other accessories; and two cylinder gates with outside diameters of 20 feet 2 1/2 inches and 19 feet 10 inches, together with guides and seats, for installation in the outlet works at Cle Elum Dam, Yakima projects, Washington. The materials will be installed by the Government. Specifications obtainable from the Bureau of Denver on deposit of \$2, returnable to bidders.

PALO ALTO, Santa Clara Co., Cal.—Municipal corporation yard destroyed by fire May 19. The loss is estimated at \$100,000 and includes two

street sweepers, ten trucks, two power water wagons, air compressor and \$6000 worth of electrical equipment. J. F. Byxee is city engineer.

RAILROADS

ALAMEDA, Alameda Co., Calif.—United Commercial Co., Inc., 234 Stewart St., San Francisco, at \$13,985 submitted low bid to Capt. Leonard Larson, Constructing Quartermaster Benton Field Air Depot, 32 Pacific Ave., Alameda, for furnishing and laying approximately 4,000 feet of railroad track at the Benton Field Air Depot. Following is a complete list of bids:

- (A) 4,000 ft. of railroad track;
- (B) per cu. yd. excavation;
- (C) per cu. yd. rock, furnish and place, underfill.

United Commercial Co., San Francisco

- (A) \$13,985
- (B) \$18
- (C) \$4

M. B. McGowan, S. F.

- (A) \$16,972
- (B) \$18
- (C) 1.00

A. F. Grier, Oakland

- (A) \$17,438
- (B) \$20
- (C) 1.10

Stranahan Bros., L. A.

- (A) \$17,500
- (B) \$20
- (C) 1.85

Hutchinson Co., Oakland

- (A) \$19,200
- (B) \$15
- (C) 1.05

Heafey-Moore Co. Oakland.

- (A) \$19,374
- (B) \$30
- (C) 1.25

Bids held under advisement.

SAN RAFAEL, Marin Co., Cal.—See "Government Work and Supplies" in this issue. Bids wanted by Captain E. E. Nurse, Constructing Quartermaster, 823 Fourth St., San Rafael, for various units of construction in Bombing Base, bids for which will be opened on June 4 and June 20.

MARCH FIELD, Riverside Co., Cal.—Shannah Bros., 6181 Eastern Ave., Los Angeles, awarded contract by the Constructing Quartermaster, March Field, at \$1350 for constructing 865 ft. of railway track at March Field. Specifications No. 6694-81.

RESERVOIRS AND DAMS

PLACER, EL DORADO COUNTIES Cal.—Wm. Cushing Hammatt, 520 Hearst Bldg., San Francisco, has filed application with the Federal Power Commission for a preliminary permit for a proposed power project in Placer and El Dorado Counties, consisting of a 150,000-acre foot reservoir at French Meadows, on the Middle Fork of the American River and a series of three power developments extending along the Middle and North Forks of American River.

SANTA CLARA, Santa Clara Co., Cal.—City Engineer George L. Sullivan instructed by city council to prepare plans for two water storage reservoirs to be constructed on the old Shirana Property near the Southern Pacific Depot. One will be for a concrete structure and the other for a steel tank.

REDWOOD CITY, San Mateo Co., Cal.—Neves & Harp, 891 Harrison St., Santa Clara, on their unit bids under Alternate 2, awarded contract by city council to construct water storage reservoir No. 3 in connection with the municipal water system, from plans prepared by C. L. Dinmitt, city engineer. Complete bids were published in issue of May 13.

BOULDER CITY, Nev.—Following awards made by U. S. Bureau of Reclamation, Denver, for furnishing bulkhead and stoney gates and hoists for the Hoover Dam, Boulder Canyon Project, under Spec. No. 533:

Hardie-Tynes Mfg. Co., Birmingham Ala., at \$60,395 awarded contract under Schedule No. 3 for two bulkhead gate hoists complete.

Reading Iron Co., Reading, Pa., at \$2,500 awarded contract under Schedule No. 4 for two Stoney gate hoists complete.

Independent Bridge Co., Pittsburgh, Pa., at \$178,740 under Schedule No. 1, as previously reported, submitted low bid May 2, involving: (1) 520 50x50-ft. bulkhead gates, each gate to be complete; (2) 529 sets of struc. steel gate frames, guides, rollers, tracks, seats, seals, supports and appurtenant parts for the gate of item (1).

Bid under further advisement.

Lakeside Bridge & Steel Co., North Milwaukee, Wis., at \$25,931, as previously reported, low bidder under Schedule No. 2, involving: (3) two 50x35-ft. Stoney gates, each gate to be complete; (4) two sets of struc. steel gates, frames, guides, chairs and appurtenant parts for the Stoney gates of item (3).

LOS ANGELES, Cal.—E. C. Eaton, county flood control engineer, has announced that plans for the Son Gabriel Dam No. 1 will be ready for adoption by the county supervisors about May 31, the day upon which bids for the \$2,000,000 flood control bonds are to be sold. Bids for the constructor of the dam will be called as soon as possible after the sale of the bonds has been consummated. The dam will be a rock fill type dam with concrete fcuing. Alternate bids will be taken on Gunite and poured concrete face. The work will require about 5,900,000 cu yds. of rock. The proposed dam will be 280 ft. in height above stream bed, 1670 feet long measured on the road on the crest, and 1200 ft. thick at the base.

LOS ANGELES, Cal.—Plans for San Gabriel Dam No. 1 will be submitted to the county supervisors May 16 when bids will probably be asked. Will be 390-ft. in height, of rock fill type, and the contract price is estimated to run between \$7,000,000 and \$8,000,000. The total cost is set at \$10,000,000.

PIPE LINES, WELLS, ETC.

SANTA MARIA, San Luis Obispo Co., Cal.—Construction on the 8-inch pipe line bet. Santa Maria and San Luis Obispo, about 21 miles, for the Santa Maria Gas Co. will start about June 1. The pipe (about 1500 tons) will reach Wilmington about May 29; will be of welded steel with heavy wrapping. Estimated cost, \$225,000. According to Allen T. Fells, general superintendent of the company, the trenching will be done mainly by hand.

EL MONTE, Los Angeles Co., Cal.—Until 8 P. M., June 6, bids will be received by city council to drill 20-in. water well in the city park, near Tyler Ave. and Mildred St., in accordance with specifications on file at the office of the city engineer. Certified check, 10%. Beatrice E. Darling, city clerk.

SAN DIEGO, Cal.—The San Diego Consolidated Gas & Electric Co., San Diego, will start work on the construction of a 12-mile pipe line to connect the San Diego city main system with the new Southern Counties Gas Co. Pipe line which will terminate at

a point in Rose Canyon. Including necessary charges to handle natural gas at the company's plant, the new pipe line will cost about \$350,000.

LOS ANGELES, Cal.—Until 2 P.M., June 6, bids will be received by county supervisors for drilling and testing water well and install 7½-inch, I. D. screw casing therein, at Meloy Station side on Decker Road in the Santa Monica mountains; Specification No. 205. The well shall be drilled to a depth of 500 feet, if necessary, to obtain required amount of water. Bids will be taken as follows:

- (1) for completed well having water production capacity at least 200 gallons per hour, lump sum bid.
 - (2) for completed well as specified, omitting guarantee of water production capacity, price per ft.
- Wm. Davidson, 1006 Hall of Records Mechanical Engineer, Mame E. Beatty, 303 Hall of Records, County Clerk.

SAN FRANCISCO—Western Pipe & Steel Co. of California, 444 Market St., at \$25,778.85 awarded contract by the Public Utilities Commission to construct the Crystal Springs Aqueduct Supply Pipe Line, involving in part the main:

- 1,000 lin. ft. furnish and install 48-in. welded steel pipe, ¾-in. plate;
- 50 lin. ft. do 7/16-in. plate;
- 12 lin. ft. furnish and install 5¼-inch welded steel pipe, 7/16-in. plate;
- 2,500 cu. yds. excavation trench for pipe 11-in., including backfilling, tamping, replacing road pavement and fences.
- (4) 160 tons 4-in. asph. conc. base.

LOS ANGELES, Cal.—Lindgren & Swinerton, Inc., 523 W. 6th St., Los Angeles, awarded contract by Southern Counties Gas Co., 810 So. Flower St., Los Angeles, at approximately \$88,000 for trenching and laying approximately 44 miles of pipe line in San Diego County, from the Orange County line to a point about 12 miles north of San Diego. The pipe line will be built of 12½-in. O. D. steel pipe, furnished by the company, using electric welded joints. The line will hook up with the San Diego Consolidated Gas & Electric Co's San Diego system at a point in Rose Canyon. Republic Steel Co. has the contract to furnish the pipe. Work will start June 1.

SEWERS AND SEWAGE DISPOSAL PLANTS

INGLEWOOD, Los Angeles Co., Cal.—City council declares intention to construct sewers in 79th St. bet. Van Ness Ave. and 8th Ave. under 1911 and 1915 acts. Project involves:

- (1) 2896 ft. 8-in. sewer;
- (2) 1354 ft. 6-in. house connection sewers;
- (3) 3 standard manholes "B";
- (4) 5 standard junction chambers "F";
- (5) 1 standard flushing manhole.

SANTA BARBARA, Calif.—E. B. Brown, city engineer, has estimated the cost of constructing a drainage system in Quarantina St. at bet. \$11,000 and \$12,000. The proposed drain will involve a 42-in. pipe line on the west side of Quarantina St. from Canon Peridito St. to Ortega St. to connect with existing main. Engineer Brown has recommended to council that force pumps be installed at the ocean terminals of the city drainage lines.

LOS ANGELES, Cal.—Granchel and Granchel, 3556 Ramona Blvd., Los Angeles, awarded contract by board of public works at \$38,871.08, using Type II, centrifugal concrete pipe, to construct Section No. 24-F of the North Outfall Sewer, extending from Vanowen St. and Corbin Ave. to Topanga Canyon Blvd. and Vanowen St., involving:

5128.62 ft. 15-in. pipe, 1900-D loading pipe;
5601.81 ft. 15-in. pipe, 2000-D do;
3466.56 ft. 15-in. pipe, 2100-D do;
34 junction chambers G;
10 manholes B;
1 junction chamber H;
1 junction chamber F;
100 lin. ft. concrete reinf. type X for 15-in. pipe.

LAS VEGAS, Nevada—A hearing on proposed sanitary lateral sewer system to be built in District No. 1 will be held by the board of commissioners May 31. The district includes all of blocks 2 to 20, inclusive, and all of blocks 30 to 32 inc., of the Original Townsite of Las Vegas; block 1, Grandview Addition and portions of Park View Addition, Fairview Addition, Ladd's Addition, South Addition, Hawkins' Addition, Wardie Addition, etc. A. R. Thompson, Las Vegas, is city engineer. Viola Burns, city clerk.

SAN RAFAEL, Marin Co., Cal.—See "Government Work and Supplies" in this issue. Bids wanted by Captain H. E. Nurse, Constructing Quartermaster, 323 Fourth St., San Rafael, for various units of construction in connection with the Marin Meadows Bombing Base, bids for which will be opened on June 4 and June 20.

INGLEWOOD, Los Angeles Co., Cal.—Until 8 P. M., June 13, bids will be received by city council to construct sewers in 79th St. bet. Van Ness Ave. and 8th Ave. Work under 1911 and 1915 acts, involves:

- (1) 2896 ft. 8-in. vit. pipe sewer;
 - (2) 1354 ft. 6-inch house connection sewers;
 - (3) 3 standard manholes "B";
 - (4) 5 standard junction chambers "F";
 - (5) one standard flushing manhole;
 - (6) 100,530 sq. ft. rock and oil resurf.
- Arthur W. Cory, city engineer. Otto H. Duelke, city clerk. Certified check or bid bond for 10% required with bid.

SEATTLE, Wash.—Thomas Scalzo, 1829 Lane St., Seattle, at \$100,183 submitted low bid to the Board of Public Works to construct clay pipe trunk sewer in 43rd Avenue north, and other streets. No bid submitted on concrete pipe. Queen City Const. Co., 603 18th Avenue south, Seattle, only other bidder, bid \$100,627 using clay pipe and \$100,753 for concrete pipe.

WATERWORKS

EL MONTE, Los Angeles Co., Cal.—Until 8 P. M., June 6, bids will be received by city council to furnish and install pump and motor and appurtenant work, including labor and materials, in accordance with specifications on file at the office of the city engineer. Certified check, 10%. Mrs. Beatrice E. Darling, city clerk. The pumping equipment will be housed in a Spanish type stucco building with tile roof.

CLE ELUM, Wash.—Barnard Curtis Co., Ellensburg, Wash., awarded contract by U. S. Bureau of Reclamation, Lake Cle Elum Dam Site, Ronald, Wash., at \$19,983, for furnishing all

labor and material for the construction of the Flow Line Road, Cle Elum Reservoir, Yakima Project, Washington. The work is located about eleven miles northwest of Cle Elum, Wash. The road is about 5.5 miles in length. The bids were opened April 7.

BRAWLEY, Imperial Co., Calif.—C. J. Park, city engineer of Brawley, has announced that machinery for a water purification system has been ordered and that installation will start soon.

DENVER, Colo.—Commercial Iron Works, Portland, Ore., awarded contract by the U. S. Bureau of Reclamation, Denver, at \$2105 for radial gates, etc., under Specifications No. 563-D.

ELLENSBURG, Wash.—L. Coluccio Co., Seattle, awarded contract by U. S. Bureau of Reclamation, Ellensburg, Wash., March 30, at \$13,713 for furnishing labor and materials and performing all work for the construction of the Wippel Pumping Plant and appurtenant structures and Wippel Pump Lateral station 21 plus 15 to Station 35 plus 40, Kittitas division, Yakima Project, Wash. Work is located near Ellensburg.

VISALIA, Tulare Co., Cal.—City defects proposal to issue bonds of \$250,000 to finance purchase of the system of the California Water Service Corporation for approximately \$161,000. The remainder of the fund was to finance extensions and improvements to the system.

SAN BRUNO, San Mateo Co., Cal.—Until June 8, 8 P. M., bids will be received by Emil A. Behm, city clerk, for construction in connection with Municipal Water System, involving:

Water System Extension—

- (1) 8500 lin. ft. 2-in. wrought steel pipe
- (2) 1400 lin. ft. 4-in. cast iron pipe;
- (3) 26 2-in. gate valves;
- (4) 7 4-in. gate valves;
- (5) 3 4-in. hydrants.

Gravel Envelope Well—Using hydraulic rotary equipment.

Well Casing and Surface Sealing Pipe

Delivered to site of proposed well. Certified check 10% required with bid. Specifications obtainable from the above office.

See call for bids under official proposal section in this issue.

MARCH FIELD, Riverside Co., Cal.—Pittsburgh-Des Moines Steel Co., 432 E Third St., Los Angeles, awarded contract by Constructing Quartermaster to furnish one 200,000-gallon steel water tank supported on a six-column steel trestle at March Field; Specifications No. 3074-D.

H. G. Klusman, 154 N Archibald Ave., Cucamonga, awarded contract at \$5000 to construct 200,000-gallon concrete reservoir at March Field; Spec. No. 5073-D.

SIGNAL HILL, Los Angeles Co., Cal.—R. D. Wood & Co., by Utilities Equipment Corp., awarded contract by city council May 9 at 41.5c ft. to furnish 2409 ft. 6-in. cast iron pipe. The bids were:

U. S. Pipe & Foundry Co., 41c ft.
American Cast Iron Pipe Co., 43.75c.
R. D. Wood & Co., by Utilities Equip. Corp., 41.5c ft.
Pacific States C. I. Pipe Co., 50.25c ft. (McWane C. I. pipe).
National C. I. Pipe Co., 45c ft. (DeLavaud centrifugal cast).

SANTA CLARA, Santa Clara Co., Cal.—City Engineer George L. Sulli-

van instructed by city council to prepare plans for two water storage reservoirs to be constructed on the old Sbrana Property near the Southern Pacific Depot. One will be for a concrete structure and the other for a steel tank.

PANAMA CANAL ZONE.—Goslin Birmingham Co., Birmingham, at \$75,000 awarded contract by Purchasing Agent, Panama Canal, under Schedule No. 2725, to furnish:

Item 2—Twelve high-pressure sluice gates with hydraulic cylinder hoists, and conduit linings for six outlets, sluice gates to be 5 ft. by 8-in. by 10 ft., also 48 semi-steel conduit lining sections to be used in connection with the Madden Dam project.

Pusey and Jones, Wilmington, Del., at \$20,275 awarded contract to furnish trash rack metal work in connection with the same schedule.

Bids for item 1, furnishing five 132-in. emergency butterfly valves, not yet awarded. Bids on this item being received from Hardie Tynes Mfg. Co., \$32,300; Goslin-Birmingham Co., \$36,572.

ELLENSBURG, Wash.—Beall Pipe and Tank Corp., 35 Columbus Blvd., Portland, Ore., at \$16,600 awarded contract by U. S. Bureau of Reclamation, Denver, to furnish and erect in excavation and on concrete piers and anchors constructed by others, two 45-ft. diameter plate steel penstocks, each approximately 461 ft. in length, made of 3/16-in. plates; and one 42-in. dia. plate steel discharge pipe with manifold connections, approximately 2100 ft. in length, made of 3/16-in. and 1/2-in. plates, for Wippel Pumping plant, Kittitas Division, Yakima Project, Wash. The estimated weight of the penstocks and discharge pipe in 155,000 lbs. Wippel pumping plant is located about 5 1/2 miles south of Ellensburg. Complete list of bids follows:

Beall Pipe & Tank Corp., Portland, Ore., \$16,600.

Steel Tank & Pipe Co. of Oregon, Portland, \$17,080.

Puget Sound Machinery Depot, Seattle, \$17,654.

Birchfield Boiler Co., Tacoma, \$18,240.

Curtis-Gardner, Portland, \$18,300.

Western Pipe & Steel Co. of Calif., San Francisco, \$18,829.

Commercial Welding Co., Seattle, \$19,945.

Hardesty Mfg. Co., Denver, Colo., \$20,620.

Pittsburgh-Des Moines Steel Co., Des Moines, Iowa, \$20,750.
Western Eng. Corp., Seattle, \$23,944.
Commercial Boiler Works, Seattle, \$24,875.

Montague Pipe & Steel Co., San Francisco, \$29,800 delivered.

TACOMA, Wash.—F. T. Crowe and Co., 920 Commerce St., Tacoma, at \$2,440 awarded contract by city to furnish 2,000 ft. 12-in. pipe for water bureau.

SANGER, Fresno Co., Calif.—City Trustee J. W. Post has been authorized to purchase a new pump to be installed in the septic tank to be connected with the present motor equipment. The cost is estimated at \$200.

STOCKTON, San Joaquin Co., Cal.—Chicago Bridge & Iron Works, 523 W 6th St., Los Angeles, awarded contract by Merritt-Chapman and Scott Corp., general contractor, to furnish and erect 100,000-gallon steel tank on a 100-ft. tower, in connection with the Stockton municipal port project.

GRIDLEY, Butte Co., Cal.—Until June 6 P. M., bids will be received by J. L. Lewis, city clerk, to furnish and deliver cast iron pipe, minimum car, 6000 lbs. as follows:

- 2,000 ft. 4-in. C. I. Bell and Spigot.
- 2,000 ft. 6-in. C. I. Bell and Spigot.
- 6x6x6 crosses; 6x6x6 tees; 6x6x4 tees.
- 4x12x2 Double Hub Taped for 2-in. standard; 4x4x4 crosses; 4x4x4 tees; 6x2 plugs; 4x2 plugs; 6-in. 45 deg. ell; 4-in. 45 deg. ell.

Pipe to be Class 150. Bids on open bell and prepared joints will be considered. Further information obtainable from city clerk.

SIGNAL HILL, Los Angeles Co., Cal.—James Noon, 291 E. Vineyard Ave., Baldwin Park, awarded contract by city council at \$556, based on Alternate No. 1, using Worthington pumps, for the construction of three sewage pumping stations. Complete list of bids follow:

James Noon—(1) Worthington, \$5566 (2) Luitweiler, \$5893. (3) Chicago, \$5360.

P. B. McIntosh—Alternate No. (1) three pumping stations complete, Well pump, \$5046; Alternate (2) Chicago pump, \$5170; Alternate (3) Buffalo pump, \$5769.

J. D. Sherrer & Son—(1) Well pump, \$5224; (2) Chicago pump, \$5349; (3) Buffalo pump, \$5324; (4) Worthington pump, \$5995; (5) Yoeman, \$6036.

R. H. Liggitt—(1) Chicago, \$5926; (2) Worthington, \$6473; (3) Yoeman, \$6649; (4) Well, \$5803.

G. A. Gleibisch—(1) Chicago, \$5987; (2) Luitweiler, \$6048; (3) Buffalo, \$6474 Associated Pumps & Eng. Co., Ltd. (1) Byron-Jackson, \$7299.

Kemper Constr. Co.—(1) Luitweiler, \$7077.40; (2) Chicago, \$7196.40; (3) Yoeman, \$7727.

R. J. Whinery—(1) Yoeman, \$7449; (2) Worthington, \$7254; (3) Chicago, \$6643.

The pumping stations will be submerged in street under pavement. The stations will consist of circular concrete wells, 20 ft. deep and 10 ft. in diameter, with a wet well at the bottom and a dry well directly over this pit. Each will have two sewage pumps, working alternately. One station will use pumps of 125 G. P. M. against a 38-ft. head, and the other stations pumps of 150 G. P. M. against a 50-ft.

SAN RAFAEL, Marin Co., Cal.—See "Government Work and Supplies" in this issue. Bids wanted by Captain H. B. Nurse, Constructing Quartermaster, 829 Fourth St., San Rafael, for various units of construction in connection with the Marin Meadows Bombing Base, bids for which will be opened on June 4 and June 20.

LOS ANGELES, Calif.—Until 11 A. M., June 16, bids will be received by H. Thos. Cughton, city purchasing agent, 107 City Hall, to furnish and deliver bronze fittings to the department of water and power for a 12-month period. Spec. No. 2789.

LOS BANOS, Merced Co., Cal.—W. E. Bedesen, city engineer (Shaffer Bldg., Merced) directed by city trustees to prepare specifications for two additional filters at the city water works plant of 500,000-gal. each.

STREETS AND HIGHWAYS

TULARE, Cal.—The California-Fresno Oil Co. awarded contract by

city at 69.5c lbl. for furnishing 42 lbls. light road oil.

SAN FRANCISCO—Until June 8, 2:30 P. M., bids will be received by S. J. Hester, secretary, Department of Public Works, to improve Montague Place from Montgomery St. westerly, involving:

- (1) 1,200 cu. yds. cut;
- (2) 275 ft. concrete curb;
- (3) 137 ft. 8-in. ironstone pipe sewer;
- (4) 1 brick manhole;
- (5) 10 wye branches;
- (6) 8 side sewers;
- (7) 1 brick catchbasin;
- (8) 2,338 sq. ft. Class E conc. pave.

Plans obtainable from office of City Engineer John J. Casey, 3rd floor, City Hall.

SACRAMENTO, Cal.—C. W. Wood, P. O. Box 1435, Stockton, at \$19,962.55 awarded contract by directors of Joint Highway District No. 4 to pave ½ mile of the Rio Vista-Antioch Highway just north of Brannan Island with concrete and for 1.6 miles of the river road between Courtland and Hood, with bituminous treated crushed rock.

LOS ANGELES & ORANGE COS., Cal.—Martin Bros. Trucking Co., 1389 Gladys Ave., Long Beach, at \$12,057.23 awarded contract by State Highway Commission to treat with fuel oil about 24.9 miles of earth shoulders between Newport and the Orange-Riverside County line, bet. Long Beach and Seal Beach and at Lomita.

SACRAMENTO, Cal.—C. W. Wood, Box 1435, Stockton, at \$3,520 awarded contract by county supervisors to pave ¾ mile between Vorden and Locke. Road will be 18-ft. wide and will be surfaced with bituminous-treated crushed rock.

CALAVERAS AND ALPINE COS., Cal.—Consumers Oil Co., 4601 E 52nd Drive, Los Angeles, at \$3787 awarded contract by State Highway Commission to treat with fuel oil as a dust palliative about 20.2 miles between Big Trees and Lake Alpine.

VENTURA & LOS ANGELES COS., Cal.—Kemper Const. Co., Ltd., 3701 S Overland Ave., Los Angeles, at \$19,712.94 awarded contract by the State Highway Commission to apply seal coat to shoulders over about 21.2 mi. between Canejo Grade and Calabasas, and to oil shoulders over about 40.3 miles between Ventura and Castiac.

SAN LUIS OBISPO COUNTY, Calif.—Stewart and Russ, Inc., 410 Thorne Ave., Fresno, at \$5874 awarded contract by State Highway Commission to treat 11.8 miles of earth shoulders with fuel oil between San Luis Obispo and Morro.

CAPITAL CITY TITLE COMPANY

▼

J. C. PALEN,
Manager

▼

914 Seventh Street
Sacramento :: California

SAN DIEGO, Cal.—Griffith Co., 2104 Main St., San Diego, submitted low bids on all propositions to 11th Naval District, San Diego to construct roads, walks, water services and extension to street lighting system at the Naval Operating Base, San Diego; Spec. No. 6342. Recommendation was made that the contract be awarded to the low bidder on item No. 1 at \$34,200. The work will consist in general of cement concrete roads, curbs and walks; a drainage system for the roads; cast iron water main extensions and fire hydrants; and the extension of the present electric street lighting system. The bids follow:

Griffith Co. (1) \$34,200 (2) \$33,752 (3) \$31,968 (4) \$28,713.

Fred F. Greenfield Co. (1) \$37,138 (2) \$36,687 (3) \$35,593 (4) \$32,758.

B. G. Carroll, (1) \$37,135.16 (2) \$36,589.65 (3) \$34,947.34 (4) \$31,914.92.

V. R. Dennis (1) \$39,200 (2) \$38,700 (3) \$36,800 (4) \$34,000.

R. E. Hazard Const. Co. (1) \$39,943 (2) \$39,362 (3) \$37,077 (4) \$33,827.

H. H. Peterson (1) \$40,208 (2) \$39,721 (3) \$37,857 (4) \$35,275.

O. U. Miracle, (1) \$43,253 (2) \$42,706 (3) \$40,767 (4) \$37,600.

Walter Trepte (1) \$44,754.92 (2) \$43,950.92 (3) \$41,544.92 (4) \$37,809.16.

PASADENA, Los Angeles Co., Cal.—J. E. Haddock, Ltd., 357 N Chester Ave., Pasadena, at \$67,020.26 awarded contract by city directors May 17 to improve Colorado Street between east city limits and 200 ft. east of Mentor Avenue. Improvement will consist of two 15-ft. strips paved with cement concrete. Complete bids published in issue of May 18.

SAN FRANCISCO—Until June 8, 2:30 P. M., bids will be received by S. J. Hester, secretary, Department of Public Works, to widen Turk Street between St. Joseph's and Masonic Avenues; estimated cost, \$28,700. Project involves:

- (1) 14,500 cu. yds. excavation;
- (2) 1,140 ft. 8-in. V.C.P. sewer;
- (3) 610 ft. 10-in. do;
- (4) 42 8x6-in. wye branches;
- (5) 22 10x6-in. do;
- (6) 7 brick manholes;
- (7) 5 brick catchbasins;
- (8) 4 brick catchbasins (reset);
- (9) 90 ft. 10-in. V.C.P. culvert;
- (10) 3,100 sq. ft. granite curb (re-dress and reset);

(11) 42,500 sq. ft. asph. conc. pave.;

(12) 6,200 sq. ft. 6-in. Class E conc. pavement;

(13) 20,000 sq. ft. one-course concrete sidewalks;

(14) 1,000 sq. ft. asph. conc. conform pavement;

(15) 100 ft. 6-in. V.C.P. side sewer.

Plans obtainable from the office of City Engineer John J. Casey, 3rd floor, City Hall.

RIVERSIDE AND SAN BERNARDINO COUNTIES, Cal.—Until June 8, 2 P. M., bids will be received by State Highway Commission, Sacramento, to treat shoulders with fuel oil over about 23.2 miles between Corona and the Orange County line; between the Santa Ana River Bridge and Ontario. In San Bernardino County, to treat road bed with fuel oil over about 22.4 miles between the junction of Route 31 and 59 near Cajon Summit and the Los Angeles county line. Quantities will be published in tomorrow's issue.

LOS ANGELES, Cal.—Until 12 M., May 25, bids will be received by H. E. Russell, Los Angeles County Purchasing Agent, 524 N Spring St., for 1500 barrels, 102 gravity, fuel oil. Spec. No. 3666.

RIVERSIDE AND SAN BERNARDINO COUNTIES, Cal.—As previously reported, until June 8, 2 P. M., bids will be received by State Highway Commission, Sacramento, to treat earth shoulders with fuel oil over about 23.2 miles between Corona and the Orange County Line, between the Santa Ana River Bridge and Ontario, San Bernardino County, to treat roadbed with fuel oil over about 22.4 miles between the junction of Routes 31 and 59 near Cajon Summit and the Los Angeles County Line, involving: (1) 21,920 bbls. heavy fuel oil.

LYON COUNTY, Nev.—Until July 6, bids will be received by S. C. Durkee, state highway engineer, Carson City, for crushed gravel surface on 1.11 mi. of highway between Wilson's and the mouth of Wilson Canyon. Plans on file in office of U. S. Bureau of Public Roads, 461 Market St., San Francisco, and obtainable from the engineer on deposit of \$5, of which \$2.50 is returnable.

YOLO COUNTY, Cal.—As previously reported, until June 8, 2 P. M., bids will be received by State Highway Commission, Sacramento, to grade and pave with Portland cement concrete about 1.7 miles between Swingle and Yolo Causeway, involving:

- (1) 16,100 cu. yds. rdwy. excav. without class;
 - (2) 66,500 sta. yds. overhaul;
 - (3) 23,300 cu. yds. imp. borrow;
 - (4) 55 cu. yds. struc. excav.;
 - (5) 18,780 sq. yds. subgrade for pave.;
 - (6) 3,990 cu. yds. Class A Port. cem. concrete (pave.);
 - (7) 83,700 lbs. bar reinf. steel (pave.);
 - (8) 68 lin. ft. 18-in. corr. metal pipe;
 - (9) 18 lin. ft. salvage existing culvert;
 - (10) 1,835 cu. yds. Port. cem. conc. remove from existing pave.;
 - (11) 580 cu. yds. salvage surface (base and detour);
 - (12) 37 M. gals. water apply to surf.;
 - (13) 230 tons crushed gravel or stone (bit. treated surf.);
 - (14) 12 tons cut-back asphalt;
 - (15) 626 bbls. fuel oil (shoulders and detour);
 - (16) 0.3 mi. existing property fence (move and reset);
 - (17) 1.2 miles new property fence;
 - (18) 1 gate complete in place;
 - (19) 91 sta. finish rdwy.;
 - (20) 9 monuments complete in place.
- State will furnish corrugated metal pipe.

LYON COUNTY, Nev.—Until July 6, bids will be received by S. C. Durkee, state highway engineer, Carson City, to apply asphaltic fuel oil and mix with a crushed gravel surface between Hoye and Bulkhead, a length of 11.17 miles.

Plans on file in office of U. S. Bureau of Public Roads, 461 Market St., San Francisco, and obtainable from office of engineer on deposit of \$5, of which \$2.50 is returnable.

WHITE PINE COUNTY, Nevada.—Until July 6, bids will be received by S. C. Durkee, state highway engineer, Carson City, to recondition 15.55 miles of highway between Keystone and McGill; apply a seal coat between Robinson Summit and Keystone and between Cherry Creek Road and ten miles north, a length of 22.16 miles.

Plans on file in office of U. S. Bureau of Public Roads, 461 Market St., San Francisco, and obtainable from office of engineer on deposit of \$5, of which \$2.50 is returnable.

WASHOE COUNTY, Nevada.—Until July 6, bids will be received by S. C. Durkee, state highway engineer, Car-

son City, to grade and gravel surface, 3.39 miles between Brown's and foot of Geiger Grade.

Plans on file in office of U. S. Bureau of Public Roads, 461 Market St., San Francisco, and obtainable from office of engineer on deposit of \$5, of which \$2.50 is returnable.

LOS ANGELES, Calif.—Until 11 A. M., May 25, bids will be received by Thos. Oughton, City Purchasing Agent 107 City Hall, to furnish approximately 3000 tons of oil and mineral aggregate mixture to department of parks. Spec. No. 2819.

WASHINGTON STATE—Until June 14, 10 A. M., bids will be received by State Highway Commission, Olympia, Wash., for highway construction as follows:

Construct Bituminous Surface on the following section of State Highways:

State Road No. 5—Lewis County: Divide to Mill Creek, 42 mi. bi. surf. Tr. Light; Elbe to West Fork, 13 mi. bi. surf. Tr. No. 3 (Non Skid Seal).
State Road No. 8—Clark and Skamania Counties. Washougal to Stevenson, 28 mi. bi. surf. Tr. No. 3 (Non Skid Seal).

State Road No. 12—Cowlitz and Wahkiakum Counties. Longview to Coal Creek Slough, 4 mi. bi. surf. Mix Tr. (Road Mix).

Coal Creek Slough to Cathlamet, 19 mi. bi. surf. Tr. No. 3 (Non Skid Seal).

Cathlamet to Skamokawa, 8 mi. bi. surf. Tr. Light.

Grade and surface about 1.6 mi. State Road No. 15, Summit East in Chelan County involving 9 acres clearing, 45,850 cu. yds. excav., 5150 cu. yds. cru. stone, 1098 lin. ft. pipe culverts and other items.

Resurface with about 8650 cu. yds. cru. stone above 12 mi. State Road No. 22, Davenport North in Lincoln County.

Certified check 5% required with bid. Specifications obtainable from County Engineer of county in which work is located and District Engineer of Dept. of Highways, on deposit of \$2, returnable.

MONTEREY, Monterey Co., Calif.—Until June 3, 2 P. M., bids will be received by L. H. Gibson, district engineer, State Highway Commission, 50 Higuera St., San Luis Obispo, to improve 6.9 miles in Monterey County between two miles and nine miles north of Salinas; 5.5 miles to be treated with heavy fuel oil on each side of existing pavement and about 1.4 miles finishing shoulders. Plans obtainable from district engineer.

SAN RAFAEL, Marin Co., Cal.—See "Government Work and Supplies" in this issue. Bids wanted by Captain H. B. Nurse, Constructing Quartermaster, 829 Fourth St., San Rafael, for various units of construction in connection with the Marin Meadows Bombing Base, bids for which will be opened on June 4 and June 20.

CHURCHILL COUNTY, Nevada.—Until July 6, bids will be received by S. C. Durkee, state highway engineer, Carson City, to apply asphaltic fuel oil and mix it with a crushed gravel surface between Sand Springs and East gate, a length of 28.96 miles.

Plans on file in office of U. S. Bureau of Public Roads, 461 Market St., San Francisco, and obtainable from office of engineer on deposit of \$5, of which \$2.50 is returnable.

ARIZONA STATE—Orr and Rawls, El Paso, Texas, submitted low bid to State Arizona Highway Commission at \$118,400.00 for highway construction on Benson-Douglas Highway, F. A. P. 79-F. The work, which extends from the town of Tomstone to a point approximately 8.9 miles northwest, involving:

ROADWAY

105,400 cu. yds. roadway excavation.
4,500 cu. yds. drainage excavation.
7,000 cu. yds. slides and overbreakage.
1,000 cu. yds. structural excavation.
22,000 cu. yds. borrow excavation.
105,500 sta. yds. earthwork overhaul.
20,000 cu. yds. subgrade stabilizer.
28,600 cu. yds. mi. subgrade stabilizer haul.

421 cu. yds. concrete.
20,000 lbs. reinforced steel.
64 lin. ft. 18-in. C.M.P.
1,188 lin. ft. 24-in. C.M.P.
576 lin. ft. 30-in. C.M.P.
396 lin. ft. 36-in. C.M.P.
40 lin. ft. 42-in. C.M.P.
232 lin. ft. 48-in. C.M.P.
9,700 lin. ft. cable road guard.
99,000 lin. ft. standard line fence.

BRIDGES

2,300 cu. yds. drainage excavation.
2,500 cu. yds. structural excavation.
39 cu. yds. class A-A concrete.
1,539 cu. yds. class A concrete.
236 cu. yds. class B concrete.
227,500 lbs. reinforced steel.
40 each, fixed plate bridge seats.
10 each, expansion rocker bridge seats
And other incidental items.

OREGON STATE.—Following contracts awarded by the State Highway Commission for highway construction as follows:

Deschutes and Wheeler Counties.—J. F. Forbes, Olympia, Wash., at \$42,555 under Alternate A, for constructing 5.0 miles road mix surface treatment on Ferrisbonne-Redmond Section of The Dalles-California Highway and 12.0 miles oil surface treatment on the Mitchell-Daville Section of the Ochoco Highway.

Douglas County.—Odom & Durette, Salem, at \$6924 for construction of 1,200 lin. ft. concrete pavement in the Elk Creek Tunnel on the Umpqua Highway 10 miles west of Drain.

Lincoln County.—J. C. Compton, McMinnville, at \$82,576 to construct 13.0 miles bit. mac. on the Newport-Eddyville Section of the Corvallis-Newport and 14.0 miles of bit. mac. and 4.0 miles of oil surface treatment on the Newport-Lane County Line Section of the Oregon Coast Highway.

Marion County.—West Contracting Co., Portland, at \$127,455 under Alternate A for grade widening and paving 7.0 miles of Brooks-Salem Section of Pacific Highway.

Umatilla and Wasco Counties.—S. N. Newell, Board of Trade Bldg., Portland, at \$202,973 for projects A and B in above counties, involving Umatilla-State Line and Deschutes River Tunnel Sections of Columbia River Highway, 8.3 miles of grading work to be contracted in two units. One unit involves 293,000 cu. yds. of excavation and the other 144,000 cu. yds. of excavation. Project was originally advertised for both portions of the work taken together, then was split up by the county. Newell & Co. offered to reduce their bid \$2000 if awarded contract for both projects.

Wasco County.—Clifton & Applegate Hutton Bldg., Spokane, at \$19,832 for Dillon Section of Columbia River Highway, 1.1 miles grading involving 66,000 cu. yds. excavation.

SAN DIEGO, Cal.—Griffith Co., Los Angeles Railway Bldg., Los Angeles, at \$34,200 awarded contract by Bureau of Yards and Docks, Navy Department, Washington, D. C., to construct roads, walks, water services and extend street lighting system at Naval Operating Base, San Diego, under Spec. No. 6842.

SAN FRANCISCO.—E. J. Treacy, Call Bldg., at \$795.56 awarded contract by Department of Public Works to improve Leavenworth St. between Fulton and McAllister Streets and reconstruct Fulton St. bet. Hyde and Market Streets, involving in the main: 750 cu. yds. grading cut; 950 cu. yds. grading fill; 195 ft. 12-in. V.C.P. sewer; 10,650 sq. ft. asphalt conc. pave.; 4000 sq. ft. asphalt concrete conform pavement; 2000 sq. ft. asphalt conc. surf. along gutter removed and replaced; 11,500 sq. ft. concrete sidewalk, 1-course. 23

COOS, Curry, Douglas & Josephine Counties, Ore.—J. F. Forbes, Olympia, Wash., at \$70,035 submitted low bid to State Highway Commission to construct 21.0 miles bit. mac. and 5.0 mi. oil surface treatment. Work is in four units in the vicinities of Grants Pass, Drain, Bandon and Denmark.

KERN COUNTY, Cal.—The contract awarded by State Highway Commission May 4 to Street Improvement Co., 3028 Gilroy St., Los Angeles, to treat with road oil 30.6 miles between Weldon and Democrat Springs, has been rescinded and new bids will be asked.

PLUMAS & LASSEN COUNTIES, Calif.—Basalt Rock Co., Napa at \$8712 awarded contract by State Highway Commission to treat with fuel oil as a dust palliative about 30.6 miles bet. Delleker and a junction with State Highway Route 29 near Chat. Complete bids published in issue of April 22.

LOS ANGELES, Cal.—Until 10 A. M., June 15, bids will be received by Board of Public Works to improve Yosemite Way, bet. Yosemite Dr. and Zaca Place, and portions of other streets in Yosemite Way and Yosemite Drive Imp. District, 1911 Act, involving in the main:

Grading (6117 cu. yds. cut, 5260 cu. yds. fill); 78,364 sq. ft. 6-in. conc. pave.; 2951 ft. reinf. integral curb; 5192 ft. special cement curb; Storm drain; sanitary sewer; water system.

No bids were received December 2 when the work was previously set for bids.

SAN RAFAEL, Marin Co., Calif.—Until June 7, 8 P. M., bids will be received by Oliver R. Hartzell, Secretary, Board of Education, High School Bldg., San Rafael, to furnish 315 yards of soil, delivered on grounds of high school. Specifications obtainable from above office.

OAKLAND, Cal.—J. A. Casson, 319 Warren, Hayward, at \$8164.80 (\$.016 per sq. ft.) submitted only bid to the county supervisors for oil macadam surfacing of roads in Washington Twp. involving: (1) 510,300 sq. ft. oil macadam surface. Bid rejected and new bids are asked, to be opened June 7 at 10:30 A. M.

COCONINO COUNTY, Ariz.—Until June 14, 10 A. M., bids will be received by C. H. Sweetser, district engineer,

U. S. Bureau of Public Roads, at the office of the Park Superintendent, Grand Canyon, Ariz., for 35,133 miles of placing a seal coat on the existing oil treated crushed rock surfacing Sections A, B, and C of the South Approach to Grand Canyon National Park, Coconino County, Arizona, involving major items of approximately: 435 tons apply asphaltic oil; 3100 cu. yds. screenings for seal coat; 35,133 miles rolling.

Plans obtainable from U. S. Bureau of Public Roads, 802 Title and Trust Bldg., Phoenix, on deposit of \$10, returnable, checks for same to be made payable to Regional Fiscal Agent, U. S. Forest Service.

LOS ANGELES, Cal.—Contract for improvement of Anaheim St., bet. Mar Vista Ave. and Governor Ave., awarded August 12, 1931, to Griffith Co., 502 L. A. Railway Bldg., at \$111,338.07, has been signed by contractor. Contract will be signed by the Board May 25 and work will start at once. The work involves in the main:

Grading (21,216 cu. yds. cut, 11,079 cu. yds. fill); 7948 tons asphalt concrete wearing surface; 12,102 tons asphalt concrete base; Storm drain; sanitary sewer; water system.

NEW MEXICO STATE.—Texas Pacific Coal & Oil Co., Fort Worth, Texas, awarded contract by the State Highway Department, Santa Fe, May 9, at \$18,955.05, for furnishing 7214 bls. fuel oil for use in connection with seven Federal Aid Projects.

SEATTLE, Wash.—Northwest Construction Co., 3950 6th N. W., Seattle, awarded contract by King County Commissioners at \$38,956 for paving the Bellevue-Redwood Road from Bellevue East, 2 1/2 miles, involving 5400 cu. yds. excav., 27,800 cu. yds. concrete pavement, 5500 ft. concrete gutter.

OAKLAND, Cal.—Meyer Rosenberg, 1755 San Bruno Ave., San Francisco, at \$22,534 awarded contract by city council to widen upper Park Blvd. between Estates Drive and Mountain Boulevard.

NEW MEXICO STATE.—Petrol Corporation, 4029 Bandini Blvd., Los Angeles, awarded contract by the State Highway Department at Santa Fe May 9, at \$57,270.60 for furnishing 24,796 bbls. asphalt road oil for use in connection with seven Federal Aid Projects. 3

ALAMEDA, Alameda Co., Calif.—Capt. A. B. Brown, U. S. Bureau of Public Roads, foot of Dennison Street, Alameda, is preparing plans and bids will be asked shortly for street work at Government Island, Alameda, involving: 2400 ft. conc. gutter, 4 1/2 ft. wide and 7-in. deep; 4200 ft. conc. curb and gutter, 8x12x 4-in.; 2500 ft. conc. walk, 4 1/2-ft. wide.

SANTA MARIA, Santa Barbara Co., Cal.—City council declares intention (423) to improve Organe St. from Miller St. to Airport Ave. and portions of other streets, involving grading, 4-in. conc. pave. (2 courses); concrete Class B curb, 3-in. conc. sidewalk 3-ft. valley gutter, 6-in. conc. pave. 1911 act. Hearing June 6, F. A. Rivers, city clerk, York Peterson, city engineer. 3

NEW MEXICO STATE.—Cook and Ransom, Ottawa, Kan., awarded contract by State Highway Department, at \$110,340.77 using machine mix) for highway construction on seven Federal Aid Projects, involving base stabilized top course surfacing and oil processing. 3

SAN BERNARDINO COUNTY, Cal.—E. Q. Sullivan, District Engineer of the State Highway Department, District No. 8, San Bernardino, has announced that bids will be taken in the near future on the surfacing of 16.5 miles from Halloran Summit east to Mountain Pass. Estimated cost, \$409,000. 3

SACRAMENTO, Cal.—Until June 6, 10 A. M., bids will be received by H. W. Hall, county clerk, for construction of earth fill on Patricks Blvd., Howe Ave. and Fulton Ave. Certified check 10% payable to Chairman of Board of Supervisors required with bid. Specifications obtainable from C. W. Deterding, county engineer, Courthouse, Sacramento.

BERKELEY, Alameda Co., Cal.—Until May 24, 10 A. M., bids will be received by Florence E. Turner, City Clerk, to furnish cement to be delivered in carload lots, L. O. B. Corporation Yard, Allston Way and West St. during fiscal year commencing July 1, 1932. Certified check \$100 required with bid.

SEATTLE, Wash.—Until June 6, bids will be received by King County Commissioners to improve 2 miles of highway on the north side of Kummer Cutoff, Enumclaw-Black Diamond Road, involving: 19.5 acres clearing; 9.5 acres grubbing; 150,000 cu. yds. excav.; 1,200,000 sta. yds. overhaul; 3800 cu. yds. gravel surfacing; 1200 ft. culvert pipe; 3400 ft. timber post guard rail. Thomas Hunt, County Engineer.

EUREKA, Humboldt Co., Cal.—Until June 14, bids will be received by Fred M. Kay, county clerk, for 5 1/2 miles of Emulsified asphalt paving in Road Districts Nos. 4 and 5, as follows:

No. 4—Indianola cut-off, .5 mile; Hess road, .5 mile. No. 5—Turner road to Carlson's railroad bridge, 1.2 miles; Kirkpatrick's lane, .7 mile; Bayside and McCutcheon road, 1.0 mile; McFarlane lane, .1 mile; Indianola cut-off, .3 mile; Preston addition, Arcata, .3 mile Samoa and Crannell roads (repairs) .5 mile.

Pavement to be 16 to 18 ft. wide. Plans obtainable from Farnk E. Kelly, county surveyor.

LINDSAY, Tulare Co., Calif.—Until June 14, 8 P. M., bids will be received by E. V. Bogart, city clerk, to furnish road oil. Bidder must state asphalt content; also approximate gravity. Specifications obtainable from above office.

ARIZONA STATE.—N. G. Hill and Co., 1344 E. McKinley St., Phoenix, awarded the contract by State Highway Commission at \$26,059.78 for construction on Prescott-Ashfork Highway, F. A. project 62-A. The work begins 4.3 miles south of Ashfork Junction and extends south 19.4 mi., consisting of grading, draining and oil processing. 3

WASHINGTON STATE.—Following contracts awarded by State Highway Commission:

L. Coluccio & Co., 1638 Lane Street, Seattle, at \$46,593, to grade and surface 3.6 miles of State Road No. 14, Port Orchard to Tidewater Creek, P. A. project No. 168-C in Kitsap County, involving 24 acres of clearing, 121,640 cu. yds. excavation, 14,400 cu. yds. crushed stone, 265 cu. yds. conc., 1,017 cu. yds. sack rip-rap, 1,830 lin. ft. of pipe culverts and other items. Cowan and Hubback, Seattle, second low at \$47,472; Frank J. McAugh, Seattle, third low at \$49,696.

L. Coluccio & Co., Seattle, at \$97,143 for grading and surfacing 36 miles from Port Orchard to Tidewater Creek (a Federal A. project). Goetz & Brenner, Seattle, at \$99,990 second low and Holmberg & Norman, Inc., Port Orchard, \$104,549.

For preparation of roadway and application of 30,000 bbls. road oil on 277 miles of State Roads No. 9, 13 and 21 in Clallam, Jefferson, Grays Harbor, Pacific, Mason and Kitsap counties, contracts awarded under three schedules as follows:

Schedule A. J. F. Forbes, Olympia, \$20,000.

Schedule B. Diesel Oil Sales Co., 115 Belmont St., N. Seattle, \$16,281.

Schedule C. Diesel Oil Sales Co., \$9,492.

SANTA MARIA, Santa Barbara Co. Cal.—City Engineer York Peterson completes plans to improve Orange St., between Miller St. and Airport Ave., under the 1911 Act, are:

- (1) 63,715 sq. ft. 4-in. asphalt. concr. pavement;
- (2) 6275 sq. ft. 4-in. and 6-in. concrete gutter;
- (3) 1969 ft. concrete curb;
- (4) 2835 sq. ft. 3-in. sidewalk.

Protest hearing has been set for June 6. Flora A. Rivers, City Clerk.

SALINAS, Monterey Co., Cal.—Until June 6, 7:30 P. M., bids will be received by J. F. Iverson, City Clerk, to improve Grove Street from northerly boundary of Maple Park Addition No. 1 to 155.59 ft. northerly, involving:

- (1) 5290 sq. ft. grading;
- (2) 5290 sq. ft. paving;
- (3) 311.2 lin. ft. curb.

Specifications obtainable from above. Certified check 10% required with bid. Howard Cozzens, city engineer.

SAN DIEGO COUNTY, Cal.—Southwest Paving Company, 712 Lanker-shim Bldg., Los Angeles, at \$30,188.30 awarded contract by State Highway Commission to treat with fuel oil about 60.2 miles earth shoulders bet. San Diego and San Diego-Riverside County line.

SAN DIEGO - IMPERIAL COUNTIES, Cal.—R. E. Hazard Contracting Co., 2543 Kettner Blvd., San Diego, at \$10,732 awarded contract by State Highway Commission, for highway oiling as follows: San Diego and Imperial counties, bet. Viejabs Creek and Myers Creek and bet. National City and San Ysidro, 47.3 miles in length, earth shoulders to be treated with fuel oil; and San Diego County, bet. National Boulevard and Otay, 0.9 mile in length, seal coat to be applied. of May 9.

BOISE, Idaho—Until 2 P. M., May 20, bids will be received by Commissioner of Public Works, Boise, for grading, draining and surfacing of 3.318 miles of Yellowstone Park highway, between Rexburg and Fremont

County line, Madison County. Work will involve 29,600 cu. yds. excavation, unclass; 400 cu. yds. structure excavation; 10,500 cu. yds. gravel sub-base; 6750 cu. yds. gravel surfacing; 650 cu. yds. binder; 1200 lbs. metal reinforcement; 500 ft. 12-in., 380 ft. 18-in., 220 ft. 24-in., 44 ft. 36-in. corrugated metal pipe. G. E. McKelvey, Commissioner of Public Works.

EUREKA, Humboldt Co., Cal.—Until June 14, bids will be received by Fred M. Kay, county clerk, to pave 5 1/2 miles of road in Supervisor Districts No. 4 and 5; "Bitumuls" pavement. Plans obtainable from Frank Kelley, county surveyor, at Eureka.

SHASTA COUNTY, Cal.—H. H. Boomer, 341 Mills Bldg., San Francisco, at \$6,997.05 awarded contract by State Highway Commission, Redding, for grading and surfacing approaches to Clear Creek Bridge at Tower House, 0.3 mile in length.

RENO, Nev.—Union Paving Co., Call Bldg., San Francisco, at approx. \$54,600 awarded contract by city council to pave various streets involving 350,000 sq. ft. asphalt. conc. 3 1/2-in. base with 3/4-in. wearing surface.

RENO, Nev.—T. Christenson, Reno, at \$50,483 awarded contract by city council to construct concrete sidewalks, curbs and gutters in various streets. Quantities of materials involved published in issue of May 7.

WATSONVILLE, Santa Cruz Co., Cal.—Proceedings have been started by the city council to improve 2nd St. from Pine St. to the city limits, involving grading; concrete gutters and oiling. H. B. Kitchen, city engineer.

KERN COUNTY, Calif.—Oilfields Trucking Co., Box 2168, Taft, at \$11,970 awarded contract by State Highway Commission to treat with asphaltic road oil as a dust palliative about 30.7 miles of existing road led between Weldon and Junction of Routes 57 and 23.

MENDOCINO COUNTY, Cal.—Chas. Kuppinger, Box 356, Lakeport, at \$3,600 awarded contract by State Highway Commission to treat with fuel oil as a dust palliative about 15 miles between McDonald and Flynn Creek.

SANTA CRUZ COUNTY, Cal.—J. E. Ply, 1235 Robinson Street, Oroville, at \$25,900 awarded contract by the State Highway Commission to clear and grub about 5.1 miles of highway right-of-way bet. Inspiration Point and Vine Hill Road.

TUOLUMNE COUNTY, Calif.—Contoulet Const. Co., Hearst Bldg., San Francisco, at \$19,916.55 awarded contract by State Highway Commission to grade and surface with crushed gravel or stone about 0.6 mile between Sonora and 3/4 mile east.

SOLANO COUNTY, Calif.—C. W. Wood, P. O. Box 1435, Stockton, at \$22,926 awarded contract by the State Highway Commission, to grade and pave with Portland cement concrete about 0.8 mile at Rio Vista.

BUTTE COUNTY, Calif.—Hemstreet and Bell, 11th and E, Marysville, at \$297,509.25 awarded contract by State Highway Commission to grade about 4.2 miles between Pulga and Cresta.

HUMBOLDT-TRINITY COUNTIES, Cal.—Skeels & Graham Co., Roseville at \$7,341.40 awarded contract by the State Highway Commission to treat with heavy fuel oil as a dust palliative 30 miles between Blue Lake and Salyer.

SHASTA COUNTY, Calif.—H. H. Boomer, 341 Mills Bldg., San Francisco, at \$6,997.05 submitted low bid to District Engineer, State Highway Commission, Redding, for grading and surfacing approaches to Clear Creek Bridge at Tower House, 0.3 mile in length. Project involves:

- 24 acres clear and grub;
- 11,340 cu. yds. rdwy. excav.;
- 12,600 sta. yds. overhaul;
- 108 cu. yds. struc. excav.;
- 3 cu. yds. Class A conc. (struc.);
- 180 lbs. reinforcing steel;
- 650 cu. yds. uncrushed gravel or stone surfacing;
- 75 M. gallons watering;
- 80 lin. ft. 18-in. corr. pipe;
- 70 lin. ft. 24-in. corr. pipe;
- 17 stations finishing roadway;
- 13 monuments.

Three low bids follow:
H. H. Boomer, S. F. \$6,997.05
C. M. Chittenden, Napa \$8,782.70
Foulos & McEwen, Sacto. \$9,813.33

SAN FRANCISCO—Eaton & Smith, 715 Ocean Ave., at \$3,350 awarded contract by Regents of the University of California for road construction at Third and Parnassus Aves., involving approximately 17,000 square feet of paved road, rock surface with asphaltic binders, small concrete retaining wall, concrete curb, etc.

UTAH STATE—Northwestern Engineering Co., Rapid City, S. D., at \$89,043 submitted low bid to State Highway Commission for oiling 26.6 miles of highway in Iron, Kane and Washington Counties. J. C. Compton, McMinnville, Ore., second low at \$96,258.

SAN JOSE, Santa Clara Co., Cal.—Earl W. Heple, 454 Delmas Ave., San Jose, at \$18,418 awarded contract by the county supervisors to improve San Felipe road in the Evergreen District, from where the present paving ends to the Silver Creek road in Supervisor District No. 2, involving 35,626 sq. yds. oil macadam.

Complete bids follow:
E. W. Heple, San Jose \$4848
E. A. J. Raich, San Jose \$4856
Pereira & Reed, Tracy \$5170
W. A. Dontanville, Salinas \$4750

SAN JOSE, Santa Clara Co., Cal.—Pereira & Reed, 545 Roosevelt Ave., Tracy, at \$2959 awarded contract by county supervisors to improve National Ave. near Campbell, between the San Jose-Los Gatos highway and the Los Gatos-Almaden road, in Supervisor District No. 5, involving 70,502 sq. yds. oil macadam.

Complete bids follow:
Pereira & Reed, Tracy \$2959
A. J. Raich, San Jose \$2775
W. A. Dontanville, Salinas \$2566
E. W. Heple, San Jose \$2394
Granite Const. Co., Watsonville \$4686

MONO COUNTY, Cal.—Basalt Rock Co., 900 8th St., Napa, at \$18,777.10 awarded contract by State Highway Commission, to treat with fuel oil about 18.8 miles of existing road bed between the foot of Conway Grade and two miles west of Bridgeport.

BUILDING NEWS

APARTMENTS

Contract Awarded.

APARTMENTS Cont. price, \$128,554
SAN FRANCISCO, Twenty-first and
 Bartlett Streets.

Six-story and basement steel frame
 and concrete apartments (54 2-
 and 3-rm. apts.) composition roof,
 steam heating system, electric re-
 frigeration, hardwood floors, etc.
 Owner—F. W. Hanchett, 34 Highland
 Street.

Architect—Wm. C. Ambrose, 605 Mar-
 ket Street.

Structural Engineer—H. B. Ham III
 351 Bush Street.

Mechanical Engs.—Atkins & Parker,
 Hobart Bldg.

Contractor—G. P. W. Jensen, 320 Mar-
 ket Street.

CHURCHES

Preparing Preliminary Plans.

COMMUNITY CENTER \$100,000
BERKELEY, Alameda Co., Cal. NE
 Bancroft and Dana Way.

Two or three-story reinforced con-
 crete community center.

Owner—Trinity Methodist Episcopal
 Church (Rev. Dr. Otto Houser,
 Pastor), 2362 Bancroft Way, Berke-
 ley.

Architect—George Rushforth, 21 San
 Mateo Ave., Berkeley.

The church property on Russell St
 and College Ave., Berkeley, has been
 sold which practically assures the
 construction of the building.

GOVERNMENT WORK AND SUPPLIES

Plans Completed.

POST OFFICE Cost, \$190,000
YUMA, Arizona.

Two-story and basement reinforced
 concrete Post Office (terra cotta
 exterior, tile roof, 80x100).

Owner—United States Government.
 Architect—Roy Place, 70 N. Stone
 Ave., Trucson, Arizona.

PLAINVIEW, Texas—W. B. Smith,
 Eldorado, Arkansas, awarded contract
 at \$98,750 by Treasury Department for
 the U. S. Post Office at Plainview,
 Texas.

ALAMEDA, Alameda Co., Cal.—Un-
 til June 9, 2 P. M., bids will be re-
 ceived by C. H. Sweetser, district en-
 gineer, U. S. Bureau of Public Roads,
 461 Market St., San Francisco to erect
 Units 12 and 13, Transformer Station
 and Transformer Distributor House
 on Government Island, exclusive of
 piling and other foundation work.
 Plans obtainable from above office on
 deposit of \$10, returnable, checks for
 same to be made payable to the Re-
 gional Fiscal Agent, U. S. Forest Ser-
 vice.

MIRAMAR, San Diego Co., Calif.—
 Until June 7, 11 A. M., under Specifi-
 cation No. 6916, bids will be received
 by Public Works Officer, Eleventh
 Naval District, San Diego, for fencing
 at the landing field, Area "L" near
 Miramar. The work will consist of
 the provision and installation of ap-
 proximately 9240 linear feet of barbed
 wire fence, four strands high secured
 to and supported by cedar posts ap-
 proximately 20 feet on centers. There

will be required one 16 foot gate lo-
 cated where indicated. The Govern-
 ment will set stakes to indicate the
 location of lines of fence to be in-
 stalled. Specifications obtainable from
 above office on deposit of \$10, return-
 able, checks for same to be made pay-
 able to Chief of the Bureau of Yards
 and Docks.

Plans Being Figured—Bids Close June
 27, 3 P. M.

POST OFFICE \$210,000 Available
 LONGVIEW, Washington.

Class A Post Office
 Owner—United States Government.
 Architect—Bobb & Gould, Hoge Bldg.,
 Seattle, Wash.

STOCKTON, San Joaquin Co., Cal.

—Until June 7, 3 P. M., under Circular
 Proposal No. 32-334, Specifications
 No. 4518, bids will be received by U.
 S. Engineer Office, California Fruit
 Bldg., Sacramento, for making test
 borings through and near certain ex-
 isting levees on Venice and Mande-
 ville Island in the San Joaquin river,
 about 17 miles downstream from the
 city of Stockton. Contract involves 1-
 969 lin. ft. test boring. Specifications
 obtainable from above office.

HOSPITALS

Contract Awarded.

ADDITION Cont. price, \$25,190
SAN FRANCISCO, 2770 Lombard St.

One-story reinforced concrete addi-
 tion to Old Ladies' Home.
 Owner—Protestant Episcopal Old La-
 dies' Home, 2770 Lombard St.

Architect—F. Eugene Barton, Crocker
 Building.
 Engineer—W. Adrian, 417 Market St.
 Contractor—K. E. Parker Co., 135 So.
 Park St.

Plans Being Prepared.

ADDITION Cost, \$40,000
HANFORD, Kings Co., Cal.

Two-story wing addition and general
 alterations to county hospital (re-
 inforced concrete and brick con-
 struction, gypsum tile walls, in-
 terior Schumacher and rock lath
 partitions, linoleum floors, tile
 floors, wood and steel sash, steam
 heating system, exhaust system,
 signal call system (50 beds); 2 diet
 kitchens, 2 utility rooms, 1 emer-
 gency operating department, 1
 maternity department; children's
 wards, 5 baths, cells; plaster cast
 rooms, locker and sewing rooms.

Owner—County of Kings.
 Architect—E. J. Kump, Rowell Bldg.,
 Fresno.

Plans will be ready for bids about
 June 5, and will be taken on a segre-
 gated bid basis.

PUBLIC BUILDINGS, FIRE HOUSES AND JAILS

Plans Being Figured—Bids Close June
 9, 10 A. M.

COURTHOUSE Cost, \$—
TILLAMOOK, Oregon.

Class A Courthouse.
 Owner—County of Tillamook.
 Architect—Lawrence, Holford, Allyn
 & Bean, 925 Failing Bldg., Port-
 land.

Separate bids are wanted for gen-
 eral contract, plumbing, heating, wir-
 ing and jail equipment. Consideration
 will be given Oregon firms bidding on
 all work to the extent of a 5% pre-
 ferential.

LOS ANGELES, Cal.—Berkeley Steel
 Const. Co., 2nd and Camelia Streets,
 Berkeley, awarded contract at \$6834
 by county supervisors for construc-
 tion of a fumigating plant in unit No.
 2 of the Museum of History, Science
 and Art, Exposition Park. The work
 will include the installation of 1000
 gallon underground storage tank, two
 vacuum chambers, vacuum pump, mo-
 tor intake, exhaust pipe, vaporizing
 equipment, electric heaters, pipe fit-
 tings, valves and conduit, ventilating
 system and painting.

POWER PLANTS

PLACER, EL DORADO COUNTIES
 Cal.—Wm. Cushing Hammatt, 520
 Hearst Bldg., San Francisco, has filed
 application with the Federal Power
 Commission for a preliminary permit
 for a proposed power project in
 Placer and El Dorado Counties, con-
 sisting of a 150,000-acre foot reservoir
 at French Meadows, on the Middle
 Fork of the American River and a
 series of three power developments
 extending along the Middle and North
 Forks of American River.

WILMINGTON, Los Angeles Co.,
 Cal.—Los Angeles Water & Power De-
 partment has appropriated \$61,000 for
 the power plant to be erected at Wil-
 mington and has provided that the
 sum of \$4,172,000 be set aside in the
 1932-33 budget for the project. Con-
 struction is to be started at once by
 the department. The building to house
 the plant is being designed by H. C.
 Gardett, engineer of the power plant
 design and construction, 207 S. Broad-
 way, Los Angeles.

SCHOOLS

Planned.

MILITARY ACADEMY Cost, \$300,000
PALOS VERDES, Los Angeles Co.,
 Cal. 20 Acres Site.

Three reinforced concrete military
 academy buildings (1st unit).
 Owner—E. C. Bornton, G. W. King
 and O. L. Raymond, California
 Reserve Bldg., Los Angeles.

Architect—Not Given.
 Contractor—H. C. Miley, 4522 Whittier
 Blvd., Los Angeles.
 Building permit has been issued.

THEATRES

Construction Postponed Indefinitely.

THEATRE Cost, \$40,000
PITTSBURG, Contra Costa Co., Cal.
 SW Seventh and Cumberland Sts.
 (80x125-ft.)

One-story and balcony Class B rein-
 forced concrete theatre (to seat
 750) composition roof.

Owner—Andrew Portmand, 230 E 6th
 St., Pittsburg.

Architect—A. A. Cantin, 544 Market
 St., San Francisco.
 Lessee—P. A. Frease and Louis Trag-
 ner.

MEMBERS OF THE ASSOCIATED GENERAL CONTRACTORS

PACIFIC COAST AND INTERMOUNTAIN TERRITORY

CALIFORNIA STATE BRANCH

1318 Pershing Square Bldg.—Trinity 9418—Los Angeles

O. C. STRUTHERS, President

E. L. KIER, Vice-President

GEORGE HERZ, Secretary

MELVILLE DOZIER, JR., Manager

NORTHERN CALIFORNIA CHAPTER

206 Sansome St.—Garfield 7107—San Francisco, Calif.

C. W. Wood, President

Geo. G. Pollock, Vice-President

Floyd O. Booe, Secretary-Manager

- Atkinson, Lynn S. (HPR)..... 516-17 Edwards & Wilder Bldg., L. A., Tr. 7451
- Atkinson, Guy F. Co., Inc. (BHPR) 601 Russ Bldg., S. F., Sut. 3629
- Ball, N. M. (HP)..... 1889 Yosemite Rd., Berkeley, AS. 6722
- Basalt Rock Co., Inc. (H)..... 900 8th St., Napa, Napa 105
- Bechtel Co., W. A. (BHPR)..... 155 Sansome St., S. F., GA. 4780
- Brandva, M. J. (HP)..... 319 Elks Bldg., Stockton, CA. 7470
- Bishop, E. B. (HP)..... 900 Forum Bldg., Sacramento, Capitol 2500
- Bodenhamer Const. Co. (HPR)..... Box 643, 354 Hobart St., Oakland, Glencourt 5022
- Calif. Const. Co. (BHPR)..... 715 Standard Oil Bldg., S. F., DO. 4820
- Casson, Jack A. (HP)..... Hayward, Calif., Hayward 856
- Clark & Henry Const. Co. (HP)..... 564 Market St., S. F., DO. 2903
- Colley, W. C. (HPR)..... 35 Northampton Ave., Berkeley, Ash. 1323
- Comner, J. L. (HP)..... P. O. Box No. 86, Monterey 1137-M
- Connoll, T. E. (BHPR)..... 461 Market St., S. F., Kearny 6408
- Conyes, R. A. (HPR)..... 1043 38th St., Oakland, Olym. 9391
- Currie, James (HPR)..... 1100 Peninsula Ave., Burlingame, Burl. 3497
- Delin, C. M. (HPR)..... 206 Sansome St., San Francisco, Gar. 7107
- Dodge Bros., Inc. (HP)..... Fallon, Nevada, Main 1761
- Drumm, A. D., Jr. (HP)..... Fallon, Nevada, Main 441
- Eaton & Smith (HPR)..... 715 Ocean Ave., San Francisco, DE. 6700
- Fairbanks, A. J. & J. L., Inc. (HPR)..... Linden Ave., So. S. F., 43
- Fay Improvement Co. (HP)..... The (HPR)..... Shelton Bldg., S. F., KE. 4044
- Fitzmaurice, J. H. (HP)..... 2857 Hannah St., Oakland, Higate 2490
- Force Const. Co. (HP)..... 70 Bellevue, Piedmont, Calif., HU. 9349
- Frederickson Bros. (BHP)..... First Natl. Bank Bldg., Stockton, 5974
- Frederickson & Watson Const. (BHPR)..... 873 81st Ave., Oakland, SW. 1264
- French, George J., Jr. (HP)..... P. O. Box No. 675, Stockton, 6676
- Gerwick, Ben C., Inc. (HP)..... 112 Market St., S. F., SU. 8454
- Granite Construction Co. (BHPR)..... Watsonville, California, 088
- Hanrahan Co. (HP)..... Hobart Bldg., San Francisco, GA. 1639
- Harner, Charles L. (HP)..... 714 New Montgomery St., S. F., GA. 1711
- Hauser, W. H. (HPR)..... 3129 E. 7th St., Oakland, Fruitvale 6790
- Henley-Moore Co. (HP)..... 344 High St., Oakland, Gar. 0466
- Hemstreet & Bell (HP)..... 111 "C" Street, Marysville, 433
- Hodgman & MacVicar (HP)..... 714 Plymouth, Pasadena, Tr. 1563
- Holland, J. P., Inc. (HPR)..... 1834 McKinnon Ave., S. F., MI. 5400
- Isbell Const. Co. (HP)..... Carson City, Nev., Ph. 1754 (Also Fresno)
- Jenkins, M. A. (HPR)..... 3260 V St., Sacramento Capital 422
- Jones & King (HPR)..... Hayward, Calif., Hay. 74
- Kaiser Paving Co. (BHPR)..... Latham Square Bldg., Oak., HL. 2614
- Knapp, J. F. (HPR)..... 916 Financial Center Bldg., Oak., LL. 1620
- Larsen Bros. (HP)..... 111 "C" Street, Marysville, 433
- Lee, U. B. (HP)..... 10059 Carpenter St., San Leandro, Sweet. 1717
- Le Tourneau, R. G. (HPR)..... 122 Moss Ave., Stockton, 471
- Lord & Bishop (HPR)..... Native Sons Bldg., Sacramento, Main 398
- Lowelace, Nate (HP)..... 343 "N" Street, Sacramento, Main 390
- Malcorn, C. T. (HPR)..... Walnut Creek, Calif., W. C. 277
- McDonald, D. (HPR)..... 204 23rd St., Sacramento, Cap. 1806
- McGillivray Const. Co. (HPR)..... Box 927, Sacramento, Capital 2170
- McMillan, W. K. (HP)..... 208 Howard St., San Francisco, MA. 3876
- Mercer-Fraser Co. (BHPR)..... Eureka, Eureka 808
- Nevada Contracting Co. (HPR)..... Fallon, Nevada, Phone 1851
- Nevada Rock & Sand Co. (HP)..... Reno, Nevada, Reno 5291
- Shubert, Fred (HP)..... P. O. Box 57, Roseville, Calif. 3876
- Pacific Pavements Co., Ltd. (HP)..... 85 Barstow St., S. F., HE. 4178
- Pacific States Construction Co. (HP)..... Call Bldg., S. F., DO. 0879
- Phillips, John, Co. (HP)..... 582 Market St., San Francisco, KE. 4471
- Pollock, Geo. F. (HP)..... P. O. Box 903, Sacramento, Main 3902
- Rohl, H. W., Co. (HPR) 4351 Alhambra Ave., Los Angeles, CH. 6141
- Six Companies, Inc. (BHPR) Financial Center Bldg., S. F., Gar. 3842
- Siems-Helmers, Inc. (BHPR)..... 206 Sansome St., S. F., DA. 5235
- Strels & Graham (HP)..... P. O. Box 57, Roseville, Calif. 3876
- Tedford, J. N. (HP)..... Fallon, Nevada, Main 1761
- Teichert, A. & Son, Inc. (HP) 1846 37th St., Sacramento, Main 6586
- Tieslau Bros. (HP)..... 2819 Grove St., Berkeley, BE. 7099-J
- Tucker, H. V., Co. (HP)..... 300 Vermont St., S. F., MA. 7583
- Ulrich Const. Co., Geo. J. (BHPR)..... Modesto, Modesto 921
- Von der Hellen & Pietsch (HPR)..... Castaic, Calif.
- Ward Engineering Co. (HP)..... 315 Montemore St., S. F., DAV. 8984
- Wood, C. W. (HP)..... P. O. Box 1435, Stockton, 8743
- Young, Clarence (HP)..... 3250 Broadway Ter., Oakland, OL. 3743
- Young & Son Co., Ltd. (HP) 599 Colusa Ave., Berkeley, Berk 5551

Associate Members

- American Bitumuls Co. (Bitumuls)..... 200 Bush St., S. F., GA. 6653
- Anderson Bros. Supply Co. (Commissary)..... Boulder, City, Nev.
- Andrews, F. T., Co. (C. P. A.)..... 1650 Russ Bldg., S. F., GA. 7212
- Associated Oil Co. (Asso. Prod.)..... 79 N. Monty St., S. F., KE. 4800
- Austin Western Road Machinery Co. (Road Machinery)..... 435 Brannan St., San Francisco, DO. 2183
- Autocar Sales & Service Co. (Autocar Trucks)..... 326 Howard, San Francisco, SU. 1730
- Bacon, Edward R. Co., (Road Machinery)..... Folsom and 17th Sts., San Francisco, HE. 3700
- Blake Bros. Co. (Crushed Rock)..... Balboa Bldg., S. F., KE. 5320
- Calaveras Cement Co..... 315 Montgomery, San Francisco, DO. 4224
- California Corrugated Culvert Co. (Corrugated Pipe)..... 5th & Parker, West Berkeley, BE. 5420
- Cement Gun Construction Co. (Cement Guns)..... 85 Second St., San Francisco, SU. 8306
- Contractors' Ins. Agency (Insurance) 206 Sansome, S. F., SU. 3400
- Cowell Lime & Cement Co. (Cement)..... 2 Market St., S. F., GA. 4870
- Davis, Norris K. (Equipment) 400 7th St., San Francisco, HE. 1610
- Garfield & Co. (Equipment) Hearst Bldg., San Francisco, SU. 1036
- Geiger Iron Works (Equip.)..... P. O. Box 423, Stockton, Stock. 1898
- Granite Rock Co. (Crushed Rock)..... Watsonville, Wat. 988
- Harneschlager Sales Corp. (Equip.)..... 82 Beale St., S. F., DO. 2313
- Harron, Rickard & McCone Co. (Equip.)..... 1600 Bryant St., San Francisco, UN. 3740
- Link-Belt Co. (Equip.)..... 400 Paul Ave., San Francisco, DE. 6400
- Modern Vehicle Co. (Mrs. Steel Dump Bodies)..... 437 4th St., San Francisco, GA. 1402
- Murray & Ready (Labor Agency) 784 Howard St., S. F., SU. 1205
- Northwest Engineering Co. (Shovels)..... 23 Main St., S. F., SU. 7053
- Pacific Coast Aggregates..... 700 Wells Fargo Bldg., S. F., SU. 8940
- Pacific Coast Engineering Co. (Structural Steel)..... Foot of W. 14th St., Oakland, HI. 1322
- Pacific H. B. A. Steel Co., Inc. (Drill Steel)..... 540 Brannan St., San Francisco, GA. 6683
- Pacific Portland Cement Co. (Golden Gate)..... 11th & Market, San Francisco, UN. 4100
- Pland-Evans (Commissary)..... Merchants' Ex. Bldg., S. F., GA. 5923
- Robinson Tractor Co. (Caterpillar Tractors)..... 1705-09 E. 12th St., Oakland, FR. 2485
- Santa Cruz Portland Cement Co. (Santa Cruz)..... Crocker Bldg., San Francisco, GA. 3307
- Shell Oil Co. (Shell Products)..... 100 Bush St., S. F., EX. 5400
- Souls Steel Co. (Reinforcing Steel)..... 1750 Army St., S. F., VA. 4141
- Spears-Wells Machinery Co. (Equip.)..... 1832 9th St., Oak., HO. 4100
- Standard Oil Co. of Calif. (Standard Products)..... Standard Oil Bldg., San Francisco, SU. 7700
- Traffic Service Bureau (Freight Audits) 24 Calif. St., S. F., GA. 6194
- Union Oil Co. of Calif. (Union Prod.) Mills Bldg., S. F., SU. 1400
- United Commercial Co., Inc. (Equip.) 234 Stewart St., S. F., DO. 0430

SOUTHERN CALIFORNIA CHAPTER

1318 Pershing Square Bldg.—Trinity 9418
Los Angeles, Calif.

C. G. FitzGerald, President Melville Dozier, Jr., Manager
LYNN S. ATKINSON, First Vice-President (Engineering Div.)
WM. A. SIMPSON, Second Vice-President (Building Div.)

The address of the firm is the same city in which is located the Chapter office unless otherwise shown in membership list.

Building Contractors

- Atkinson, J. F..... 1102 Stroy Bldg., Vandike 7783
- Baruch Corp., Herbert M..... 1015 Lincoln Bldg., TRinity 5473
- Bradley Constr. Co., K. R..... 1833 West Pico, Washington 2786
- Burgin, W. Jay..... 1100 Redondo Ave., Long Beach, L. B. 81103
- Byerts & Dunn..... 7908 Santa Monica Blvd., Westview 9602
- Clinton Construction Co. 1103 Spring Arcade Bldg., Madison 2597
- Crowell, Wm. C..... 495 S. Bdwy., Pasadena, WAKefield 6692
- Crowell Co., Weymouth..... 2104 E. 15th St., Westminster 5708
- DeCamp-Hudson Co., Ltd..... 1277 W. 24th St., Westminster 3382
- Dixon, L. E., Co..... 609 So. Grand Ave., TRinity 4925
- Escherich Bros..... 234 W. 37th Place, Adams 6294

Class of Construction: (B) Building; (H) Highway; (P) Public Works; (R) Railroad.

| | | | |
|--------------------------|---------------------------|----------------|--------|
| Hall, J. F. | 531 Douglas Bldg., | MUtual | 6722 |
| Houghton & Anderson | 447 Rea St., | MUtual | 2450 |
| K. P. Lovell & Co., Ltd. | 606 Union Bank Bldg., | VAndike | 4072 |
| Macdonald & Driver | 311 Board of Trade Bldg., | TUcker | 6467 |
| McKee, Robert E. | 1128 Center Bldg., | TRinity | 9291 |
| Miller, Geo. E. | 401 N. Canon Dr., | B. H., | OXford |
| Simpson Construction Co. | 1007 Architects Bldg., | MUtual | 7261 |
| Snell, Fred C. | 339 N. Beverly Dr., | Beverly Hills, | OXford |
| Willard-Brent Co. | 254 E. 27th St., | Richmond | 2101 |

Bridges, Foundations

| | | | |
|---------------------------|-------------------------|---------|-------|
| Ledbetter Co., W. M. | Box 1264, Arcade St., | CApitol | 13415 |
| Oberg Brothers | 707 San Fernando Bldg., | ANGelus | 8759 |
| Raymond Concrete Pile Co. | 1008 Washington Bldg., | VAndike | 6536 |

Highways, Paving, Grading

| | | | |
|----------------------------|---------------------------|-------------------|---------------|
| Basich Bros. | Torrance, Gardena | 246 | |
| Bock, Geo. J. | 1007 S. Harvard, EEmpire | 4614 | |
| Donovan & Sons, J. G. | 4031 Goodwin Ave., | OLympic | 6423 |
| Ferry, Peter L. | San Fernando Rd. and | Bdwy., | CLendale, OL. |
| Fleming Construction Co. | Pomona | 9845 | |
| Griffith Company | L. A. Railway Bldg., | Westmore | 9343 |
| Hall-Johnson Co. | P. O. Box 387, Alhambra, | ELiot | 1855 |
| Herz & Co., Cate Bldg., | San Bernardino, S. E. | 24 | 422 |
| Heuser, Chas. H. | 316 Allen Ave., | GLendale, DOuglas | 3965 |
| Hudson, Chas. H. | 408 Rives-Strong Bldg., | VAndike | 3374 |
| Jahn & Bressi | 701 Lane Mortgage, Bldg., | TRinity | 8674 |
| Lang Transportation Co. | 5501 Santa Fe Ave., | JEfferson | 1047 |
| Levin Construction Co. | 300 S. La Brea St., | WAshington | 1027 |
| Packard & Tanner | 905 W. Latham St., | PHoenix, AZ. | 1600 |
| Pearson & Dickerson | 4485 Cypress, Riverside, | 1600 | |
| Ross, M. S. | 4011 Goodwin Ave., | CApitol | 7603 |
| Wells & Bressler | P. O. Box 396, Santa Ana, | 227 | |
| Willis, C. C. & Sons, Inc. | 2119 E. 25th St., | LAfayette | 9826 |

Pipe Lines, Water Works

| | | | |
|----------------------------|-----------------------------|----------|------|
| American Concrete Pipe Co. | P. O. Box 1428, Arcade St., | JE. | 4211 |
| Haverty Co., Thos. | 316 E. 8th St., | VAndike | 1171 |
| United Concrete Pipe Co. | Box 1, Station H. L. A., | TWinoaks | 9196 |

Subways, Conduits

| | |
|------------------------|-----------------------|
| Delta Construction Co. | P. O. Box 79, Compton |
|------------------------|-----------------------|

General Engineering

| | | | |
|--------------------------------|-----------------------------|---------|------|
| Atkinson, Lynn S. | 609 S. Grand, TRinity | 7451 | |
| Bartmus, Peter | Hollywood Riviera, Redondo, | Redondo | 6404 |
| Bent Bros., Inc. | 418 S. Pecan S., | ANGelus | 7510 |
| Campbell-Reichert Co. | 4000 Whiteside Ave., | ANGelus | 0598 |
| Cox, R. | 1100 Westminster, Alhambra | 1699 | |
| EmSCO Conc. Cutting Corp. | 1517 Santa Fe Ave., | VAndike | 7168 |
| Fitz-Gerald Eng. & Constr. Co. | 216 Rowan Bldg., | TRinity | 5088 |
| Foley, D. A., Construc. Co. | 716 Grant Bldg., | TUcker | 7814 |
| Kemper Const. Co., Ltd. | 3701 Overland, Los Angeles | 1178 | |
| Macco Construction Co. | H. Hynes, Safferson | 1448 | |
| Merritt-Chapman-Scott Corp. | P. O. Box 507, San Pedro, | 2880 | |
| Mittry Bros. Construction Co. | 722 Detwiler Bldg., | VAndike | 0210 |
| Morrison-Knudsen Co. | 411 West Fifth St., | MUtual | 7684 |
| Robinson-Roberts Co. | 706 Rives-Strong Bldg., | TRinity | 2889 |
| Spicer, C. A. | 818 Financial Center Bldg., | TUcker | 9570 |
| Standard Dredging Co. | 325 Center Bldg., | TRinity | 3253 |
| Watson, R. A. | 1026 N. McCadden Pl., | CRanite | 4121 |

Affiliates

| | | | |
|------------------------------|--------------------------------|-------------------|------|
| Brashears & Co., C. | 501 Security Bldg., | TRinity | 5091 |
| Consolidated Rock Prod. Co. | 656 S. Los Angeles St., | TRinity | 0241 |
| Gilmore Oil Co. | 2423 E. 28th St., | JEfferson | 1211 |
| Graham Brothers | 1215 W. 7th St., | Long Beach, L. B. | 6251 |
| Hartford Accident & Ind. Co. | 348 S. Spring St., | Madison | 1471 |
| L. A. Brick Co. | 1078 Mission Road, | ANGelus | 5684 |
| Sun Lumber Co. | Crescent Drive, Beverly Hills, | OXford | 6911 |
| Union Oil Co. | Union Oil Bldg., | TUcker | 7121 |

ALAMEDA COUNTY CHAPTER

354 Hobart St., Rm. 410—Glencourt 7400—Oakland, Calif.

S. G. Johnson, President
 Geo. J. Maurer, Vice-President
 H. J. Christensen, Treasurer
 W. E. Hague, Manager

| | | |
|---------------------------|---------------------------------|------|
| Brennan, J. P. (B) | 2820 Regent, Berkeley, BE. | 0346 |
| Christensen, H. J. (B) | 1924 Broadway, Oakland, LA. | 7164 |
| DeVelbiss, C. Dudley (B) | 369 Pine St., S. F., CA. | 3223 |
| Dyer Construction (B) | 337 17th St., Oakland, GL. | 3203 |
| Furlong, Thos. H. L. (B) | 460 Jerome Ave., Piedmont, HU. | 0620 |
| Jacobs & Pattiani (BP) | 337 17th St., Oakland, GL. | 3203 |
| Johnson, S. C. (B) | 4652 Dolores Ave., Oakland, FR. | 6650 |
| Keating, W. C. (B) | 925 Forum Bldg., Sacramento | |
| Lesure, E. T. (B) | 87 Ross Circle, Oakland, OL. | 0389 |
| Littlefield, R. W. (B) | 337 17th St., Oakland, HI. | 0994 |
| Lyons, W. E. (B) | 354 Hobart St., Oakland, HO. | 5325 |
| Maurer, George J. Co. (B) | 50 York Bldg., Oakland, HU. | 3457 |
| Nordstrom, David H. (B) | 354 Broadway, Oakland, HU. | 1300 |
| Pedgriff, James H. (B) | 4106 Broadway, Oakland, HU. | 1300 |
| Petersen, George (B) | 1841 Bancroft, San Leandro, TR. | 2043 |
| Petersen, James B. (B) | 4021 Agua Vista, Oakland, FR. | 9887 |
| Schultz, Herbert (B) | 811 Mendocino, Berkeley, AS. | 2360 |
| Sullivan & Sullivan (B) | 2653 Best Ave., Oakland, AN. | 4724 |
| Thornally, W. C. (B) | 354 Hobart St., Oakland, GL. | 8476 |
| Westlund, Fred J. (B) | 354 Hobart St., Oakland, GL. | 7400 |

Associate Members

| | | |
|-------------------------------------|----------------------------------|------|
| Berkeley Building Materials Co. | Masonic and Brighton, BE. | 2280 |
| Central Building Material Co. | 915 Antonio, TR. | 9326 |
| Contra Costa Building Materials Co. | 808 Gilman St., BE. | 3462 |
| Cowell, Henry, Lime & Cement Co. | 81 Franklin, HI. | 3398 |
| Davis Co., Jas. A. | 517 Fairmont, BE. | 9360 |
| Lannom Bros. Mfg. Co. | 5th and Magnolia, GL. | 3663 |
| Makin & Kennedy, Inc. | 101 Fourth St., HO. | 0626 |
| Melrose Building Materials Co. | Tidewater Ave., FR. | 5787 |
| Oakland Building Material Co. | 5000 Broadway, HU. | 6300 |
| Oakland Planning Mill Co. | 2nd and Washington, LA. | 5503 |
| Pacific Coast Aggregates, Inc. | Broadway and Water, HI. | 0770 |
| Powell Bros., Inc. | Harrison and Pearl, Alameda, AL. | 0630 |
| Sunset Lumber Co. | 400 High St., AN. | 1000 |
| Linden Lumber Co. | Foot of University Ave., BE. | 0697 |
| Talsite Concrete Co. | 401 Water St., TE. | 0720 |

SAN DIEGO CHAPTER

Spreckels Theater Bldg.—Main 4289—San Diego, Calif.

George R. Daley, President
 M. H. Golden, Vice-President
 M. A. Mathias, Manager

| | | |
|--------------------------------|---------------------------------|---------------|
| Carroll, B. C. | 4396 Maryland St., Hillcrest | 5274-M |
| Daley Corporation (HP) | 4430 Boundary St., Randolph | 1136 |
| Dennis Constr. Co., V. R. (HP) | Box 183, Sta., Hillcrest | 8299 |
| Ford, E. Paul (HP) | Box 201, E. San Diego, Randolph | 5101 |
| Golden, M. H. (B) | 404 California Bank Bldg., | Franklin 7983 |
| Grove, Cecil B. | 4316 Island Ave., Franklin | 7474 |
| Hazard Constr. Co., R. E. (B) | 2508 Kettner Blvd., | Franklin 6315 |
| Jarboe Constr. Co. (B) | 208 Spreckels Theatre Bldg., | Franklin 3792 |
| Kier Const. Co., W. E. (B) | First National Bank Bldg., | Main 2427 |
| Larsen, B. O. (B) | 1340 E. St., Main | 4472 |
| Miracle Constr. Co. (HP) | Box 601, E. San Diego, Main | 2295 |
| Penick & Sons, T. B. (HP) | 3075 L. St., Main | 4582 |

PACIFIC NORTHWEST BRANCH

4134 Arcade Building, Seattle, Wash.

JAS. MURDOCK, President
 J. C. COMPTON, Vice-President
 H. V. BOGERT, Rec. Secretary
 J. B. WARRACK, Treasurer
 P. L. CROOKS, Vice-Pres. and Secretary

PORTLAND CHAPTER

Multnomah Hotel Lobby—Atwater 7883—Portland, Ore.

Paul L. Crooks, President
 Ross B. Hammond, 1st Vice-President
 Philip Hart, 2nd Vice-President
 J. A. Lyons, Treasurer
 G. B. Herington, Executive Secretary

| | | | |
|-------------------------------|---------------------------|------|------|
| Anderson Construction Co. | 682 E. 69th St. N., | Car. | 0474 |
| Andrews Construction Co. (BH) | 102 N. Broadway, Br. | 5321 | |
| Atkinson, Guy F. & Co. (BH) | Yeon Bldg., | Atw. | 3961 |
| Badraun, J. J. (HP) | 681 E. 42nd St. N., | Car. | 3945 |
| Baker Construction Co. (B) | 202 Multnomah Hotel, Atw. | 7441 | |
| Christensen, Fred, Inc. (BHP) | 187 E. 34th St., | Ea. | 8934 |

Class of Construction: (B) BUILDING; (H) HIGHWAY; (P) PUBLIC WORKS; (R) RAILROAD.

| | | |
|-------------------------------------|----------------------------|-------|
| Cochrane Construction Co. (HP) | 65th & Ainsworth, Tr. | 5944 |
| Compton, J. C. (HP) | McMinnville, Ore., | McM. |
| Crooks, P. L., Inc. (HPR) | Henry Bldg., | Atw. |
| Dann, J. J. (PHR) | 424 Third St., | Atw. |
| Dougan-Hammond Constr. Co. (B) | 307-8 Studio Bldg., | Bea. |
| Douglas, A. R. (HPR) | Kalispel, Montana | |
| Edleson-Weygandt Co. (HP) | Foot of Jefferson, Atwater | 4090 |
| Endicott, Wm. | Yachato, Oregon | |
| Gates, E. L. (HPR) | Kamela, Oregon | |
| Gilpin Construction Co. (HPR) | Worcester Bldg., | Atw. |
| Grays Harbor Constr. Co. (BHPR) | Hoquiam, | Wash. |
| Greenwood A. C. (HR) | 500 N. Front St., | Br. |
| Griffin, C. B. (HHR) | 826 E. Caruthers, Lan. | 2479 |
| Guthrie & Co., A. Inc. (BHPR) | 552 Sherlock Bldg., | Atw. |
| Hammond, Ross B. (B) | 1312 Public Service Bldg., | Atw. |
| Hauser Bros. Construction Co. (PHR) | Multnomah Hotel, Atw. | 7441 |

| | |
|------------------------------------|---|
| Hoffman, L. H. (BP) | Public Service Bldg., Atw. 3181 |
| Jacobsen Construction Co. (BP) | McKay Bldg., Atw. 5027 |
| Jacobsen-Jensen Co. (PH) | 407 Stanton, Gar. 3313 |
| Johnson Contract Co. (HPR) | 414 Exchange Bldg., Atw. 0678 |
| Johnson-Gardner Co. (HPR) | 414 Exchange Bldg., Atw. 0678 |
| Kern & Kibbe (HPR) | 290 E. Salmon St., Ea. 4116 |
| Kuckenberg & Wittman (BPR) | 226 Board of Trade Bldg., Br. 1999 |
| La Pointe Constr. Co. | 629 E. 54th St. N., Gar. 8312 |
| Lindstrom & Feigenson (BPHR) | 421 Rlwy. Exch. Bldg., Atw. 2662 |
| Lyons, J. A. (BPHR) | 1001 Halsey St., Tr. 2841 |
| McNerney Bros. (BPHR) | 201 Worcester Bldg., Atw. 6444 |
| Midstate Contract Co. (HP) | Box 33, Yakima, Wash. |
| Milne & Dussault (PH) | 1853 E. Broadway, Tab. 7277 |
| Morrison & Knudsen (BHPR) | 319 Broadway, Boise, Idaho |
| Morgan, T. M. (H) | 5410 Wilshire Blvd., Los Angeles |
| Morrison Trucking Co. (BPHR) | 391 E. 6th St., Ea. 8327 |
| Newport Construction Co. (PHR) | 317 Exchange Bldg., Atw. 7209 |
| Pacific Bridge Co. (BPHR) | Ft. of E. Salmon St., Ea. 2164 |
| Parker & Banfield (BP) | 984 E. 17th St., Sel. 6182 |
| Parker-Schram Co. (PHR) | Couch Bldg., Atw. 4752 |
| Peck, E. C. & Co. (PH) | Drain, Oregon |
| Puckett, W. H. Co. (PHR) | 319 Broadway, Boise, Idaho |
| Quinn, J. L. (B) | 55 W. Humboldt, Tr. 7564 |
| Quinn, J. L. (B) | Box 1107, Klamath Falls, Ore. |
| Rebman, J. (PH) | 343 Vancouver Ave., Tr. 7825 |
| Robertson, Hay & Wallace (B) | 605 Weatherly Bldg., Ea. 3613 |
| *Saxton & Looney | Corvallis, Ore. |
| Seed, John S. (B) | 201 Worcester Bldg., Atw. 6444 |
| | Honorary Member and Director of Chapter |
| Silbaugh, C. E. (BPH) | Burns, Ore. |
| Shea & Co., J. F. (PHR) | 211 Henry Bldg., Atw. 2435 |
| Stebinger Bros. (B) | Worcester Bldg., Atw. 6444 |
| Sullivan & Doyle (PHR) | Ft. of Curry St., Atw. 5297 |
| | Box 104, Portland, Ore. |
| Traver, L. N. (B) | Corvallis, Ore. |
| Umpqua Dredging & Constr. Co. (PH) | Reedsport, Ore. |
| United Contracting Co. (BPHR) | 309-10 Stock Ex. Bldg., Atw. 5296 |
| von der Hellen & Pierson (HR) | Naches, Wash. |
| White, Ernest & Co. (B) | Twin Falls, Idaho |
| Wolfe, O. D. (HR) | Washougal, Wash., 9F2 |
| Wren & Greenough (PHR) | 1037 Ch. of Com. Bldg., Atw. 9882 |
| Wright Constr. Co. (BPH) | Abdeen, Wash. |
| Young, I. L. (BPH) | 524 Henry Bldg., At. 0097 |

Associate Members Portland Chapter

| | |
|-------------------------------------|----------------------------------|
| Balzer Machinery Co. | 275 Pine St., Atw. 9391 |
| Beall Pipe & Tank Co. | 85 Columbia Blvd., Wa. 3171 |
| Bitumuls Asphalt Sales Co. | 210 Thompson St., Tr. 1193 |
| Cascade Investment Co. | 309 E. Main St., Ea. 8315 |
| Clyde Equipment Co. | 555 Thurman St., Br. 0885 |
| Columbia Brick Works | 301 E. Madison, Ea. 1101 |
| Concrete Pipe Co. | 169 Thompson St., Tr. 1164 |
| Electric Steel Foundry | 475 N. 24th St., Bea. 6344 |
| Feenaughty Machinery Co. | 309 E. Yamhill, Ea. 2187 |
| Grand Sheet Metal Works | 60 E. Third N., Ea. 2181 |
| Howard Cooper Corporation | 361 Hawthorne, Ea. 8188 |
| Latture, J. L. Equip. Co. | 312-314 E. Madison St., Ea. 8166 |
| Loggers & Contractors Machy. Co. | 345 E. Madison St., Ea. 4128 |
| McCraken-Ripley Co. | 65 Albina Ave., Wal. 7650 |
| McMillan, A. Co. | 350 E. Ankeney, Ea. 0178 |
| Metropolitan Casualty Ins. Co., The | Wilcox Bldg., Atw. 7521 |
| National Hospital Assn | 400 Mohawk Bldg., Atw. 5291 |
| Nicolai-Neppach Co. | 227 Davis St., Berk 0685 |
| Oregon City Sand & Gravel Co. | Oregon City, Oregon |
| Oregon Portland Cement | 321 E. Madison, Ea. 3116 |
| Phoenix Iron Works | 360 Hawthorne, Ea. 0029 |
| Pomeroy, J. H., & Co. | Box 48, Seattle, Wash. |
| Pure Iron Culvert & Mfg. Co. | 763 Gladstone, Sel. 2275 |
| Rodgers, Hart, Banks | Railway Exch. Bldg., Atw. 8496 |
| Santa Cruz Portland Cement | 45 Fourth St., Atw. 9848 |
| Snow, I. A. & Co. | 244 Union Ave., Ea. 6482 |
| Standard Oil Co. | Pacific Bldg., Bea. 4161 |
| Steel Tank & Pipe Co. | 404 Columbia Blvd., Wal. 2401 |
| Swigert, Hart & Yett | Ft. of E. Salmon St., Lan. 1125 |
| Union Oil Co. of California | Yeon Bldg., Atw. 9521 |
| Wallace Bridge & Structural Steel | P. O. Box 48, Seattle, Wash. |
| Western Road Machinery Co. | 220 E. Water, Ea. 4862 |
| Zimmerman, Wells & Brown | Ft. of Sheridan, At. 0221 |

Affiliated Builders Division, Portland Chapter

| | |
|------------------------------|------------------------------|
| Alt, Fred W. | 1118 Mallory Ave., Wal. 2083 |
| Allyn, B. T. | 7 E. 60th St. N., Tab. 0194 |
| Blackman, D. R. | 1140 Powell Bldg., Sel. 2400 |
| Carson Construction Co. | 319 Broadway, Gar. 2818 |
| Chandler Const. Co. | 400 C. of C. Bldg., Tr. 8024 |
| Dewitt Building Co., Geo. W. | 585 E. 41st N., Gar. 3412 |
| Duncan, J. A. | 474 E. Eighth N. |
| East Side Building Co. | 119 Exchange Bldg. |
| Eklund, N. O. | 1595 Sandy Blvd., Gar. 51 |
| Goldenberg, G. C. | Abington Bldg., Atw. 1675 |
| Goodridge, D. A. | 449 E. 44th N., Tr. 9945 |
| Greiling, F. H., Director | 908 E. 23rd N., Gar. 7184 |
| Hurlbert, Russell S. | Gar. 2828 |
| Irwin, A. H. | 1193 Garfield, Lan. 1266 |

| | |
|------------------------------|------------------------------|
| Johnson & Neubert | 375 E. 52nd St., Tab. 7272 |
| Kiecher, Wm. | 1170 Mallory Ave., Wal. 6223 |
| Knott & Rogers | 24 E. 81st St., Tab. 7214 |
| Krausse, Rudolph K. | 457 E. 15th N., Gar. 1783 |
| Leistner, C. | 775 E. 14th N., Gar. 4902 |
| Moore, J. Bryson | 1444 Sandy Blvd., Gar. 8260 |
| Murphy, John | 488 Raleigh St. |
| Nelson, Herman | 385 E. 11th N., Gar. 2508 |
| Nilson, Emil | 449 E. 48th N., Tr. 6433 |
| Quigley, Wm. | 56 E. 52nd, Tab. 9057 |
| Ryan, Wm. F. | 1211 E. Kelly St., Tab. 1860 |
| Schenk, A. J. | 1275 Prescott, Tr. 7432 |
| Schmitt, H. A. | 2610 52nd St., Sun 7865 |
| Seed, J. S., Honorary Member | Worcester Bldg., Atw. 6444 |
| Stuart, Peter | 755 Irving, Bea. 3673 |
| Twitchell, P. A. | 567 E. 35th St. N., Tr. 1579 |
| Winship, T. B. | 461 E. 48th N., Tr. 7706 |
| Henkel-Shackelford | 1040 Minnesota, Univ. 0904 |
| V. D. Reverman | 353 E. Burnside |
| L. L. Hickok | 1111 Sandy Blvd. |
| Fred Sandstrom | 201 Worcester Bldg. |
| C. W. Christiansen | 445 Multnomah |

SPOKANE CHAPTER

West 515 First Avenue—Main 6822—Spokane

Max J. Kuney, President I. G. Anderson, Vice-President
 Nick Norman, Vice-President Dan Hannah, Secy.-Treas.

| | |
|----------------------------------|----------------------------|
| Alloway & Georg (B) | Hutton Bldg. |
| Auld & Shinn (B) | 1121 Indiana |
| Burnette, C. A. (H) | 1118 Ide Ave. |
| Byers, W. A. (H) | W. 1204 Mansfield |
| Clifton & Applegate (HPR) | Hutton Bldg. |
| Collins, J. H. & Co. (H) | Colville, Wash. |
| Colonial Building Co. (BH) | Hutton Bldg. |
| Crick, James (H) | Realty Bldg. |
| Degerstrom, N. A. (HPR) | Peyton Bldg. |
| Edwards, J. E. (H) | W. 1423 Adams |
| Geist, W. L. (H) | W. 444 23rd Ave. |
| Hansen Construction Co. | W. 1517 Jackson |
| Harding, Geo. (H) | Walla Walla, Wash. |
| Hargrave Construction Co. (H) | W. 418 Twentieth |
| Hewett, F. R. (H) | W. 420 Twenty-second |
| Joslin & McAllister (H) | Realty Bldg. |
| Kuney, Max J. (H) | S. 2217 Tekoa St. |
| Larson Bros. (B) | Hyde Bldg. |
| Long, Oliver J. (H) | W. 1924 Mansfield |
| Lyon & Price (H) | W. 503 Fourteenth |
| Meyers, Max G. (H) | W. 1002 Riverside, Spokane |
| Martin, F. E. (B) | Galax Hotel |
| McLellan, A. (B) | E. 932 Ermina |
| Medby, M. C. (B) | S. 3614 Arthur |
| Morin, S. G. (B) | Paulsen Bldg. |
| Norman, Nick (B) | 231 Waverly Place |
| Nyberg, Carl (H) | Realty Bldg. |
| Orino, Sam (H) | Realty Bldg. |
| Payne, Mrs. C. M. | N. 2602 Hamilton St. |
| Power, C. A. (H) | S. 1703 Grand |
| Siems, Spokane Co. (BPHR) | Realty Bldg. |
| Standard Asphalt Paving Co. (HP) | Chronicle Bldg. |
| D. A. Sullivan & Co. | Realty Building |
| Terteling, J. A., & Sons (HP) | 511 Sound Ave. |
| Tobin, James, & Son (H) | Box 916 |
| Triangle Construction Co. (H) | W. 1220 Ide |
| True House Construction Co. (B) | N. 119 Wall |
| Wheeler & England (HP) | Coeur d'Alene, Idaho |
| Young, Peter J. (B) | S. 11 Cedar St. |

Associate Members

| | |
|--|----------------------------------|
| Beall Pipe & Tank Corp. | 44 Main, W. 1 Realty Bldg. |
| Coeur d'Alene Hardware & Foundry | Wallace, Idaho |
| Commercial Importing Co. | 617 Western Ave., Seattle, Wash. |
| Consolidated Supply Co. | W. 1310 Ide Ave. |
| Construction Equipment Co. | S. 157 Monroe St. |
| Feenaughty Machinery Co. | N. 715 Division St. |
| W. P. Fuller & Co. | N. 229 Post St. |
| General Machinery Co. | E. 3501 Riverside |
| Gidding-McBean & Co. | 524 Old Natyony Bldg. |
| Haweye Fuel Co. | N. 740 Division St. |
| Hofus-Ferris Equipment Co. | W. 728 Mallon |
| Holley-Mason Hardware Co. | S. 157 Howard |
| Jones & Dillingham | W. 715 First Ave. |
| Jones & Mitchell | Hutton Bldg. |
| Long Lake Lumber Co. | N. 348 Wall St. |
| W. S. McCrea & Co. | 212 Symons Bldg. |
| J. E. McGovern Co. | 350 Peyton Bldg. |
| Northover Brick Co. | S. 157 Monroe St. |
| Old National Insurance Agency | Old National Bank Bldg. |
| Oriental Importing Tea & Coffee Co. | W. 917 First |
| Spokane Concrete Pipe Co. | N. 2627 Dakota |
| Spokane Culvert & Tank Co. | N. End Division Street Bridge |
| Spokane Paper & Stationery Co. | S. 152 Jefferson |
| Standard Oil Co. of Calif. | Old National Bldg. |
| Union Oil Co. | 611 Chronicle Bldg. |
| Washington Bridge & Sewer Pipe Co., S. | 151 W. Washington St. |
| Washington Machinery & Supply Co. | W. 9 Cataldo |

PACIFIC

25¢
per Copy

SKILL - INTEGRITY



RESPONSIBILITY

CONSTRUCTOR

CONSOLIDATED WITH

Building and Engineering News

IN THIS ISSUE



SUBMARINE EXPLORATION FOR SAN
FRANCISCO-OAKLAND BRIDGE

By Spencer B. Lane

REGISTRAR OF CONTRACTORS URGES
INDUSTRY TO REBUILD PUBLIC
CONFIDENCE

CUTS IN STATE HIGHWAY WORK LIKELY
DUE TO DROP IN GAS TAXES

SHRINKAGE IN CONSTRUCTION

WAGNER BILL FOR PUBLIC WORKS URGED

LEGAL DECISION :: UNIT BIDS
CONSTRUCTION NEWS



The A-C Model "L"

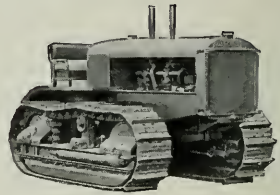
POWER—The Model "L" with its big 6-cylinder engine of Allis-Chalmers design and manufacture is built to handle the heaviest dirt moving equipment.

SPEED—A range of six speeds, 1.9 to 6.5 m.p.h forward, and two in reverse provides the owner of a Model "L" with a speed for every need.

FOOTING—The balance of weight and power is ideal in the Model "L." It will keep its footing on side hills or on road grades while delivering full power.

ACCESSIBILITY—The engine, transmission, steering clutches and final drive are all easily accessible for adjustment and inspection. This feature of the Model "L" pleases ALL tractor men.

Power...Economy...Performance



**ALLIS-CHALMERS
TRACTORS and
EQUIPMENT**

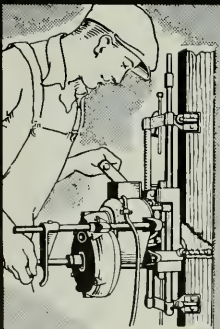
**Eby Machinery
Company, Ltd.**

35 MAIN STREET

DOuglas 1068

San Francisco

WAPPAT *Electric* TOOLS



Are Built to Last Longer

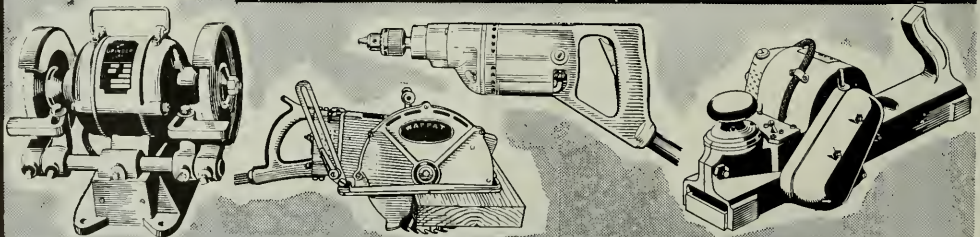
Cuts production costs . . . Speeds up the
job . . . Makes for greater efficiency . . .
A size and type for every purpose.

Ask for a Demonstration

M. N. THACKABERRY

228 First Street, San Francisco
KEarny 4467

308 E. Third St., Los Angeles
TOOLS RENTED MUtual 7508



PACIFIC CONSTRUCTOR

With which is Consolidated Building and Engineering News

Official Publication of the Associated General Contractors of America
for the Eleven Pacific Coast States

J. P. FARRELL, *Editor*

SPENCER B. LANE, *Assoc. Editor, Assoc. M. Am. Soc. C. E.*

VOL. 15

SAN FRANCISCO, CALIF., JUNE 15, 1932

No. 11

Editorial Comment

"What America needs is a good five-cent glass of beer," says Bill Hague, secretary-manager of Alameda County Chapter, Associated General Contractors.

"The curse of prohibition is that it is financing crime. In a futile effort to enforce prohibition we are spending a lot of money in the hands of gangsters," so says Frank A. Merrick, president of the Westinghouse Electric & Manufacturing Company, who urges immediate repeal of prohibition.

Everybody is declaring themselves on the prohibition problem, with the exception of the boys in Washington.

Australia's highway construction program is more or less hamstrung by government ownership of railroads, according to James A. A. Pollock, engineering fellow of the University of Queensland, at Brisbane.

Pollock is touring the United States, studying the highway system.

In Australia, he said, the government operates the railroads. Distances between population centers are so great and the consequent operating deficit so large that much of the tax money which should be diverted to highways goes toward maintaining the rail lines.

The Reconstruction Finance Corporation has made little noise since it was created in February, but it has achieved a few things.

Its directors reported to President Hoover over the week-end that \$670,000,000 of loans have been made. Of this, \$170,000,000 went to railroads, increasing employment in some cases, preventing receivership in others.

The corporation has loaned \$75,000,000 to 450,000 farmers through the Department of Agriculture. A large part of the remainder went to banks, and of this 70 per cent was to banks in towns of less than 5,000; \$225,000 in communities under the 25,000 mark.

In all, some 10,000,000 depositors are estimated to have benefited in new safety for their funds. Bank failures declined to normal figures from a rate of 100 a week at the time the corporation was launched.

For the benefit of those engaged in the construction industry who are of the opinion that the Registrar of Contractors, charged with enforcement of the contractors' license law, is not fulfilling the duties demanded by that office, it might be well to study the following listing citing contractors who are no longer engaged in the contracting business:

Frank Perz, general contractor, San Jose, license No.

15582; found guilty of "failure to comply with the terms of a contract."

John F. Smith, general contractor, Morgan Hill, found guilty of "poor workmanship and evidences of incompetency in connection with construction."

George W. Ryman, sub-contractor, plumber, Sunnyvale, license No. 33433; charged with diversion of funds. Failed to "answer citation and to appear at hearing."

C. B. Van Epps, general contractor, Palo Alto, license No. 18209; found guilty of "failure to fulfill agreement with complainant or follow the suggestions of the state department."

Cleveland Smith, speculative builder, San Francisco, license No. 31547; "failure to appear at hearing of complaint."

Harry Turner, sub-contractor, masonry, Carmel, license No. 17287, found guilty of "violation of plans and specifications."

Fred McCrary, general contractor, Salinas, for failure to "answer citation or appear at the hearing of complaint."

A. H. Davi, general contractor, Pittsburg; license No. 5722, for failure to "answer citation or appear at hearing of the complaint."

PRISON CAMPS DEFENDED.—The California system of employing convicts for highway work outside prison walls was defended by Governor Rolph in answer to Paul Scharrenberg, secretary of the State Federation of Labor, who used the plan in illustrating a speech regarding unemployment.

Scharrenberg, addressing a meeting of the State Tax Research Bureau with its advisory council, urged, among other things, consideration of convict labor as one obstacle unemployed freemen face.

Governor Rolph answered the point a little later, saying he did not favor putting convict labor in competition with free labor, and that the system had been inherited from his two immediate predecessors.

The governor said there were 506 convicts employed in prison road camps at 35 cents a day, and that if they were placed back behind the penitentiary walls the road work would only serve 110 men at \$4 a day.

The governor had members of the Advisory Tax Council express itself by a rising vote, and all favored retention of the prison camps.

Scharrenberg explained that he was not objecting to the camps, but was using them as an illustration.

Limit Stakes and Levels

By THE EDITOR

The working time of all employes, including officers, of the Western Electric Company will, effective July 1, be reduced to four and one-half days from the present schedule of five days, the company has announced. The company is the manufacturing subsidiary of the American Telephone & Telegraph Company. Reduction of working time, the company stated, was a further measure for spreading work among a maximum number of employes.

* * *

A resolution has been adopted by the Board of Public Works of Indianapolis condemning the practice of contractors in that city of paying wages of 20c an hour on street improvements. Such contractors are warned that wages will be taken into consideration when contracts are awarded. Union officials pointed out to the board that the wage reduction has not been reflected in the contractors' bids.

* * *

The Central Labor Union, of Portland, Ore., has adopted a strong resolution against the action of the State Board of Control in its proposal to use convict labor in the construction and operation of the state light and power plant at Salem. The resolution declared that with many citizens and taxpayers of Oregon unable to find employment and with many civic agencies endeavoring to find work for them, it was an extremely unwise policy for the state itself to use convicts to do public construction work in competition with free labor.

* * *

To aid members of the Engineering Department of Seattle who have been laid off, those remaining in the department are contributing one day's pay each month for six months. From the fund thus created loans are made without interest, to be repaid when the borrowers are able. The average amount contributed monthly since the first of the year is \$1,488, and 25 former employes, unable to obtain positions, were receiving loans at the end of April. The maximum monthly loan is \$75.

* * *

Contractors engaged in building highways in Ohio will drill several hundred water wells throughout the state to provide water for their work, and safe drinking water for their employes and for Ohio motorists. The wells are expected to cost about \$200 each and are to be paid for as extra work. The contractor may either include the cost of the wells in his bid or put in an extra bill.

* * *

Neill M. Toohy, editor of the Bureau of Publications and Documents of the State Department of Finance at Sacramento, was a recent visitor to the office of Pacific Constructor. Toohy is a San Francisco youngster, born and raised in this community. His recent visit to his home town was in the interests of Col. Carlos Huntington, state registrar of contractors. Mr. Toohy, in the immediate future, proposes to issue a series of articles to the press with a view to educating the public on the value of the Contractors' License Law. He is of the opinion (as is the writer) that while the law was passed primarily for the protection of the building public against the "fly-by-night" and "jerry building," it has proven of tremendous value to the construction fraternity.

ALAMEDA COUNTY CHAPTER, A. G. C., COMMENDS PACIFIC CONSTRUCTOR

Alameda County Chapter, A. G. C., at its May meeting adopted a resolution commending the publishers of PACIFIC CONSTRUCTOR and assuring the cooperation of that unit which declares the publication a "most valuable and essential medium for the dissemination of A. G. C. activities." The resolution, signed by Wm. E. Hague, secretary-manager, is published herewith:

"WHEREAS: PACIFIC CONSTRUCTOR is the official publication of the A. G. C. Chapters for the State of California, and

"WHEREAS, the officers of the California State Branch have officially appointed The Stark-Rath Publishing Co. as publishers, through that certain agreement dated January 5, 1932, and the publishers have evidenced every effort to properly conduct the publication of said magazine, and

"WHEREAS, PACIFIC CONSTRUCTOR constitutes a most valuable and essential medium for the dissemination of A. G. C. activities, in addition to providing the State Branch with a prospective source of revenue, and,

"WHEREAS, the publishers have complied with all of the provisions of the above agreement, including the publication of the 'Daily News Service,' therefore,

"BE IT RESOLVED, That Alameda County Chapter of the Associated General Contractors hereby goes on record as heartily favoring the combined cooperation of all Chapters of this Association in the eleven Western States and more specifically the Chapters in the State of California to the end that PACIFIC CONSTRUCTOR be given the support that it properly deserves as an A. G. C. medium."

A. G. C. EXECUTIVE BOARD CONDEMNS HAND LABOR METHODS

Hand labor in place of modern equipment on public works construction is condemned in a resolution adopted by the Executive Board of the Associated General Contractors. "Such labor," the Association declares, "results in a waste of public funds and would be largely used to perpetuate the political control of the various districts of the country."

The resolution is published herewith:
RESOLUTION

"WHEREAS, In this time and stress and strain due to the reduction of production and distribution and the consequent unemployment, blind would-be leaders have voiced the belief that in the interests of immediate relief of that unemployment we should abandon the use of machinery and do all possible public construction work by hand labor, and

WHEREAS, We believe that such action would only result in an enormous waste of public funds; would not operate to bring about a proper readjustment of business and would be largely used to perpetuate the political control of the various districts of the country,

THEREFORE, BE IT RESOLVED, by the Executive Board of the Associated General Contractors of America assembled at Washington, D. C., May 3, 1932, that we condemn this idea as economically unsound and deplore the shortsightedness of those who lend themselves to the promulgation of such proposal, and

BE IT FURTHER RESOLVED that we condemn the execution of public construction by the so-called day labor method except only in such cases as it can be conclusively demonstrated that that method is more economic than the contract method.

Submarine Exploration For San Francisco-Oakland Bridge

By SPENCER B. LANE

THE determination of foundation conditions for the San Francisco-Oakland Bay Bridge presented some very interesting problems. A considerable amount of equipment was necessary, some of which had to be developed to meet the special requirements of the work.

This article is limited to that portion of the work which was carried on under the waters of the bay. The conditions on Yerba Buena Island and in San Francisco were also carefully investigated, but that work was done under separate contracts. Some preliminary work had been done in connection with the preparation of the Hoover-Young report before this contract was let.

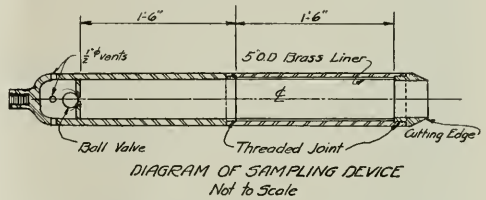
There will be five piers between the San Francisco shore and Yerba Buena Island. These five are the heaviest piers of the bridge. The following table gives their approximate location, together with the depth of water in feet below mean lower low water.

| Pier | Location | Depth of Water |
|------|--|----------------|
| 2 | Off Pier No. 24, San Francisco | 40 |
| 3 | 2360 feet beyond Pier 2 | 70 |
| 4 | 1220 feet beyond Pier 3 | 70 |
| 5 | 1220 feet beyond pier 4 | 70 |
| 6 | 2360 feet beyond Pier 5, or about 800 feet from Yerba Buena Island | 105 |

The first three piers between Yerba Buena Island and Oakland are in a depth of 40 feet; the remainder in a

two 4745 gallon water tanks; one 7000 gallon fuel oil tank; one 120 HP Lidgerwood boiler; one 120 HP American boiler; one steam electric generator; one 9½x10 single phase Westinghouse compressor; and six spotlights. Water for jetting was supplied by a Dow steam pump, 10x8x10. A laboratory was installed so that tests of the material brought up could be tested with the least possible delay. Two 3 drum steam hoists were provided for handling the anchor lines.

The sites of all piers were explored to rock with a water jet. A 3½ inch extra heavy pipe was used, reduced



to a 1¼ inch nozzle. The steam pump on the barge furnished water to this jet at a pressure of 300 pounds to the square inch. The water was delivered to the jet pipe by an ordinary fire hose, which proved quite satisfactory.

It was desired to secure samples of some of the material above the rock in its natural state. In order to do this, an 8 inch well casing was driven into the material with a drop hammer. The sampling device—which is shown in the accompanying sketch—was screwed to the end of a steel rod. It was then jacked down into the soil inside the well casing.

The cutting edge at the bottom of the device was removable. It had a shoulder which held the inner brass tube firmly in position. Above this brass tube there was a space to accommodate the sludge from the bottom of the hole and keep it out of the sample. Above this space was a ball valve, which allowed air and water to escape upward when the device was being jacked into the soil. This valve closed when the sample was being raised; prevented it from being washed out of the tube by preventing the entrance of water or air above it.

When this device was raised to the barge, the brass tube with its sample was removed from the device. This tube was then capped and sealed with paraffine and sent to the testing laboratories of the University of California at Berkeley.

Another similar sampling device was developed on the job, and was found very satisfactory. It consisted of three legs, each of which contains a 2 inch brass tube instead of the 5 inch tube in the larger device. These legs came together in a head which contained a ball valve similar to that in the larger device. The lengths of tube in this three legged device could be varied; sometimes a single 12 inch length; sometimes six 2 inch lengths. The use of the shorter lengths gave a greater number of samples for testing.

The structure of the rock was determined by diamond drill borings. These holes averaged about 200 feet below mean lower low water—the deepest was carried to a point



View of Barge and Column with Platform for Diamond Drilling.

depth of 10 feet. The spans on the San Francisco side of the island are much longer spans than the piers east of the island, so they required the most careful determination of foundation conditions.

All work was handled from a timber barge 110 feet long, 32 feet wide, and having a draft of 3 feet. This was the same barge used for making the preliminary borings for the Hoover-Young report. It was equipped with 80 foot pile-driver leads and a 3 drum Lidgerwood hoist;



GENERAL VIEW OF SAN FRANCISCO-OAKLAND BAY BRIDGE

400 feet below. The following holes were drilled under this contract:

| | | |
|-------------|-----------------|---|
| Pier No. 2 | Number of holes | 6 |
| Pier No. 3 | Number of holes | 4 |
| Pier No. 4 | Number of holes | 6 |
| Pier No. 5 | Number of holes | 6 |
| Pier No. 6 | Number of holes | 4 |
| Pier No. E2 | Number of holes | 4 |
| Pier No. E3 | Number of holes | 2 |

This list does not include any holes drilled in the work for the Hoover-Young report, nor any holes drilled from land rigs.

During this part of the work it was very necessary that the barge be securely anchored against the strong tidal

currents. This was done by 5 to 7 anchors, weighing 5000 pounds each.

The drilling equipment was mounted on a platform which was supported on a latticed column of structural steel. This column was 2 feet square, and rested on the bottom of the bay. It was held upright by a frame of 14-x14 timbers secured to one end of the work barge. This frame did not support any of the weight of the column or platform; it acted only to steady it. The relation of this column and platform to the barge is shown in the illustration.

The diamond drills were operated from the platform by a Model "T" Ford motor. This motor was connected to a transmission, which made it possible to vary the

speed of the drill as required. It was connected to the drill by a bevel gear. The whole device was built in the shops of the Mitchell Diamond Drill Co. in San Francisco. Engine and transmission were mounted on a structural steel frame. Water for cooling, lubrication, and to remove the cuttings was supplied to the drill through a 5-8 inch hole in the drill rod.

The diamond drills provided cores of rock 2 inches in diameter. When the material in which it was working was so soft that there was danger of caving, a 3 1/2 inch pipe was used outside of the drill to prevent trouble from that source.

In addition to the holes which were drilled, a test of
(Continued on Page Seven)

REBUILD PUBLIC CONFIDENCE SAYS REGISTRAR OF CONTRACTORS

By NEILL M. TOOHEY

Declaring that a "definite upturn in California business conditions is already apparent," Col. Carlos W. Huntington, state registrar of contractors, urges increased public confidence and the promotion of higher ethics and standards in industry as a means of speeding up the economic recovery.

Addressing a conference of 200 contractors and building material dealers from Sacramento, Yolo, Solano, El Dorado, Placer and Amador Counties, meeting at the Chamber of Commerce in Sacramento, Col. Huntington asserted the "time has now come when we must turn a deaf ear on calamity howlers and build for the future with an unqualified degree of confidence."

The meeting was held under the auspices of the industrial committee of the Sacramento Chamber of Commerce in order to enable contractors and building material men from the Sacramento area counties to become more thoroughly familiar with the scope of the contractors' law, enacted for the protection of the general public as well as the industry itself.

"We are just ending the third year of adverse economic conditions, during which the pessimist, the bear market raiders and the habitual calamity howlers have been allowed full sway, breaking down public confidence and hampering economic recovery.

"I feel positive that economic conditions are now actually on the upgrade, and that a permanent recovery is just a matter of a short period of time. But, to realize the recovery, we must have unlimited confidence in the future and stability of the state and nation. We must quit hoarding. We must build for the future with confidence.

"During the past few months I have been required to attend meetings in several districts of California. In each case I have observed an improvement in the local business conditions. In nearly every district there has been a sharp improvement in the construction industry, which was one of the hardest hit by the depression. The city of Sacramento stands as the outstanding example of this improvement.

"We must have confidence in the future of our state, and we must encourage the public to have confidence in the reliability of our business.

"The contracting industry must do its share. The Bureau of Contractors' Registration, which was created for the protection of the small wage-earner from being bilked, is doing its share through fearlessly carrying out the provisions of the state contractors' act. If you, as contractors, can convince the public they are dealing with a reputable group of men, just that soon will business fully recover. But, if they think they are liable to be defrauded, have the specifications on their homes violated, or have the contractor disappear without finishing the home for which he has been paid, then they will continue to be apprehensive before spending their funds, and the complete recovery will be retarded just that long."

Colonel Huntington, who is also director of the State Department of Professional and Vocational Standards, explained in detail the work of the State Bureau of Contractors' Registration, which was created to war on the fraudulent, the unscrupulous, unethical and the fly-by-night contractor.

"We are here to render the greatest possible service and protection to the public, and we intend to carry out the full letter of the law. When I took over this position last year, my only instructions from Governor Rolph

were: 'Render the greatest possible service to the public, and to protect the people from being defrauded by the unscrupulous contractor.'

"I intend to carry out these instructions to the letter," he said. "In every case brought to our notice, where a contractor has defrauded the public, we will conduct a rigid investigation, and take whatever action seems warranted."

Glenn V. Slater, deputy registrar of contractors, also discussed in detail the operation of the law, and conducted an open forum discussion of the measure. J. J. Gallagher, San Francisco, secretary of the state compensation insurance fund, also spoke on provisions of the compensation act, as it relates to the construction industry.

H. J. Thielen, president of the Chamber of Commerce, presided at the meeting.

San Francisco-Oakland Bridge

(Continued from Page Six)

pile bearing capacity was made between Yerba Buena Island and the Oakland shore. Nine piles were driven in a clump, which was loaded with 550 tons of steel rails. This load of 6.1 tons to the pile resulted in surprisingly small settlement.

Contractors who engage in such investigation work as this drilling are likely to find their costs unexpectedly high. It is not a case of putting down so many feet of hole, but a case of securing certain information. For this reason there are bound to be delays. The exact amount of work which is necessary at each location depends on the kind of information which is developed.

This work was done for the San Francisco-Oakland Bay Bridge Commission; a part of the Department of Public Works of the State of California. The work was done under the supervision of Mr. C. H. Purcell, State Highway Engineer. Mr. Charles E. Andrew was Bridge Engineer in direct charge of the project. Mr. A. J. Stocks was Resident Engineer, and Mr. J. L. Beatty Assistant Resident Engineer. Mr. Beatty was the designer of the sampling devices.

The consulting board consisted of five engineers. Mr. Ralph Modjeski of New York City, was chairman. The other members were Professor C. E. Derleth of the University of California, Mr. H. J. Brunner of San Francisco, Mr. Daniel E. Moran of Moran and Proctor, New York City, and Mr. Leon S. Moissief of New York City.

The general contractor for the work was The Duncanson-Harrelson Co., of San Francisco. The diamond drill work was sublet to the Mitchell Diamond Drill Co. of San Francisco.

SPEED ROAD BUILDING.—Substituting for its pay-as-you-go policy a cash and credit plan, Mexico hopes to complete the Ladero-Mexico City highway, open the Mexico City-Guadalajara highway, and priced actively during 1932 with other highway projects now under way notwithstanding the stringent budget slashing program. The federal objective during 1932, under the new plan, calls for completion of the Mexico City-Laredo highway to such an extent that the tourist can drive down to the Mexican capital from Texas in comfort. Hard surfacing and further improvement of the highway will then be gradually effected. The highway linking the Mexican capital Guadalajara, second in size among Mexico's cities, will be opened during the year, according to the 1932 program. The Mexico City-Acapulco highway, which links the capital with the tropical Pacific port by way of Cuernavaca, Taxco, Iguala and Chilpancingo, will be oiled.

Pacific Portland Cement Team Wins Safety Contest at Fresno

Sixteen teams, representing a cross-section of California industry, competed in the First Aid Tournament held last month in Fresno under the joint auspices of the Society of Safety Engineers of California and the Southern California Society of Safety Engineers.

For the fifth consecutive year the cup in the manufacturers' section was won by the team from Pacific Portland Cement Company of Redwood City. This team also won the championship cup including all classifications, this being the first time any cement company team has won this honor. Last year the cup was won by Pacific Gas & Electric, Sacramento Division, team.

The Pacific Portland Cement Company team is made up entirely of mill employees and coached by Harry Stephens, master mechanic. The awards to the winners include a perpetual championship trophy in addition to

the cup. Individual team members each received a cup, a gold medal and a ten dollar gold piece.

The following comprise the team: Ed. Coe, John Talkington, C. Boulware, Thomas Canvin, William Norton, James Hunt, W. Stephens, Thos. Ryder, H. Stephens.

It is particularly appropriate that a cement company should win the cup, as the industry is recognized as a leading exponent of the Safety First Movement. Starting at the bottom in 1924 with one out of 105 companies exempt from lost time accidents, the industry reached the top in 1929 with 28 companies out of 163 in the United States reporting no accidents resulting in lost time. The winner this year, Pacific Portland Cement, has just completed its fourth consecutive year without a lost-time accident.



CHAMPIONS OF SAFETY

LOW COST ROADS.—Dan B. Miller, managing engineer, Pacific Coast Division of The Asphalt Institute, has been asked to accept an appointment as a member of the American Road Builders' Committee on Development in design and construction of low cost roads.

This committee will conduct a study of the practices in connection with the graded aggregate type of road mix processing, preliminary information of which is now being accumulated. The final report will be presented at the coming annual road builders' convention.

"The members of the Pacific Coast Division of The

Asphalt Institute stand ready at all times to co-operate in any matter which has to do with improved practices," Mr. Miller stated in forwarding his acceptance.

The graded aggregate type of processing is becoming increasingly popular throughout the entire country. Many examples may be seen in the Western states. "Its low construction cost, in addition to the economy and facility of its maintenance, will continue to increase its popularity in road building," Mr. Miller stated. "However, its value as a surfacing material for airports and runways must not be overlooked."

Contractors Machinery Exchange

Rentals a Specialty

1135 · 57th Avenue

OAKLAND, CALIF.

FRUITVALE 0715

CUTS IN HIGHWAY WORK LIKELY AS GAS TAXES DROP

A close restriction of highway construction projects to those which are already budgeted for the current biennium ending July 1, 1933, appeared almost certain as the result of a substantial decrease in the gasoline tax collections for highway purposes.



COL. WALTER E. GARRISON

Colonel Walter E. Garrison, state director of public works, was handed a report by E. R. Higgins, comptroller in the department, revealing a 4% decrease in the tax collections for highways during the first quarter of 1932, and a further loss during April.

In addition, Garrison said, a change in method of payment of the gasoline taxes to the Division of Highways, quarterly instead of semi-annually, would deprive the state for this biennium of some \$4,000,000 in taxes the state expects

to collect during the months of May and June, 1933.

"This indicates," said the director of public works, "that the state may not be able to engage in any highway work aside from that which is definitely included in the Governor's budget. We hope to be able to realize all those projects."

One district which may be affected by the decrease in gasoline tax revenues and the loss to the biennium of the May and June, 1933, collections, is Stanislaus County, where the state had been entertaining hopes of constructing a new bridge across the Tuolumne River, near Modesto, from the savings which have been accruing in the award of contracts.

"We are yet hopeful," said Colonel Garrison, "to be able to accumulate a sufficient amount of money by next April or May so that we can construct the Tuolumne Bridge project, together with its realigned approaches, during the summer of 1933.

"It is essentially a summer job on account of the water flow in the river. It is our desire to advertise the work so that actual construction can be under way in July."

Garrison explained that when the Division of Highways received its revenues semi-annually, on January 1

and July 1, they represented the collections for the preceding six months.

Under new legislation, the Highway Department receives its allotment quarterly, in January, April, July and October. The biennium ends June 30. Thus, with the second quarterly payment not coming until after the end of the present biennium, the amount of money available for highway purposes until after July 1, 1933, will be cut by the amount of the May and June collections, or nearly \$4,000,000.

"In the long run," stated the public works director, "it will amount to only a bookkeeping change. The money will not be lost to the highways. It just means, however, that we will not be able to extend the highway construction program as far during the present biennium as we had hoped. A few projects may have to wait until the 1933-35 biennium."

Higgins' report to Garrison states that "contrary to reports given to the press from other sources, the total gas tax assessments for the month of April, 1932, show a decrease instead of an increase in revenues to be divided between the state and the counties" for highway building.

It shows total gas tax assessments as levied by the board of equalization for April, 1932, amounted to \$3,477,087.17, as compared with \$3,510,691.60 for the month of April 1931, a decrease of .96 per cent.

A decrease also is shown in the total gas tax revenue for the first quarter of this year, which amounted to \$12,938,082.02 as compared with \$13,484,004.37 for the corresponding quarter of last year.

The decrease of \$545,922.35 is at the rate of 4.04 per cent.

DAM PLANS COMPLETED.—Plans for San Gabriel Dam, No. 1, a \$10,000,000 project, have been completed by E. C. Eaton, county flood control engineer of Los Angeles County, and bids for construction will be asked immediately following the sale of a \$2,000,000 block of county flood control bonds. Plans provide for a rock fill dam with poured concrete or Gunitite facing slabs. It will be 280 feet in height above stream bed, extending practically 100 feet below to foundation rock, 1670 feet in length, measured along the road on the crest, and 1200 feet thick at the base.

HODGES DAM RULING.—State Engineer Edward Hyatt is without power to require the San Diego Water Department to make repairs to the Hodges dam, part of the San Diego system. He can, however, refuse to approve the dam and can order the reservoir drained, thus preventing the use of the dam as an impounding barrier. The State Supreme Court thus ruled in refusing to review the decision of the District Court of Appeal, which had ruled in favor of San Diego in denying an order to compel the city to repair the dam. Hyatt had refused to approve the project unless certain repairs were made, and stated that in his affidavit to the Appellate Court that the dam was a menace.



HERCULES EXPLOSIVES

THE CONTRACTORS' FAVORITE

HERCULES POWDER CO.



Standard Oil Building

San Francisco

Douglas 2330

PACIFIC CONSTRUCTOR

Consolidated with
BUILDING AND ENGINEERING NEWS

J. P. FARRELL, Editor SPENCER B. LANE, Assoc. Editor
Assoc. Mem. Am. Soc. C. E.
 H. BAILY BRUNS, Advertising Manager
 Publication Office: 545-547 Mission St., San Francisco
 Telephones: GARfield 8744-8745

PACIFIC CONSTRUCTOR is the official publication of the Associated General Contractors of America for the eleven Pacific Coast states. Issued on the first and fifteenth of each month. Printed and published by the Stark-Rath Printing and Publishing Co., 545-547 Mission Street, San Francisco.
 Subscription Price: \$5.00 per year, payable in advance. Single copies, 25c.

WATER BONDS VALIDATED.—The validity of the \$220,000,000 bond issue of the Metropolitan Water District of Southern California was upheld by the Supreme Court of California, June 2. The decision affirms the judgment of the Los Angeles County Superior Court, which validated all proceedings incidental to the election, September 29, 1931, and determined the sufficiency of the provisions for the collection of an annual tax sufficient to pay interest on the indebtedness as it falls due, and to constitute a sinking fund for the payment of principal on or before maturity.

In the findings of the Superior Court, all claims of J. E. Burney, taxpayer, as intervenor, were denied, and the judge decided that funds for the campaign before election had been legally expended, and that the district has a legal right to levy taxes. The court upheld the petitioner's stand in its memorandum of points on demurrer that the Metropolitan Water District Act does not contravene the due process of law clauses of the 14th Amendment to the United States Constitution. The district, as petitioner, also maintained the point advanced by the taxpayer defendant that Article III, Sec. 1, of the California Constitution, concerning the division of governmental powers, does not apply to local or quasi-municipal corporations such as the petitioning district, but applies only to the state government.

The Swing bill, granting rights of way for the proposed aqueduct from Boulder Canyon in Los Angeles, was approved June 1 by the House rules committee. The bill has been unanimously approved by the House public lands committee and by the Department of the Interior.

INCORPORATES.—California Rock & Gravel Co., of San Francisco, capitalized for \$200,000, has filed articles of incorporation with Harry I. Mulcrevy, county clerk. Directors of the company are: John A. Sutro, Garry Owen and Frank N. Marshall.

POLICIES NECESSARY TO ECONOMIC RECOVERY CITED

The adoption of methods through which to further the economic stability of the Nation and to effectually relieve unemployment, were the topics discussed at the June 5, Rapidan conference between President Hoover, Governor Meyer of the Federal Reserve Board and Directors of the Reconstruction Finance Corporation.

First on the list of conclusions of "immediate policies necessary to speed economic recovery" is the necessity for the extension of authority of the Reconstruction Finance Corporation to increase its issuance of securities to the maximum, so as to be in a position, among other things, "to buy bonds from political subdivisions or public bodies so as to start construction of income-producing or self-liquidating projects, which will at once increase employment," according to the Associated Press dispatch.

"There can be no question of the statement that general highway construction comes under both of these stipulations," asserts Daniel B. Miller, Managing Engineer, Pacific Coast Division, The Asphalt Institute. "The construction of highways has resulted directly in the production of many millions of dollars in income through collection of gasoline tax and motor vehicle fees. This income has not only liquidated original costs but it has provided abundant funds for increased road construction. The building of these roads has been the impetus, which has made possible the employment of thousands of men in the manufacture of motor trucks and automobiles."

"One of the most important tasks of highway engineers is the accomplishment of the extension and improvement of our secondary road system. Certainly traffic requirements on our main highways must be provided for but decreased transportation costs and increased marketing facilities for the producers of our raw foodstuffs are paramount. So it will be seen that immediate attention to this phase of highway work will be in keeping with the conclusion of the conference, in which is strongly declared the necessity of stimulating employment and stiffening the whole agricultural system."

In providing farmers with roads which are usable during the entire year, a new market for trucks will be created, which will enable the manufacturer to re-employ many men. At present approximately one million of the six and one-quarter million farmers of the Nation have trucking facilities.

Mr. Thos. H. MacDonald, Chief of the U. S. Bureau of Public Roads, in a recent address before the American Road Builders Association, said that "the cost of road building is now 45 per cent below 1924 costs."

A combination of the facts prove beyond doubt that the present unemployment situation can be forced into the realm of past history through the adoption of a judicious program of highway development.

COLTON CEMENT



Uniform Quality : Service : Satisfaction

Manufactured by

CALIFORNIA PORTLAND CEMENT COMPANY

1228 PACIFIC MUTUAL BUILDING

Mills at Colton, California

TR. 1271

Los Angeles

Shrinkage In Construction

(Reprinted from the Highway Builder)

FIGURES released recently by the Associated Pennsylvania Constructors vividly portray the collapse in the construction market in 1931 proceeding from the depression and increased day labor construction, the latter being manifested, particularly in highway building.

In the first tabulation below are figures showing the total volume of construction operation in Pennsylvania for the year 1930 and 1931 viz.:

| | Building Construction | Engineering Construction | Total Construction |
|------|---------------------------|-----------------------------|------------------------|
| 1930 | \$293,445,000 (74%) | \$132,186,300 (83%) | \$425,631,300 (77%) |
| 1931 | \$137,250,000 (71.25%) | \$68,503,400 (67%) | \$205,753,700 (70%) |

The foregoing figures do not, however, tell the whole story for contract construction, as they cover both contract and day labor operations. The percentages shown above in brackets represent the percentages of all construction done by contract for the Atlantic States, no separate percentages or division of amounts (as between contract and day labor construction) for Pennsylvania alone having been exactly procurable. Since it is known that day labor operations in 1931, in the other states involved, did not extend to any such comparative volume as in Pennsylvania, the amount of contract construction in Pennsylvania for 1931 is not fairly represented by the percentages shown for that year.

Based upon this fact and other data received, it is the opinion of the Associated Pennsylvania Constructors that the total figures for contract construction only in Pennsylvania, during the two years covered, should be approximately as follows:

| | Building Construction | Engineering Construction | Total Construction |
|---------------------|--------------------------|-----------------------------|-----------------------|
| 1930 | \$271,149,300 | \$109,714,630 | \$380,863,930 |
| 1931 | 92,500,000 | 40,500,000 | 133,000,000 |
| Decrease | \$178,649,300 | \$69,214,630 | \$247,863,930 |
| Decrease Percentage | (65.4) | (63.1) | (64.3) |

Similar information for other States of the Union would tell a sorry story of the inroads made upon the constructor's market by an alliance of depression and day labor. With this powerful combination to face, many constructing concerns have been put out of business or find their business lives at stake. Defense of their market has become a burning issue not only for them but for various other allied industries. Figures given in the Congressional Record (P. 4988) during discussion of the pending Emergency Road Construction bill show that on July 1, 1931, approximately 40% of all persons engaged on state highway construction throughout the Union were employed directly by the State Highway Departments and only 60% by the constructors. Since that time conditions in many states have grown progressively worse. The above ratios have been more than reversed in some instances. If there are any constructors in the United States who do not think that the present day labor movement, which has manifested itself in one form or another in practically every State, is a serious menace, they must be deaf, dumb and blind. The situation was vigorously portrayed in a recent address by the President of the Associated Pennsylvania Constructors when he said:

"During the past year over 50,000 men have been employed directly by state, municipal and other public authorities on construction work in Pennsylvania and we have seen day labor entering into both building and engineering construction. Thousands, unfitted for such work have been employed at the price of throwing thousands of others who have devoted a lifetime to such work, out of employment or means of livelihood. The result has been a tremendous waste of money. Counties and most municipalities are required by law to award their con-

struction work to the lowest responsible bidders in order to properly safeguard the expenditure of public funds. The law should be enforced against them and applied to the State and all its political sub-divisions.

"The movement which we have seen for using public construction as a means for extending charity is nothing more than the application of a concealed dole. The tax funds which have been used for this purpose were legislated into existence upon the premise and promise that they would be expended on an economical and not upon a charitable basis. Using such funds for charity is tantamount to raids upon the public treasuries which were contemplated neither by the lawmakers who voted the taxes nor by the people who acquiesced in them. *We are as anxious as any other good citizens are that the proper relief measures be brought to bear in the present distressing conditions, but we maintain that charity should be handled directly as charity and not under the guise of something else.*

"The construction industry has been singled out from all other industries to be slaughtered and to bear an undue burden of employment relief by the application of a system which is taking the roofs from over the heads of that business and its employees. The taxes which these men pay, are being used to ruin them. *Millions of dollars which have been squandered in this wasteful method of expending public funds could have been saved through application of the contract system and such savings would have been available for the direct relief of suffering.* The taxpayers will shortly awake to the huge bill they have been paying. It is high time to get down to sound fundamentals of government and tax expenditures.

"A craze for hand labor on public construction has been sweeping the country under the guise of unemployment relief. Handing every unemployed person a pick and shovel will do little to relieve the situation. Such upsetting of normal construction procedure, by headstrong and shallow thinking people, has already put many of those dependent upon construction work in line for a hand shovel. Work must be provided for all but not work that penalizes the public in cost and nor work that turns us back in construction progress and upsets established construction practices so as to make the present bad conditions even worse. Persons unqualified or unfit to render an honest day's work are subjects for the welfare organizations or for special governmental appropriations applied directly and without waste." *There is no more justification for wrecking the construction business for the benefit of unemployment relief than there would be for destroying the banks or the railroads for the same purpose.*

PERFORMANCE RECORDS OF SURETY COMPANIES TO BE COMPILED

At the spring meeting of the Executive Board of the Associated General Contractors of America in Washington last month it was determined that the organization should compile in the national office the performance records of all the surety companies. Since the contractors are offering through the Bureau of Contract Information a three-year performance record, they are likewise entitled to receive similar information from the bonding companies, the Executive Board declared. This will enable the A. G. C. to ascertain the extent to which particular surety companies are assisting in the promotion of the principles for which the organization stands: namely, guaranteeing to the public the qualifications of Skill, Integrity and Responsibility.

Public Works Program May Fail With Failure Of Wagner Bill

(Special Correspondence)

Do to various conflicting statements issued in the press in regard to public works legislation, the following statement has been prepared by the Public Works Committee of the American Society of Civil Engineers with a view to clarify the subject in the minds of the membership.

THERE are at present before Congress three proposals for public works legislation which are being seriously considered. One, the Wagner Bill, Senate Bill No. 4755. Second, the Garner Bill, H. R. 12353. Third, the Administration measure introduced in the House by Representative Hawley and in the Senate by Senator Barbour. The Administration bill was introduced in the House on June 3 and in the Senate on June 4. While there have been various statements in the papers at various times in regard to the policy of the Administration, it should be clearly understood that these are the first Administration measures which have been introduced, and prior to their introduction there was no legislation before either branch of Congress which represented the views of the Administration in regard to public works.

The Wagner Bill was originally drawn by a Democratic committee of the Senate in consultation with the Administration. During the conference between the Democratic committee and the Administration, however, some points of difference developed and were perpetuated in the final draft of the bill. Secretary of the Treasury Mills stated in Senate hearing that three-fourths of the provisions of the Wagner Bill were entirely acceptable to the Administration and suggested certain amendments which would bring 100% agreement.

The Administration, however, has characterized the Garner Bill as a "pork-barrel" and is definitely opposed to its enactment as a law.

In connection with the following discussion of the points of difference between the various bills it should be clearly understood that there is a considerable amount of jockeying for political advantage between the proponents of the various bills and that the various parliamentary maneuvers and public statements often originate in an attempt by one side or another either to maintain or to deprive the other side of some political advantage.

It will be advantageous first to indicate points of similarity between the various bills and then to point out the differences. All bills provide for *direct relief to the destitute* through loans to the states by the Reconstruction Finance Corporation. The Garner Bill provides \$100,000,000 for this purpose. The Wagner and Administration Bills, \$300,000,000 each. There are certain differences in all bills in the methods of distribution of these funds. Present indications are that this relief loan fund will be provided for in a separate bill.

All bills provide for loans through the Reconstruction Finance Corporation for *self-liquidating or revenue producing projects*. The Garner Bill provides about \$1,000,000,000 for this purpose, the Wagner Bill about \$1,460,000,000, and the Administration Bill about \$1,400,000,000. The Wagner Bill limits these loans to states and political subdivisions of states. Both the Administration and Garner Bills permit a portion of these loans to be made to provide corporations. There are varying propositions in the different bills for loans of relatively small

amounts to finance the sale of agricultural produce, for home building purposes, etc.

The main points of difference between the various bills is in regard to *Federal public works*. The Garner Bill provides for the sale of \$1,000,000,000 of long term bonds for this purpose, and the Wagner Bill for bonds to a total of \$500,000,000. The Federal public works projects totaling \$1,000,000,000 listed in the Garner Bill are those recommended by the Inter-departmental Planning Board of the Administration in its long term planning project and represent an acceleration of this program. About three-fourths of them are public buildings, the remainder being rivers and harbors, roads, docks, etc.

About two-fifths of the \$500,000,000 of Federal public works proposed in the Wagner Bill are for projects which are already in the Budget and to this extent the bond issue proposed by Senator Wagner would relieve the Budget of about \$200,000,000 of authorized appropriations paying for them with the proceeds of a long term bond issue rather than from current revenue. \$120,000,000 of the \$500,000,000 is for loans to states to enable them to meet their share of the Federal road contribution. The regular Federal aid contribution is carried in the Budget but under the terms of this appropriation the states are required to match Federal funds by equal state appropriations. \$120,000,000 is therefore for the purpose of enabling states which cannot now raise money to meet this Federal aid requirement. A bill has already passed the House and is under consideration by the Senate to provide this same \$120,000,000 as a loan to states to be deducted from future Federal road aid. This latter bill has already been opposed by the Administration.

The remaining two-fifths of the Wagner \$500,000,000 bond issue is made available for additional *Federal public works* construction to be designated by the President from projects already authorized by the Inter-departmental Planning Board.

The main differences between the Wagner Bill and the Administration measure are: (1) in regard to the advisability of a bond issue; (2) the expediency of adding \$300,000,000 to the Federal public works program; (3) the advisability of extending loans to private enterprises for construction which is contained in the Administration proposal but not in the Wagner Bill. The only serious disagreement is on the first and this is a matter upon which there is a very considerable divergence in prominent financial opinion. Many prominent financiers hold that it would be advantageous to raise the entire sum for relief public works and loans to states and subdivisions by long term bond issues rather than by short time borrowing through the Federal Reconstruction Finance Corporation. The method of financing is a question for discussion between financial and political authorities and with whom ultimate decision will rest.

Considering the entire public works legislative program from a political standpoint and giving due regard to the legislative situation and the rules of procedure, there has been no bill upon which the sane advocates of public works could concentrate except the Wagner Bill, due to the fact that the Administration legislation was not introduced until last week. Due to their late introduction the Administration measures cannot be considered in both houses at this late date nor can Administration measures

(Continued on Page Thirteen)

**CENSUS OF CONSTRUCTION
FIGURES FOR UTAH COMPLETED**

Census of Construction figures compiled for Utah from data gathered in connection with the Census of Distribution, show that construction business during 1929, as reported by 129 concerns in that state doing a business of \$25,000 or more, amounted to \$17,350,000. These concerns included six operative builders, 60 general contractors and 63 subcontractors. This represents not only building, but also all classes of engineering construction. Of this total, about 77 per cent represents construction business in Utah. Construction business handled under general contract or directly for owner amounted to \$13,570,000, and that under subcontract \$3,780,000.

The three principal items of expenditures reported totaled \$13,209,000, of which \$4,451,000 was for subcontract work let, \$4,041,000 for wages, and \$4,717,000 for materials.

In the census tabulations, distribution by class of ownership was reported for \$17,022,173 of the total construction business, as follows:

| | |
|---------------------------------|--------------|
| Private construction | \$11,076,050 |
| Quasi-public construction | 1,107,681 |
| Public construction | 4,838,442 |

The number of Utah contracting concerns reporting that they did less than a \$25,000 business in 1929 was 710. Of this number 180 stated they were general contractors, and 456 that they were subcontractors.

Further details regarding the construction business in Utah are contained in the bulletin, "Construction Industry—1929—Utah" just published by the Bureau of the Census. This is obtainable from the Superintendent of Documents, Washington, D. C., at the price of 10 cents. Remittance should be made by postal money order, express money order, check made payable to the Superintendent of Documents, or by currency sent at the sender's risk. Postage stamps, defaced or smoothed coins will not be accepted.

Construction Statistics of Utah Contractors—1929

(Include only establishments reporting a business of \$25,000 or more)

| Area | Number of Estab. | Total Val. of Construction Business (Dollars) | Wages Paid (Dollars) | Cost of Materials (Dollars) |
|------------------|------------------|---|----------------------|-----------------------------|
| Utah | 129 | 17,350,000 | 4,041,000 | 4,717,000 |
| Principal city: | | | | |
| Salt Lake City.. | 93 | 11,297,000 | 2,723,000 | 3,835,000 |
| Counties: | | | | |
| Cache | 4 | 484,000 | 174,000 | 190,000 |
| Salt Lake | 94 | 11,335,000 | 2,732,000 | 3,854,000 |
| Utah | 12 | 1,003,000 | 235,000 | 279,000 |
| Weber | 15 | 4,306,000 | 850,000 | 343,000 |
| Other counties.. | 4 | 222,000 | 52,000 | 51,000 |

The Murray Iron Works Co., Burlington, Iowa, has published a new bulletin, No. T-111, describing its lines of high-speed herringbone reduction gears.

**U. S. ROADS FEATURED IN
FILM AVAILABLE TO INDUSTRY**

"An International Study of American Roads," a six reel motion picture in sound, scored to music by the Marine Band Orchestra, has been released by the U. S. Department of Agriculture. The film shows the extent of the highway system of the United States, highway construction methods, and highway engineering activities.

The selection of various types of road surfaces designed to meet the needs of traffic, the effects of pneumatic and solid tires, weight and speed of vehicles, the use of locally available materials for road building and the service of the highways are portrayed.

In an introductory speech, Thos. H. MacDonald, Chief of the Bureau of Public Roads, expresses the hope that this motion picture will promote understanding in the road building fraternity in the United States and in the world generally. The titles have been prepared in three foreign languages and the intention is to supply prints to the many countries that send delegates and representatives to the Sixth international Road Congress, held in Washington in October, 1930.

This film is intended primarily for road builders but it also presents a study of our highway system and the traffic it serves, and offers information valuable to motorists.

"An International Study of American Roads" is standard 35mm. sound-on-film. It is loaned by the Office of Motion Pictures, U. S. Department of Agriculture, Washington, D. C., to responsible borrowers paying transportation charges.

Public Works Program

(Continued from Page Twelve)

be accepted by the Senate except as a substitute for the Wagner Bill. The Garner Bill has very objectionable features.

The probabilities are that a bill passed by the Senate and the Garner Bill will go to a conference committee and that a compromise will be effected there between the Garner Bill, the Wagner Bill and the Administration measures. The Wagner Bill now has the best chance and perhaps the only chance of passing the Senate. Should it fail to do so, the entire public works program may fall through. Therefore, it seems to your representatives that the best chance of getting public works legislation at this session lies in support of the Wagner Bill, realizing that it will probably be so amended in Congress as to insure Presidential approval.

Whichever bill or modification of existing bills is finally enacted into law it is important that there should be in them provisions for making the legislation effective. It is believed that this can best be effected by the establishment of a central project board and twelve district project boards, one in each of the twelve Federal Reserve districts to be composed of engineers and architects. An amendment to this effect has been submitted to Senator Wagner and approved by him. The President's statement of June 6 also recognized the necessity for engineering boards although he has made no statement in regard to their composition.

Phone TRinity 0241 for — Consolidated Rock Products Co.
Rock-Sand-Gravel-Plaster
Cement-Mixed Mortar-Stucco
Lath-Lime Putty-Reinforcing Steel
 566 S. Los Angeles St. Los Angeles, Calif.

PUBLIC WORKS PROGRAM WILL EMPLOY MANY MEN

Appropriations necessary to employ a given number of men for a year on road building may be estimated from the employment records of 1931 on federal-aid highways as \$1,000,000 for each 3,000 men laboring directly on the highways, states T. H. Cutler, president of the American Road Builders' Association.

The figures on which this estimate is based were presented before a committee of Congress by the American Association of State Highway Officials, and they were derived from reports of actual expenditures and men at work," declared Mr. Cutler. "In 1931, about a billion dollars was expended on state roads and the average direct employment was 270,891 men per month.

"It is a commonly accepted figure that two men are employed in the preparation of materials, transportation and similar activities occasioned by highway work in progress for each man laboring directly on the roads.

"To employ 1000 men three months on grading work on roads, the U. S. Bureau of Public Roads estimates the following program:

Teams and scrapers—1,000,000 cubic yards costing \$185,000 to \$315,000.

Power shovels served by trucks and teams—1,400,000 cubic yards costing \$445,000 to \$650,000. This material is hauled long distances, which costs more money.

Other forms of construction than road and street building, employ many men, but it is doubtful if any public construction work is as widespread and affects the laboring man more than highway work," continued Mr. Cutler. "On grading for roads, a large part of the money goes for labor, employing from 2,000 to 5,000 men for each million dollars expended. In the construction of pavements, from 80 to 90 per cent is paid directly or indirectly for labor.

"Proposed public works programs now before federal state, county and city governments provide an effective means of reducing the number of idle men and bringing about needed public improvements at a time when the dollar will buy as much as 50 per cent more than it would two years ago. Spending \$100,000 for public works will provide employment for 300,000 men full time on the roads and 600,000 men part time in quarries machine shops and on the railroads—nearly a million employed," he concluded.

PROTEST GENERAL CONTRACT.—A new policy in city construction work, under which responsibility for all contract jobs will be centered in one general contractor, is announced by William H. Worden, director of public works.

Accordingly, contracts for the new \$350,000 psychopathic ward and cancer institute for the Department of Health will be awarded in one contract, and separate phases of the construction work will not be segregated.

He pointed out that in the past contracts it has been impossible to centralize responsibility on city construction jobs where the city was dealing with a number of different contractors.

The new policy will promote economy and efficiency in the work, Worden declares.

The proposal of Director Worden, however, is not favored by the San Francisco Electragists nor the Heating and Piping Contractors' Association. Both organizations have filed protests with Worden, and ask that further consideration be given the matter.

AFFILIATION IS ANNOUNCED BY CONSOLIDATED STEEL CORP.

Extending its field of operations, the Consolidated Steel Corporation, Ltd., of Los Angeles has effected an affiliation with the Foster-Wheeler Corporation of New York by which it will add to its line of manufactures power plant machinery, oil refinery equipment and refrigeration units. Heretofore the Foster-Wheeler Corporation has done business in the west through its sales and engineering staffs in Los Angeles, San Francisco and Salt Lake City, machinery and equipment installed in the West being made in its plants in the East. Hereafter all this machinery and equipment will be manufactured at the plant of the Consolidated Steel Corporation in Los Angeles. Charles Froeding will continue to direct the sales for the Foster-Wheeler Corporation in the West, with headquarters in San Francisco, the territory to be served including California, Oregon, Washington, Nevada, Arizona, Utah and New Mexico. The Foster-Wheeler line of machinery includes steam generating units, superheaters, water-cooled furnaces, fuel pulverizers, cooling towers, surface jet and barometric condensers, steam jet air pumps, complete oil distillation units, vacuum refrigerating equipment, air heaters.

SELF-LOCKING NUT.—A new rivet-bolt, developed by Dardelet Threadlock Corp., New York, and tested at the laboratories of Columbia University, gives great promise as a substitute for the hot-driven rivet in the assembly of structural steel in buildings, ships, bridges, *The Business Week* reports.

Advantages claimed: Its use eliminates the noise of riveting and the expense of rivet-heating and air-compressing equipment; it requires less labor; produces a tighter joint, which reduces slippage; permits dismantling of steel structures without damage. In addition, since rivet-bolts are not heated for use, they can be made of high strength steel to reduce the number required to obtain the desired joint strength.

Chief feature of the new product is the Dardelet self-locking screw thread, well known to industry, which produces a positive lock between bolt and nut and guarantees against loosening by vibration.

Nuts can be tightened with a wrench to give greater drawing power than can be obtained by heading a rivet. Shanks of the rivet-bolts have a series of longitudinal corrugations, whose outside diameter is slightly greater than the hole so that a tight drive fit assures that the hole will be filled and that the rivet-bolt will exert uniform pressure against it.

Only two men are required to assemble steel with rivet-bolts, one to drive the bolt with a hand hammer, the other to spin on the nut by hand and tighten it with a wrench. While the nut cannot be loosened by vibration or other causes, a turn with a wrench will loosen it at once.

EXCHANGE PICNIC.—The annual picnic of the Long Beach Builders' Exchange will be held Friday, June 24, at the Irvine (Orange County) Park it is announced by E. A. Brabury, manager of the exchange. In addition to a program of athletic events, special features will be provided for the youngsters and the ladies. Jim Kuster is in charge of arrangements.

THE LEGAL PAGE FOR CONTRACTORS

By GEORGE N. CROCKER, Counsel for Associated General Contractors of America, California Branch

Member of the legal firm of Travers, Landels, Weigel and Crocker
Russ Bldg., San Francisco—Central Bank Bldg., Oakland, Calif.

THE LAW'S CURB UPON THE PRIVATE GAINS OF PUBLIC OFFICIALS AWARDING CONTRACTS

THE oft-repeated complaint that our state and local governments are honeycombed with graft, that public officials, particularly in counties and municipalities, find their official positions fruitful sources of revenue aside from the salaries allotted to them, and that such officials too often confuse their governmental duties with their own private interests, raises the very important question, which is a purely legal one, as to just what rules of conduct are laid down for the guidance of public officials and for the protection of others who have dealings of a business nature with them in their official capacities.



It is not the purpose of this article to criticize in any way the general operation of our governmental system, nor to malign, by implication or otherwise, the host of honest, conscientious public officials who occupy positions of

trust. Its purpose is merely to set forth certain rules of law which are established by statutes and court decisions. Certain recent criminal prosecutions against public officials have made this discussion a timely one.

There is, of course, no question whatsoever as to the rule which forbids a public official from accepting any compensation or gift or emolument to influence him in the performance of his public duties. The shadowland of illegality is reached, however, in those situations in which an official obtains some indirect benefit through the performance of public work or the purchase of materials for a public use, or through any other public expenditure. An official who lacks a weighty code of scruples can undoubtedly turn his opportunities to great personal advantage. It is for this reason that the law makes a very clear provision forbidding the official to have any personal interest, directly or indirectly, in any contract made by him in his official capacity.

The Political Code of the State of California, section 920, provides:

"Members of the legislature, state, county, city and township officers, must not be interested in any contract made by them in their official capacity, or by any body or board of which they are members."

Another section forbids officials to be vendors at any purchase made by them in their official capacity.

The Penal Code makes violations of these provisions a criminal offense. Municipal charters frequently contain similar provisions.

In addition to the criminal liability which attaches to such violations, judicial decisions have established the rule that contracts made in violation of these sections are void.

In the case of Stockton Plumbing and Supply Company v. Wheeler, it was held that a contract between the city and a sheet metal establishment, which was a successful bidder for the contract, was void when it appeared that a member of the city council occupied a responsible position in the company. The California District Court of Appeal, in its opinion, said:

"The principle upon which public officers are denied the right to make contracts in their official capacity with themselves or to be or become interested in contracts thus made is evolved from the self-evident truth, as trite and impregnable as the law of gravitation, that no person can, at one and the same time, faithfully serve two masters representing diverse or inconsistent interests with respect to the service to be performed."

In the case of Shasta County v. Moody, it was held that contracts made between the county of Shasta and a printing company, on which a member of the Board of Supervisors held a chattel mortgage, were void.

In Berka v. Woodward, a member of the City Council, who had delivered lumber and materials to the city, was denied payment for the lumber, the California Supreme Court stating:

"Our statutes are general in prohibiting any officer from being interested in such contracts, and if ever there was an occasion for its strict enforcement, it certainly exists in a case such as this where the contractor is a member of the common council whose duty it is to make contracts on behalf of the city. He cannot be permitted to place himself in any position where his personal interest will conflict with the faithful performance of his duty as trustee, and it matters not how fair upon the face of it the contract may be, the law will not suffer him to occupy a position so equivocal and so fraught with temptation. Note the situation here presented. This material was obtained from a member of the City

United Commercial Co., Inc.

All Our Used Machinery, Second-hand
Shovels at Less Than Cost

234 Stewart Street

San Francisco



Super Concrete Emulsions
Limited

—for Better Concrete

3710 S. ALAMEDA ST., Los Angeles

District Offices

46th Ave. and
Clement St.
Oakland, Calif.

308 Stock Ex. Bldg.,
Portland, Ore.

216 Walker Bldg.,
Seattle, Wash.

Council and he, as a member of that council, sits in judgment upon the validity and amount of his own claim. If he does not act, still the city is deprived of its right to his services and judgment in determining these very questions."

In *Nielson v. Richards*, a school teacher was denied her salary because she had been employed by her husband, who was County Superintendent of schools.

It has been frequently held, however, that where a contractor to whom public work has been awarded purchases materials in the open market from one who happens to be a member of the board which awarded the contract, there is no violation of the law, unless it can be shown that there was some pre-arrangement or agreement that the purchase would be made from that official. Thus, in *Escondido Lumber, Hay and Grain Co. v. Baldwin*, the court stated:

"The mere fact that the contractor, without previous arrangement or agreement, saw fit to buy of a corporation, of which one of the trustees (trustees of a school district) was an agent, certain materials used in the construction of a house, would not render the contract void, voidable or ordinarily subject it to merited criticism."

There is no doubt but that a great many of the contracts and transactions entered into by various officers, boards or councils are in actual violation of the law upon the grounds that the officer or some member of the board or council is interested, directly or indirectly, in the transaction. The reason that more of these contracts are not declared to be void is that it is seldom that anyone takes the initiative to raise the issue. The law is perfectly clear on the subject and has been laid down in most emphatic terms in those cases in which the problem has come before the courts.

Pacific Constructor,
San Francisco, Calif.
Gentlemen:

In the May 15 issue of the *Pacific Constructor* you published an article written by me discussing the case of *Katz v. Helbing Company*, et al, in which the Supreme Court of California imposed liability upon a contractor for large damages suffered by the plaintiff as a result of being struck by caustic lime taken by children from a lime box standing in front of a building under construction and thrown at passing street cars.

As attorney for the Associated General Contractors of America, Northern California Chapter, I was requested to review this decision and recommend as to the advisability of that Chapter's participating in petitioning the Supreme Court for a rehearing of the case. It was my conclusion that such a move would prove entirely futile, and that the decision was in accord with well-established authorities, and was in no sense a revolutionary one. This conclusion has been borne out by the subsequent action of the Supreme Court, which recently denied a petition for a rehearing, which was urged in briefs filed by a number of building and industrial associations. Your readers may be interested to know of this final action of the Supreme Court, and for that reason I call it to your attention.

The decision should, as I pointed out in the article published by you, serve as a caution to builders and remind them of the duties imposed upon them by the law to take ample precautions to prevent occurrence of such injuries.

Very truly yours,
GEORGE N. CROCKER.

SURETY BOND OPINION.—In an opinion rendered Secretary G. W. Roberge, of the Seattle Board of Public Works, the corporation counsel's office asserts that the city is without power to waive surety bonds in connection with contracts for public improvement work carried out under direction of the board. It is stated in the opinion that the city charter requires that a bond or certified check must accompany all bids on public work, and further, that a faithful performance bond be filed by the successful bidder before execution of any contract. The state law also requires a faithful performance bond. It is pointed out that the provisions are mandatory and that the city is without power to waive bonds on public contracts.

DRAGLINE MOUNTED ON LONG CRAWLER TREADS

Bucyrus-Erie Co., South Milwaukee, Wis., has introduced a new dragline on a mounting especially designed for dragline work. The machine, known as the 45-B, is mounted on long tapered crawlers, which enables it to work on and cross soft ground easily and without nosing in. The treads are 19½ ft. long. The machine is equipped with a 155-hp. six-cylinder engine. It can handle a 2- or 2¼-yd. bucket on a 50-ft. boom or a 1¼- to 1½-yd. bucket on a 65-ft. boom. Booms are available up to 80 feet in length. The machine steers like a tractor through clutches controlled by a lever at the operator's side, and makes sharp or gradual turns with the cab in any position.

DRILL STEEL SHANK GRINDER

Ingersoll-Rand Co., 11 Broadway, New York, announces the 4K shank grinder, a tool for facing the striking ends of drill steel shanks, rock drill and paving breaker pistons, and anvil blocks. The machine consists of a "Multi-Vane" air grinder mounted in a frame so as to allow the grinding wheel to be passed back and forth by means of a handle. The steel or piston is held in a self-centering block clamp incorporated in the frame. A countersinking bit is located in the center of the grinding wheel for removing the burr from the hole in the hollow drill steel. The complete machine can be bolted securely to the top of a work bench or other suitable location.

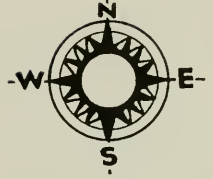
P. C. B. O. C. MEET SET.—The week of August 22 to 27 has been approved by the executive committee of the Pacific Coast Building Officials' Conference as the time for the eleventh annual meeting of the organization, to be held in Vancouver, B. C. Hotel Georgia has been selected as convention headquarters. Program plans have not proceeded far enough for any of the features to be announced as yet. This year's code discussions will be of unusual significance and importance. The code revisions voted as tentative at the 1931 annual meeting will be acted upon finally this year, to be either approved, continued as tentative (with or without revisions) or disapproved. Also, all approved amendments will be held for inclusion in the next edition of the Uniform Building Code, and it is planned to publish this some time during 1933.

BOULDER DEATH TOLL.—A report of the Nevada Industrial Commission just issued, shows that 24 men have lost their lives in accidents at the Boulder Dam construction site between April 1, 1931, and May 1, this year. The average number employed was 2,700 men. The commission says the ratio of fatalities at the dam was higher than in the mining industry within Nevada for the years 1920 and 1930.

Bulk Cement Plant.—A handy bulk cement plant which batches the cement direct from the car without use of an intermediate storage bin, has been developed by the Blaw-Knox Co., of Pittsburgh. The plant consists of a hinged hopper placed at the car door, an inclosed screw conveyor and a 1000-lb. double beam cement-weighing batcher. This batcher is equipped with springless dial indicators which show when the batcher is full or empty. The hopper is adaptable for loading from the car by wheelbarrow or by scoop shovel. A four-cylinder gas engine operates the conveyor. The entire plant is easily portable.



Here To There And Back Again



Dad's Day

*We all admit the wonderness of Mothers,
The praise we've sung for them has girt the world:
Their love and care, their sacrifices splendid.
For them the earth has many flags unfurled.*

*But,
Now, at last, with sudden acclamation,
And spontaneity that makes me glad,
They've set aside another celebration;
A day to dedicate to Dear Old Dad.*

*Say—Talk about your "origin of species,"
Why he's the Author of our family tree,
And he's the fellow who stood up and battled
To hold the fort for Mother dear, and me.*

*He met the world, bare handed, in the conflict,
When adversaries rose on every side;
Then pushed his family from the nest when timid,
Because he longed to point them out with pride.*

*His children were, to him, potential bankers,
Or leaders in the diplomatic corps;
And one a judge should be, and one a singer,
And all should lead their special line, or more.*

*He was our staunch support in time of trouble,
Our banker, when the funds were sinking low,
A wise advisor with a shrewd perception,
An urgent prod when we were getting slow.*

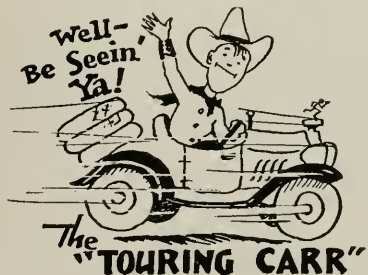
*If I could drink a health in just proportions
To all the things you stand for, Daddy dear,
'Twould take a flagon of such vast dimensions
I couldn't empty it within a year.*

*So I'd call in the whole world's population—
The merry ones, the dignified, the sad;
And we'd stand up and drink your health in gallons
Of Elixir of Life, for DEAR OLD DAD!*

—G. S. W.

NOTE: Rebel blood proudly flows in the veins of the person submitting the above tribute to all Fathers.

General Sherman and the Republicans left Our People with very little worldly goods. We are wealthy in Sentiment, Tradition and Legend. This is mentioned merely because G. S. W. was paid in currency for the privilege of printing the above lines. The payment was a note issued in 1861 by Our Country, the Confederate States of America. To us of Rebel blood this Confederate Note means more than "The Promise to Pay by a Nation That is Dead."



COMPLETE INDUSTRIAL SERVICE ESTABLISHED BY SAFETY COUNCIL

(Staff Article)

On the sound and praiseworthy theory that every industrial concern is entitled to the benefits of organized accident prevention, the National Safety Council has

just announced a practical plan for spreading the gospel of Industrial Safety.

Every company, large or small, regardless of whether it holds membership in the Council, can have that organization's help in establishing a definite working plan for a continuous campaign of accident prevention.

The safety work of several thousand industrial members in all industries has recently been analyzed and their most effective technique will be made available to any plant desiring a specific course of safety procedure without cost.



New bronze plaque, 7½x11½ inches, being given by National Safety Council as award for a safety contest within the company.

The sole obligation on the part of the employer will be to provide a few essential facts from which Council engineers can draw up a practical working plan commensurate with the needs of the company and applied to the specific operating problems.

Also as a result of this survey a new service is offered by the Council to old and prospective new members. It is known as the "Complete Industrial" Service and is exactly what its name implies—adequate, sufficient, all-inclusive. It represents a high standard in safety technique and reaches not only management, key safety man and foreman but also every employe.

Born of experience, it is authoritative, which means it isn't so much a question of trying it as of using it. It reflects another decidedly progressive step in the work of the Council for it is a definite, tested method of reducing accidents.

A description of the new service may be pretty well summarized in one word, "Personalized." In the past, warfare on accidents has been directed mainly by foremen and safety engineers. The new plan takes cognizance of the fact that it is really everybody's business. Every person connected with the plant becomes a sort of stockholder in the work. Its interest is awakened and sustained thru a 12-month schedule of safety contests.

For example, inter-department or inter-group safety contests have played an important part among companies conducting the most successful safety programs. Through this new service the Council provides its new Industrial Safety Trophy, an attractive heavy bronze plaque 7½x11½ inches, to be awarded the department or group winning the year-around safety contest within the company. The trophies are provided for display throughout the year and at the conclusion of the contest are inscribed and presented with proper ceremony to the winning group. In

this way every employe has a definite, intimate part to play. A new trophy is provided annually.

Another paramount feature of the new plan is its reaching the individual workman. The popular little magazine, *The Safe Worker*, is sent out monthly to every employe in the company. Payroll messages also are provided to be given on pay day to every worker as an added reminder for safety. In many other ways management reaches the man on the job who, after all, must be won over to accident prevention if the program is to be successful.

The National Safety Council will gladly furnish full information on the new complete membership, and also stands ready to help any reader in laying out a practical working plan for handling its accident problems, without any membership obligation whatsoever. There is a crying need, the Council feels, to let the country-at-large know of the remarkable achievements being made in safety throughout industry. Plants and industries have reduced their accidents through concentrated and energetic safety work, 50, 60, 70, 80 and even 90 per cent during recent years.

The Council stands ready not only to help broadcast these remarkable achievements in human conservation but also is anxious to help any and all industrial concerns to get their safety work started off on the right foot.

"Industry should strive for the maximum in safety, rather than the minimum," says W. H. Cameron, Managing Director of the Council. "We have learned there is no halfway business about safety. No one ever gets full-time results from part-time efforts. Half-hearted, spasmodic safety work will never solve the accident problem. Many of the largest plants of the country are making real records in safety because they demand the maximum rather than the minimum."

That is exactly why the Council has provided the new Complete Industrial membership plan. It points the way to definite accident reduction through an intensive, thorough and continuous campaign of safety work.

TRADE LITERATURE

A 12-page booklet, issued by the *Timken Roller Bearing Co.*, Canton, Ohio, describes the new *Timken* wear and lubricant tester. This is a comparatively simple device for determining the load-carrying capacity of lubricants, for measuring amount of friction and for determining the wear characteristics of all kinds of material.

The *American Cable Co., Inc.*, 230 Park Ave., New York, N. Y., has issued an illustrated booklet, entitled, "The Cardinal Reasons Why You Save Money With *Tru-Lay* Preformed Wire Rope."

The *Lakewood Engineering Co.*, Columbus, Ohio, has issued two bulletins covering application of the *Lakewood* finishing machine to concrete highways and streets and to bituminous pavement. Bulletin No. 47-F describes in full the *Lakewood* finishing machine and its application to concrete roads and pavements. This bulletin also describes the *Lakewood* road and curb forms, the new *Lakewood* form tamper, batch boxes and cars, aluminum straight-edges, hand belts, float bridges, subgraders, and also the *Jaeger* heavy-duty road pump. The application of the *Lakewood* finishing machine to bituminous pavements is described in bulletin 47-E.

The *Westinghouse Electric & Mfg. Co.*, East Pittsburgh, Pa., announces two illustrated circulars on its new line of "De-ion" circuit breakers. These breakers are a new method of arc extinction, eliminating all fuses in panelboards, distribution switchboards within the breaker's capacity and industrial applications where fused safety switches are now used. Circular 1939 contains a general description of the new breakers, and circular 1937 gives details of the 225-amp. breaker.

STANDARDIZATION FOR GRADING
CRUSHED STONE CONTEMPLATED

As a result of an inquiry within the crushed stone industry by the National Crushed Stone Association, it has been found that more than 80 different sizes and shapes of screen openings have been used to produce crushed stone for various purposes. Differences between the sizes and grades produced are, in many cases, negligible. In some cases, variations larger than would be indicated by mere differences in screen size have been brought about in the plant due to such occurrences in plant operation as wearing of the screen plates, overloading of the screens, and changes due to the angles at which the screens are set. Moreover, the basis of measurement of size, whether by round hole or square mesh opening, varies with the plant, depending to some extent upon the preference of the buyer of the crushed product. Although an approximate equivalent of either the round hole or square mesh opening may be stated in terms of the other, it is evident that this ratio cannot be exact because crushed rock varies markedly in shape.

Consideration has been given for some time to proposals for a standard table covering sizes of mineral aggregates, whether crushed or not. Representatives of the National Slag Association, National Sand and Gravel Association, and Crushed Stone Association have recently prepared tables, according to an article by A. T. Goldbeck, director of the Bureau of Engineering, National Crushed Stone Association, in the October issue of the "Crushed Stone Journal," and have tentatively agreed upon a classification of size gradations that covers most of the sizes that have many industrial uses. Twelve sizes have been proposed, ranging down from 3 1/2-inch. It has been suggested that plants producing mineral aggregates need not attempt to prepare all of the proposed sizes, but that any size made should be within the ranges given in the tentative classification.

In the preparation of this tentative classification, attention has been given specifically to the more important uses of mineral aggregates. In the article mentioned above, the discussion given covers aggregates for use in concrete of all types, macadam and bituminous concrete roads, railroad ballast, agricultural limestone, and filtering plants. It is not proposed in the tentative classification to cover fluxing nor use for metallurgical purpose of rock dust, as both of these materials are usually specified in

accordance with the particular use to which they are to be put.

Issuance of the proposed standard at this time gives producers and consumers an opportunity to study the provisions and to determine whether changes are desirable. It is expected that producers and consumers will be brought together by the Division of Simplified Practice, Bureau of Standards, Department of Commerce to discuss the formulation of standard sizes that will be mutually satisfactory, according to Mr. Boldbeck. The proposals of the technologists of the three national mineral aggregates associations may well serve as a basis for discussions preliminary to such a conference.

THE MECHANIZATION OF HIGHWAY CONSTRUCTION

According to a recent survey of state highway construction in August, 1931, the following mechanical equipment was used by the contractors: 37,000 trucks; 7,800 tractors; 5,700 power shovels including cranes and draglines; 1,200 elevating graders; 1,100 pavers; 2,300 concrete mixers on culvert and bridge work and 3,000 rollers. The survey did not cover such machines as graders, finishers, pumps, drilling equipment, distributors, batchers, blasting machines, conveyors, crushers, screens, etc., which were used to perform a large part of the preparatory and finishing work.

These machines were used to economically construct needed traffic arteries to provide safer, less costly all-year traffic-ways for the business man, the traveler, the doctor, the family and trade. In the operation of these machines and the attendant activities, thousands of skilled artisans and unskilled laborers were employed. To produce the same work without these machines would have required hundreds of thousands more and the work could not have been done as effectively, as well nor as economically.

The question now arises, "Who built these machines?" They were not picked from trees—far from it. Thousands of skilled mechanics all over the country were required in handling the raw materials and in each step through to the finished products which were shipped over our railroads to contractors. Here is a picture of hundreds of thousands of men gainfully employed because our states and federal government joined to finance better roads for commerce and for the people of this country.

—Contractors and Engineers.

TRIAL
SUBSCRIPTION BLANK



Daily
Construction Reports

PACIFIC CONSTRUCTOR,
545 Mission Street,
San Francisco, Calif.

.....1932

Dear Sirs:

Send me WITHOUT COST for a period of one week, sample copies of PACIFIC CONSTRUCTOR DAILY NEWS SERVICE covering up-to-the-minute tips on work contemplated, bids wanted, bids opened and contracts awarded for all types of engineering construction, materials and equipment.

Name.....

Address.....

City.....

UNIT BID SUMMARY

Compiled from the Daily News Service of Pacific Constructor

Low Bidder—Bridge Work—Stockton

STOCKTON, San Joaquin Co., Cal.—E. H. Riley, 306 First National Bank Bldg., Stockton, at \$79,910 submitted low bid to county supervisors to construct the Garwood Ferry bridge, involving:

(1) 1100 cu. yds. excavation;
 (2a) 955 cu. yds. concrete Class A;
 (2b) 460 cu. yds. concrete Class B;
 (3) 5 cu. yds. concrete Class E;
 (3) 56 tons reinf. steel;
 (4) 270 tons structural steel;
 (5) timber piles (decrease for each ft. less than quantity specified).

(6) timber piles (increase for each ft. less than quantity specified).
 Engineer's estimate, \$85,000. Complete bids follow:
 (A) E. H. Riley, Stockton, \$79,910.
 (B) John Hachman, Stockton, \$78,840.
 (C) Clark & Campbell, Los Angeles, \$79,480.
 (D) J. W. Terrell, Sacramento, \$84,890.
 (E) Lord & Bishop, Sacramento, \$85,500.
 (F) Duncanson-Harrelson Co., S. F., \$90,681.

(G) Barrett & Hilp, San Francisco, \$90,868.
 (H) Rocca & Caletti, San Rafael, \$90,990.
 (I) Merrill - Chapman & Scott Corp., San Pedro, \$93,500.
 (J) M. B. McGowan, San Francisco, \$98,624.
 (K) Seims-Helmers, Inc., San Francisco, \$98,695.
 (L) Schuler and McDonald, Oakland, \$99,773.

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) |
|-----------|---------|----------|---------|---------|---------|---------|---------|---------|---------|---------|--------|---------|
| (1)..... | \$1.25* | \$ 2.50* | \$ 7.00 | \$ 2.00 | \$ 3.00 | \$ 2.00 | \$ 3.00 | \$ 5.00 | \$ 1.00 | \$ 1.00 | \$.75 | \$ 2.50 |
| ()..... | .60** | .25** | | | | | | | | | | |
| (2a)..... | 14.11 | 14.00* | 25.00 | 16.00 | 15.00 | 13.00 | 25.00 | 14.00 | 15.00 | 10.00 | 20.00 | 10.00 |
| ()..... | 10.11 | .00* | | | | | | | | | | |
| (2b)..... | 12.73* | 13.60* | 15.00 | 16.00 | 15.00 | 11.50 | 25.00 | 14.00 | 15.00 | 9.50 | 29.00 | 9.50 |
| ()..... | 9.73** | 4.60** | | | | | | | | | | |
| (2c)..... | 16.50* | 40.00* | 30.00 | 50.00 | 60.00 | 20.00 | 75.00 | 50.00 | 60.00 | 30.00 | 50.00 | 35.00 |
| ()..... | 13.40** | 6.60** | | | | | | | | | | |
| (3)..... | .04* | .035* | .04 | .04 | .035 | .03 | .04 | .04 | .035 | .028 | .04 | .03 |
| ()..... | .025** | .025** | | | | | | | | | | |
| (4)..... | .06* | .045* | .18 | .045 | .045 | .045 | .055 | .06 | .05 | .045 | 05 | |
| ()..... | .03** | .03** | | | | | | | | | | |
| (5)..... | .26 | .24 | .25 | .40 | .10 | .16 | .125 | .15 | .10 | .12 | .16 | .18 |
| (6)..... | .32 | .30 | .60 | .60 | .30 | .29 | .30 | .30 | .50 | .30 | .60 | .50 |

*Add for over estimated quantity.

**Deduct for less than estimated quantity. Bids held under advisement.

GRADING, SURFACING—SACRAMENTO COUNTY—STATE

SACRAMENTO CO., Calif.—Force Const. Co., 70 Bellevue Ave., Piedmont, at \$102,985 submitted low bid to State Highway Commission, Sacramento, to grade and treat existing rock borders with bituminous surface, about 11.9 miles between McConnell and Sacramento, involving:

- (1) 105 trees remove and dispose of;
- (2) 20,000 cu. yds. rdwy. excav without class;
- (3) 700 sta. yds. overhaul;
- (4) 5740 cu. yds. struc. excav.;
- (5) 158,000 cu. yds. imp. borrow;
- (6) 7500 tons untr. crushed gravel or stone surf.;
- (7) 323 cu. yds. Class "A" Port. cem. (struc.);
- (8) 25,400 lbs. bar reinf. steel (struc.);
- (9) 5350 lin. ft. 18-in. corr. metal pipe do.;
- (10) 948 lin. ft. 24-in.

- (11) 1230 lin. ft. corr. metal pipe (clean and relay);
 - (12) 4689 lin. ft. salvage exist. culverts
 - (13) 14 cu. yds. Port. cem. conc. remove from exist. pave. and struc.;
 - (14) 5000 M. gal. water.
 - (15) 3025 bbls. heavy fuel oil (should-ers);
 - (16) 165 bbls. light fuel oil (borders);
 - (17) 1410 tons screenings (borders);
 - (18) 60 tons asph. road oil (borders);
 - (19) 2.2 mi. move and reset property fences;
 - (20) 1.2 mi. new stand property fence;
 - (21) 3.6 mi. new hogtight fence;
 - (22) 26 gates complete in place;
 - (23) salvage exist. timber bridge;
 - (24) 626 sta. finish rdwy.;
 - (25) 115 monuments complete in place.
- State will furnish corrugated metal pipe and case steel frames and covers for drop inlets.

Complete bids follow:

- (A) Force Const. Co., Piedmont, \$102,985.00.
- (B) C. W. Wood, Stockton, \$103,462.00.
- (C) J. R. Reeves and Lord & Bishop, Sacramento, \$105,400.00.
- (D) Harrahan Co., San Francisco, \$116,234.00.
- (E) L. G. Kipp, Sacramento, \$117,603.
- (F) Fredrickson & Watson, Oakland, \$118,374.00.
- (G) M. J. Evanda, Stockton, \$120,699.
- (H) Bendusen & Lauritzen and Delta Dredging Co., Antioch, \$121,235.00.
- (I) A. Teichert & Son, Sacramento, \$121,246.00.
- (J) Hemstreet and Bell, Marysville, \$136,296.00.
- (K) S. H. Palmer and J. P. Holland, San Francisco, \$150,688.00.

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) |
|-----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| (1)..... | \$ 1.00 | \$ 2.00 | \$ 1.00 | \$ 2.00 | \$ 1.00 | \$ 2.00 | \$ 1.00 | \$ 1.50 | \$ 5.00 | \$ 3.00 | \$ 1.00 |
| (2)..... | .18 | .15 | .17 | .25 | .20 | .15 | .20 | .20 | .25 | .30 | .15 |
| (3)..... | .10 | .01 | .01 | .02 | .02 | .05 | .01 | .03 | .02 | .03 | .02 |
| (4)..... | .45 | .40 | .60 | .70 | .80 | .60 | .60 | .50 | .60 | .75 | .50 |
| (5)..... | .28 | .28 | .29 | .32 | .34 | .34 | .34 | .34 | .34 | .325 | .38 |
| (6)..... | 1.45 | 1.50 | 1.25 | 1.60 | 1.60 | 1.80 | 2.00 | 2.00 | 1.60 | 1.75 | 2.50 |
| (7)..... | 20.00 | 17.50 | 15.00 | 18.00 | 20.00 | 17.00 | 16.00 | 16.50 | 20.00 | 18.00 | 20.00 |
| (8)..... | .04 | .035 | .0375 | .04 | .04 | .04 | .04 | .033 | .04 | .04 | .04 |
| (9)..... | .30 | .25 | .35 | .30 | .30 | .25 | .50 | .20 | .30 | .30 | .35 |
| (10)..... | .35 | .30 | .40 | .46 | .50 | .30 | .60 | .25 | .40 | .50 | .50 |
| (11)..... | .50 | .40 | .70 | .50 | .50 | .35 | .75 | .25 | .60 | .50 | .50 |
| (12)..... | .25 | .25 | .30 | .50 | .25 | .25 | .25 | .20 | .35 | .30 | .15 |
| (13)..... | 3.00 | 2.00 | 5.00 | 3.00 | 2.50 | 2.50 | 5.00 | 3.00 | 5.00 | 4.00 | 5.00 |
| (14)..... | 1.00 | 1.50 | 1.00 | 1.20 | .90 | 1.20 | 1.00 | .90 | 1.50 | 1.50 | 1.10 |
| (15)..... | 2.50 | 2.44 | 2.65 | 2.50 | 2.00 | 2.35 | 2.00 | 3.50 | 2.26 | 3.25 | 2.35 |
| (16)..... | 1.35 | 2.00 | 1.55 | 1.50 | 2.00 | 2.35 | 1.75 | 2.00 | 1.70 | 2.00 | 1.60 |
| (17)..... | 1.60 | 2.00 | 2.75 | 2.00 | 2.00 | 2.90 | 2.50 | 2.50 | 2.40 | 2.75 | 3.00 |
| (18)..... | 13.50 | 12.50 | 14.00 | 16.00 | 15.00 | 18.00 | 16.00 | 17.00 | 17.50 | 30.00 | 14.00 |
| (19)..... | 125.00 | 200.00 | 165.00 | 150.00 | 200.00 | 120.00 | 230.00 | 200.00 | 250.00 | 250.00 | 200.00 |
| (20)..... | 275.00 | 300.00 | 300.00 | 300.00 | 400.00 | 330.00 | 400.00 | 350.00 | 400.00 | 400.00 | 320.00 |
| (21)..... | 400.00 | 400.00 | 400.00 | 400.00 | 600.00 | 360.00 | 500.00 | 500.00 | 500.00 | 500.00 | 500.00 |
| (22)..... | 12.00 | 12.50 | 12.00 | 15.00 | 15.00 | 10.00 | 15.00 | 12.00 | 12.50 | 15.00 | 14.00 |
| (23)..... | 50.00 | 100.00 | 75.00 | 25.00 | 50.00 | 120.00 | 200.00 | 70.00 | 100.00 | 80.00 | 50.00 |
| (24)..... | 3.00 | 4.00 | 5.00 | 4.00 | 5.00 | 5.00 | 5.00 | 5.00 | 4.25 | 5.00 | 5.00 |
| (25)..... | 3.00 | 2.50 | 2.00 | 2.50 | 3.00 | 2.50 | 2.50 | 2.50 | 2.50 | 3.00 | 2.50 |

GRADE—CEM. CONC. PAVE.—CONTRA COSTA COUNTY—STATE

CONTRA COSTA COUNTY, Cal.—Basich Bros., 20550 Normandie Ave., Torrance, at \$322,793.10, submitted low bid to State Highway Commission to grade and pave with Portland cement, concrete and asphalt concrete, 10.6 miles between San Pablo and Carquinez Bridge. Project involves:

- (1) Remove 382 trees (size 1);
- (2) " 37 trees (size 2);
- (3) " 12 trees (size 3);
- (4) 291,000 cu. yds. roadway excav. without class.
- (5) 2,141,000 sta. yds. overhaul;
- (6) 4150 cu. yds. struc. excav.;
- (7) 1150 cu. yds. channel excav.;
- (8) 33,140 tons crusher run base;
- (9) 1350 cu. yds. cushion course;
- (10) 7100 cu. yds. Class "A" cem. concrete (pave.);
- (11) 835 cu. yds. Class "A" cem. conc. (struct.);
- (12) 240,000 lbs. bar reinf. steel (pave and struct.);
- (13) 150,700 sq. yds. asph. paint binder
- (14) 23,370 tons asphalt concrete;
- (15) 672 lin. ft. 8-in. corr. metal pipe;
- (16) 334 lin. ft. 12-in. do;
- (17) 502 lin. ft. 15-in. do;
- (18) 712 lin. ft. 18-in. do;
- (19) 370 lin. ft. 54-in. do;
- (20) 296 lin. ft. 36-in. do;
- (21) 633 lin. ft. corr. metal pipe (clean and relay);
- (22) 2700 lin. ft. 8-in. perforated metal pipe underdrains;
- (23) 510 cu. yds. cem. concr. remove from existing pavement and structures;
- (24) 2400 lin. ft. paved drainage gutters;
- (25) 44 culvert headwalls removed and reset;

- (26) 1665 sq. yds. patches and excess oil removed;
 - (27) 1280 blbs. fuel oil;
 - (28) 20 tons asphaltic road oil;
 - (29) 1315 tons screenings;
 - (30) 1.3 mi. existing property fence remove and reset;
 - (31) 4960 lin. ft. existing guard rail remove and reset;
 - (32) 4.92 mi. new stand. property fence;
 - (33) 1.55 mi. new woven wire fence;
 - (34) 37 fence gates;
 - (35) 10,140 lin. ft. laminated timber guard rail;
 - (36) 300 timber guide posts;
 - (37) 24 timber culvert markers;
 - (38) 53 existing timber culvert markers removed and reset;
 - (39) 260 cu. yds. dry rubble wall;
 - (40) 557 sta. finishing roadway;
 - (41) 170 monuments complete in place
- State will furnish corr. metal pipe, perforated metal pipe, spillway assemblies, and cast steel frames and covers for drop inlets.

Complete bids follow:

- (A) Basich Bros., Torrance, \$322,793.10
- (B) Hanrahan Co., S. F., \$324,333.170.
- (C) Union Paving Co., S., \$333,808.45.
- (D) Peninsula Paving Co. and J. P. Holland, S. F., \$334,773.45.
- (E) Fredrick & Watson, Oakland, and Jones & King, Hayward, \$351,595.49
- (F) C. W. Wood, Stockton, \$371,500.35
- (G) Kern & Kibbe, Portland, \$374,660.25.
- (H) A. McDonald, N. M. Ball and A. Teichert & Son, Sacramento, \$384,682.35.
- (I) Clark & Henry Co., San Francisco, \$396,545.30.

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| (1) | 1.00 | 1.00 | 1.00 | 1.00 | 2.25 | 2.00 | .60 | 1.50 | 1.00 |
| (2) | 3.00 | 3.00 | 2.00 | 2.00 | 5.00 | 8.00 | 1.25 | 10.00 | 3.00 |
| (3) | 5.00 | 10.00 | 3.00 | 3.00 | 10.00 | 15.00 | 3.00 | 30.00 | 5.00 |
| (4) | .22 | .25 | .21 | .25 | .23 | .30 | .32 | .32 | .30 |
| (5) | .005 | .005 | .01 | .005 | .005 | .005 | .0075 | .005 | .005 |
| (6) | .50 | .70 | .50 | .55 | .50 | .50 | 1.00 | .75 | 1.00 |
| (7) | .30 | .20 | .10 | .25 | .35 | .40 | .50 | .40 | .50 |
| (8) | 1.35 | 1.50 | 1.56 | 1.40 | 1.75 | 1.50 | 1.55 | 1.35 | 1.84 |
| (9) | 1.25 | .80 | 1.60 | 1.00 | 1.40 | .50 | .65 | 1.25 | 2.30 |
| (10) | 8.00 | 7.00 | 6.50 | 8.00 | 8.00 | 6.80 | 7.40 | 8.50 | 8.50 |
| (11) | 16.00 | 14.20 | 15.00 | 14.50 | 15.00 | 17.50 | 16.00 | 16.00 | 16.00 |
| (12) | .045 | .038 | .03 | .042 | .04 | .044 | .04 | .04 | .04 |
| (13) | .01 | .015 | .01 | .01 | .015 | .01 | .025 | .02 | .015 |
| (14) | 2.70 | 2.63 | 3.22 | 2.78 | 2.90 | 3.50 | 3.05 | 3.33 | 3.33 |
| (15) | .25 | .20 | .20 | .20 | .20 | .25 | .20 | .50 | .30 |
| (16) | .30 | .20 | .20 | .25 | .30 | .25 | .20 | .50 | .30 |
| (17) | .35 | .25 | .20 | .25 | .30 | .25 | .25 | .50 | .40 |
| (18) | .40 | .25 | .20 | .25 | .30 | .30 | .30 | .50 | .50 |
| (19) | .50 | .30 | .20 | .25 | .35 | .50 | .40 | .50 | .60 |
| (20) | .60 | .40 | .20 | .30 | .50 | .50 | .50 | .50 | 1.00 |
| (21) | .60 | .30 | .20 | .30 | .35 | .50 | .50 | .50 | .60 |
| (22) | .70 | .60 | .20 | .50 | .50 | .50 | .50 | .50 | .60 |
| (23) | 1.25 | 1.50 | 1.00 | 3.00 | 1.50 | 1.50 | 1.75 | 1.25 | 1.00 |
| (24) | .10 | .20 | .30 | .18 | 1.00 | .25 | .40 | .60 | .33 |
| (25) | 10.00 | 7.00 | 5.00 | 6.00 | 10.00 | 7.00 | 9.00 | 10.00 | 10.00 |
| (26) | .10 | .10 | .15 | .25 | .40 | .15 | .20 | .25 | .10 |
| (27) | 1.00 | 1.00 | 1.00 | 1.00 | 1.60 | 1.25 | 1.30 | 1.25 | 1.40 |
| (28) | 12.00 | 12.00 | 10.00 | 12.00 | 16.00 | 12.50 | 14.00 | 16.50 | 20.00 |
| (29) | 1.60 | 1.50 | 1.50 | 1.50 | 2.00 | 1.75 | 1.50 | 2.00 | 2.00 |
| (30) | 150.00 | 150.00 | 50.00 | 150.00 | 150.00 | 200.00 | 150.00 | 300.00 | 300.00 |
| (31) | .50 | .30 | .30 | .40 | .60 | .40 | .50 | .60 | .50 |
| (32) | 300.00 | 300.00 | 150.00 | 375.00 | 300.00 | 300.00 | 300.00 | 350.00 | 350.00 |
| (33) | 450.00 | 400.00 | 200.00 | 500.00 | 560.00 | 525.00 | 400.00 | 500.00 | 500.00 |
| (34) | 11.00 | 15.00 | 10.00 | 10.00 | 10.00 | 12.50 | 15.00 | 12.50 | 15.00 |
| (35) | .75 | .70 | .60 | .75 | .80 | .80 | .70 | .80 | .50 |
| (36) | 2.00 | 2.50 | 2.00 | 2.00 | 2.25 | 2.50 | 1.75 | 2.00 | 3.00 |
| (37) | 1.50 | 1.50 | 2.00 | 2.00 | 2.30 | 2.00 | 1.75 | 1.65 | 2.50 |
| (38) | .50 | .50 | .50 | .75 | .80 | 1.00 | 1.25 | .30 | 1.00 |
| (39) | 3.00 | 6.00 | 5.00 | 3.00 | 8.50 | 3.00 | 6.00 | 5.00 | 5.00 |
| (40) | 5.00 | 5.00 | 2.00 | 4.00 | 4.50 | 5.00 | 4.00 | 5.00 | 5.00 |
| (41) | 2.00 | 2.00 | 2.00 | 2.50 | 2.50 | 3.00 | 3.00 | 3.00 | 3.00 |

AWARD

OAKLAND, Cal.—J. H. Fitzmaurice, 354 Hobart St., Oakland, at \$2,619.50 for (A) and \$2,281.50 for (B), awarded contract by county supervisors to furnish:

(A) Portland cement concrete to be used in the construction of a culvert at Station 85, plus 17, of the Broadway tunnel approach road.

Complete bids follow:
J. H. Fitzmaurice, Oakland (A) \$8.45, total \$2,619.50; (B) \$8.45, total \$2,281.50.

Transit Concrete, Ltd., Oakland (A) \$9.50, \$2,945; (B) \$9.50, \$2,565.

Quality Concrete Co., Oakland (A) \$9.75, \$3,225.50; (B) \$9.75, \$2,632.50.

AWARD

ELKO COUNTY, Nev.—As previously reported, A. D. Drumm Jr., Fallon, Nev., at \$29,795.24 awarded contract by State Highway Commission to furnish, apply and mix asphalt fuel oil with the roadway surface between East foot of Pequops and 4 miles east of Silver Zone, a length of 18.76 miles, involving:

(1) 440,354 gals. asph. fuel oil applied to rdwy. surf.;

(2) 18.76 miles mix asph. fuel oil with crushed rock or crushed gravel surf.;

(3) 18.76 mi. rebuild and finish shoulder surf.;

(4) 18.76 mi. sanding seal coat.

Complete bids follow:

(A) A. B. Drumm Jr., Fallon, Nev., \$29,795.24.

(B) Basalt Rock Co., Inc., Napa, Cal., \$30,863.55.

(C) U. B. Lee, San Leandro, Calif., \$31,621.81.

(D) Dodge Bros., Inc., Fallon, Nev., \$31,772.40.

(E) J. N. Tedford, Fallon, Nev., \$35,092.41.

(F) Nevada Rock & Sand Co., Reno, \$36,413.47.

(G) Granite Constr. Co., Watsonville, \$37,864.84.

(H) Jack Casson, Hayward, Calif., \$39,553.24.

(I) Engineer's Estimate, \$40,491.24.

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) |
|-----|--------|----------|---------|---------|-----|-----|-----|-----|-----|
| (A) | \$.047 | \$400.00 | \$10.00 | \$75.00 | | | | | |
| (B) | .049 | .40 | 25.00 | 70.00 | | | | | |
| (C) | .052 | 400.00 | 25.00 | 40.00 | | | | | |
| (D) | .055 | 400.00 | 30.00 | 50.00 | | | | | |
| (E) | .052 | 500.00 | 50.00 | 100.00 | | | | | |
| (F) | .055 | 550.00 | 50.00 | 50.00 | | | | | |
| (G) | .06 | 500.00 | 50.00 | 60.00 | | | | | |
| (H) | .06 | 550.00 | 50.00 | 100.00 | | | | | |
| (I) | .06 | 650.00 | 50.00 | 50.00 | | | | | |

AWARD

SAN RAFAEL, Marin Co., Cal.—Lee J. Immel, 1031 Evelyn Ave., Berkeley, at \$2,434.35 awarded contract by the county supervisors for highway construction as follows:

From Maple Ave. to Laurel Grove Ave., Kentfield, and from State Highway at Green Brae to Hutchinson Quarry on Kentfield-San Quentin Rd., a distance of approximately 0.8 mile, to be surfaced and treated with emulsified asphalt and screenings, involving:

(1) 715 tons broken stone (asphaltic macadam surface) in place;

(2) 16,900 gals. emulsified asphalt in place.

Complete bids follow:

(A) L. J. Immel, Berkeley, \$2434.35

(B) Main & Hoskinson, Fairfax, 2734.55

(C) George Peres, Richmond, 2738.25

(D) P. S. Harless, San Rafael, 3049.50

(E) Jack Casson, Hayward, 3139.50

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) |
|-----|--------|---------|--------|--------|--------|
| (1) | \$1.55 | \$1.983 | \$2.20 | \$2.35 | \$2.50 |
| (2) | .07 | .0777 | .0725 | .081 | .08 |

8.9 MILES HIGHWAY—ARIZONA STATE

ARIZONA STATE.—Orr & Rawls, 1631 River St., El Paso, Texas, awarded contract by State Highway Comm., May 23, at \$118,400.75 for highway construction on the Benson-Douglas Highway, F. A. P. 79-F from town of Tombstone to a point approx. 8.9 miles northwest, involving:

- ROADWAY
 (1) 105,426 cu. yds. roadway excav. (unclass);
 (2) 4472 cu. yds. drainage excav. (unclass);
 (3) 7000 cu. yds. slides and overbreakage;
 (4) 1007 cu. yds. structural excav. (unclass);
 (5) 22,032 cu. yds. borrow excav. (unclass);
 (6) 105,505 sta. yds. earthwork overhaul;
 (7) 19,985 cu. yds. subgrade stabilizer
 (8) 28,603 cu. yd. mi. subgrade stabilizer haul;
 (9) 228 cu. yds. class A concrete (including cement);
 (10) 189 cu. yds. class B concrete (including cement);

- (11) 20,046 lbs. reinf. steel;
 (12) 64 lin. ft. 18-in. C.M.P.;
 (13) 1128 lin. ft. 24-in. C.M.P.;
 (14) 576 lin. ft. 30-in. C.M.P.;
 (15) 396 lin. ft. 36-in. C.M.P.;
 (16) 40 lin. ft. 42-in. C.M.P.;
 (17) 232 lin. ft. 48-in. C.M.P.;
 (18) 68 lin. ft. resetting 24-in. C.M.P.;
 (19) 9680 lin. ft. cable road guard,
 (20) 88,940 lin. ft. standard line fence;
 STRUCTURES OVER 20-FT. CLEAR SPAN
 (21) 2270 cu. yds. drainage excav. (unclass);
 (22) 2474 cu. yds. structural excav. (unclass);
 (23) 39 cu. yds. class AA concrete (including cement);
 (24) 1539 cu. yds. class A concrete (including cement);
 (25) 326 cu. yds. class B concrete (including cement);
 (26) 227,495 lbs. reinf. steel;
 (27) 40 fixed plate bridge seats;
 (28) 40 expansion rocker bridge seats.
 NON-FEDERAL AID
 (29) 12 cu. yds. structural excav. (unclass);

- (30) 4 cu. yds. class A concrete (including cement);
 (31) 1 cattle guard (type A);
 (32) 10,040 lin. ft. standard line fence

The total bids were:

- (A) Orr & Rawls, El Paso Texas, \$118,400.75.
 (B) Packard & Tanner, Phoenix, \$121,838.55.
 (C) R. H. Martin, Tucson, Ariz., \$124,966.31.
 (D) Ralph Pleasant, Phoenix, \$127,470.49.
 (E) Phoenix-Tempe Stone Co., Phoenix, \$128,891.97.
 (F) Hedgman & MacVicar, Winslow, Ariz., \$129,332.30.
 (G) Skeels & Graham, Tucson, Ariz., \$129,531.52.
 (H) Cannon & Royden, Phoenix, \$133,516.47.
 (I) C. G. Willis & Sons, Los Angeles, Calif., \$129,043.78.
 (J) O. F. Fisher, Phoenix, \$142,941.96.
 (K) H. J. Hagen, Globe, Ariz., \$148,170.77.

The unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| (1) | .23 | .27 | .23 | .23 | .30 | .20 | .25 | .38 | .29 | .37 | .38 |
| (2) | .17 | .17 | .18 | .29 | .20 | .16 | .25 | .24 | .50 | .30 | .20 |
| (3) | .1725 | .2025 | .21 | .21 | .225 | .225 | 1.875 | .285 | .215 | .275 | .285 |
| (4) | .55 | .50 | .90 | .70 | .75 | .50 | 1.00 | .80 | .75 | .85 | 1.00 |
| (5) | .17 | .18 | .17 | .18 | .20 | .20 | .20 | .23 | .26 | .18 | .20 |
| (6) | .01 | .005 | .015 | .005 | .015 | .02 | .01 | .015 | .01 | .02 | .01 |
| (7) | .35 | .38 | .4 | .40 | .30 | .30 | .40 | .35 | .40 | .40 | .50 |
| (8) | .10 | .10 | .12 | .085 | .10 | .08 | .11 | .10 | .09 | .12 | .10 |
| (9) | 18.75 | 18.00 | 18.00 | 19.50 | 18.50 | 19.50 | 20.00 | 18.00 | 22.00 | 18.50 | 20.00 |
| (10) | 18.75 | 18.00 | 18.00 | 19.50 | 18.50 | 19.50 | 20.00 | 18.00 | 21.00 | 18.50 | 20.00 |
| (11) | .04 | .04 | .01 | .0375 | .045 | .04 | .04 | .035 | .05 | .029 | .04 |
| (12) | 1.55 | 1.34 | 1.50 | 1.30 | 1.75 | 1.50 | 2.00 | 1.25 | 1.35 | 1.75 | 1.10 |
| (13) | 1.90 | 2.00 | 1.75 | 2.00 | 2.25 | 2.25 | 2.25 | 2.00 | 1.95 | 2.25 | 1.70 |
| (14) | 2.40 | 2.50 | 2.75 | 2.50 | 3.00 | 3.00 | 2.75 | 2.50 | 2.35 | 2.65 | 2.25 |
| (15) | 3.65 | 3.75 | 3.80 | 3.80 | 4.75 | 4.50 | 4.00 | 3.75 | 3.50 | 3.70 | 3.30 |
| (16) | 4.30 | 4.55 | 4.80 | 4.50 | 5.00 | 5.50 | 5.00 | 4.25 | 4.40 | 4.23 | 4.00 |
| (17) | 6.00 | 6.25 | 6.0 | 6.30 | 6.50 | 8.00 | 7.00 | 6.00 | 6.25 | 6.75 | 6.00 |
| (18) | 1.00 | 1.00 | 1.0 | 1.00 | 1.50 | 1.00 | 1.00 | 1.50 | 1.25 | 2.29 | 1.00 |
| (19) | .55 | .60 | .6 | .65 | .60 | .60 | .55 | .40 | .60 | .80 | .60 |
| (20) | .05 | .05 | .02 | .06 | .055 | .05 | .065 | .06 | .09 | .09 | .10 |
| (21) | .17 | .17 | .18 | .20 | .20 | .16 | .22 | .15 | .50 | .30 | .20 |
| (22) | .55 | .50 | .9 | .70 | .75 | .50 | 1.00 | .75 | .50 | .75 | 1.00 |
| (23) | 62.00 | 55.00 | 60.0 | 65.00 | 65.00 | 60.00 | 65.00 | 50.00 | 70.00 | 56.00 | 70.00 |
| (24) | 18.75 | 18.00 | 18.00 | 19.50 | 18.50 | 19.50 | 20.00 | 18.00 | 20.00 | 18.50 | 20.00 |
| (25) | 18.75 | 18.00 | 18.00 | 19.50 | 18.50 | 19.00 | 20.00 | 18.00 | 19.00 | 18.00 | 20.00 |
| (26) | .04 | .04 | .04 | .0375 | .045 | .04 | .04 | .035 | .05 | .029 | .04 |
| (27) | 4.00 | 1.50 | 4.0 | 5.00 | 3.00 | 2.50 | 4.00 | 1.00 | 10.00 | 2.00 | 5.00 |
| (28) | 38.00 | 40.00 | 30.0 | 40.00 | 28.00 | 35.00 | 50.00 | 50.00 | 20.00 | 36.00 | 30.00 |
| (29) | .55 | .80 | .9 | .70 | .75 | .80 | 1.00 | 1.00 | .75 | .85 | 1.00 |
| (30) | 18.75 | 18.00 | 18.00 | 19.50 | 18.50 | 19.50 | 20.00 | 18.00 | 24.00 | 18.50 | 20.00 |
| (31) | 350.00 | 400.00 | 350.00 | 350.00 | 350.00 | 350.00 | 350.00 | 330.00 | 400.00 | 300.00 | 300.00 |
| (32) | .05 | .05 | .02 | .06 | .055 | .05 | .065 | .06 | .09 | .09 | .11 |

AWARD

ELKO COUNTY, Nev.—As previously reported, Basalt Rock Co., 900 8th St., Napa, Calif., at \$37,423.93 awarded contract by State Highway Commission to furnish, apply and mix asphaltic fuel oil with roadway surface between Death and Wells, a length of 18.52 miles, involving:

- (1) 950 cu. yds. load, haul and spread gravel;
 (2) 436,595 gals. cutback asph. applied to roadway surf.;
 (3) 18.52 mi. mix cutback asph. with crushed rock or crushed gravel surface;
 (4) 18.45 mi. rebuild and finish shoulders.

Complete bids follow:

- (A) Basalt Rock Co., Napa, Calif., \$37,423.93.
 (B) U. B. Lee, San Leandro, Calif., \$38,919.27.
 (C) Dodge Eros, Inc., Fallon, Nevada, \$39,753.66.
 (D) J. N. Tedford, Fallon, Nevada, \$29,947.77.
 (E) Nevada Rock & Sand Co., Reno, \$40,013.97.

- (F) Granite Constr. Co., Watsonville, Calif., \$42,440.53.
 (G) Jack Casson, Hayward, Calif., \$45,710.11.
 (H) Engineer's Estimate, \$45,981.03.

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) |
|-----|------|-------|----------|---------|-----|-----|-----|-----|
| (A) | .50 | .063 | \$485.00 | \$25.00 | | | | |
| (B) | .50 | .666 | 500.00 | 20.00 | | | | |
| (C) | .50 | .0675 | 500.00 | 30.00 | | | | |
| (D) | 1.00 | .666 | 500.00 | 50.00 | | | | |
| (E) | 1.00 | .067 | 480.00 | 50.00 | | | | |
| (F) | 1.00 | .074 | 500.00 | 50.00 | | | | |
| (G) | 1.00 | .0775 | 550.00 | 40.00 | | | | |
| (H) | .75 | .074 | 650.00 | 50.00 | | | | |

BIDS OPENED

MONTREY, Monterey Co., Cal.—S. Ruthven, Seaside, Cal., at \$3,327.50 submitted low bid to John T. Sallee, Captain, Q. M. Corps, Monterey, to construct approx. 650 lin. ft. of asphaltic concrete roadway, 30 ft. in width and 4½-in. thick, together with concrete curbs and gutters at the Presidio of Monterey.

- Following bids received:
 (1) 18,500 sq. ft. concrete;
 (2) 325 lin. ft. concrete gutters;

- (3) 600 lin ft. concrete gutters;
 (4) 1 catch basin;
 (5) Total bid.
 S. Ruthven, Seaside, (1) 15c, (2) 90c, (3) 35c, (4) 50c, (5) \$3,327.50.
 Clark & Henry, San Francisco, (1) 19c, (2) 85c, (3) 45c, (4) 50c, (5) \$4,111.25.

BIDS OPENED

LONG BEACH, Calif.—United Concrete Pipe Corp., 1347 W 208th St., Los Angeles, submitted low bid to E. S. Dobbin, city manager, May 23 at \$27,000 to construct centrifugal reinforced concrete transmission main in Cerritos Ave. bet. Spring St. and the Alamosa pumping plant. The bids were as follows:

- United Concrete Pipe Corp. (1) 3400 ft. of 30-in. pipe with a 2½-in. shell at \$4.20 per foot; (2) 2400 ft. of 30-in. pipe with a 4½-in. shell at \$5.30 per foot; (3) total, \$27,000.
 American Concrete & Steel Pipe Co. (1) \$4.30 (2) \$5.45 (3) \$27,700.
 Kemper Corp., Co., Ltd., (1) \$4.65 (2) \$5.65 (3) \$29,370.
 Bids taken under advisement.

RESUME OF BIDS SUBMITTED FOR INSTALLING PILING AND FOUNDATION WORK AT GOVERNMENT ISLAND, ALAMEDA

ALAMEDA, Cal.—Raymond Concrete Pile Co., 311 S. Spring St., Los Angeles, at \$54,953, submitted low bid to U. S. Bureau of Public Roads to install piling and foundation work for Units 12, 13, 14, 15, 16 and 17 on the 15-acre tract at Government Island, Alameda, involving:

- (1) Piling and foundation basis, 15-ton A piles.
- (2) Piling and foundation basis, 20-ton A piles.
- (3) Piling and foundation basis, 15-ton B piles.
- (4) Piling and foundation basis, 20-ton B piles.
- (5) Piling and foundation basis, 15-ton C piles.

- (6) Piling and foundation basis, 20-ton C piles.
- (7) Deduct or add for change in A piles. (Lin. ft.)
- (8) Deduct or add for change in concrete A piles. (Lin. ft.)
- (9) Deduct or add for change in B piles. (Lin. ft.)
- (10) Deduct or add for change in concrete B piles. (Lin. ft.)
- (11) Deduct or add for change in C piles. (Lin. ft.)
- (12) Pile load tests.
- (13) Deduct or add for change in Class A conc. (Cu. yd.)
- (14) Add for substitution Class S for A conc. (Cu. yd.)

Bidders follow:

- (A) Raymond Concrete Pile Co., Los Angeles.
- (B) Healy-Fibbits, San Francisco.
- (C) Clinton Construction Co., San Francisco.
- (D) Barrett & Hlip, San Francisco.
- (E) O. Monson, San Francisco.
- (F) A. W. Kitchen, San Francisco.
- (G) E. T. Lesure, Oakland.
- (H) Jacobs & Pattiani, Oakland.
- (I) A. H. Vogt Co., San Francisco.
- (J) M. B. McGowan, San Francisco.
- (K) Baker & Taylor, Chester.
- (L) Duncanson & Harrison, S. F.
- (M) Schuler & McDonald, Oakland.
- (N) Guy F. Atkinson, San Francisco.
- (O) Engineer's estimate.

Unit bids follow:

| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) |
|------------|--------|--------|--------|--------|--------|-----|------|-----|------|------|------|-------|-------|
| (A) 54,953 | 49,089 | 61,241 | 55,621 | 56,281 | 53,860 | .11 | 2.00 | .24 | 2.00 | .60 | 42 | 7.00 | 3.00 |
| (B) | | 58,700 | 52,700 | 48,620 | 46,840 | | | .20 | 1.50 | .40 | 300 | 15.00 | 22.00 |
| (C) | | | | | 49,478 | | | | | .75 | 400 | 16.00 | 1.50 |
| (D) | | 58,344 | 52,161 | 52,144 | 49,633 | | | .50 | 2.00 | .80 | 100 | 19.00 | 21.00 |
| (E) | | 58,119 | 51,812 | 54,186 | 50,554 | | | .15 | | .665 | 95 | 19.80 | 4.00 |
| (F) 58,614 | 54,141 | 66,353 | 58,250 | 52,994 | 50,904 | .26 | 1.74 | .29 | 2.43 | .65 | 238 | 19.00 | 1.15 |
| (G) | | 58,363 | 52,480 | 54,370 | 51,139 | | | .76 | .795 | .645 | 80 | 20.00 | 22.90 |
| (H) 56,983 | 54,919 | 66,141 | 58,814 | 53,571 | 51,865 | .40 | 1.50 | .44 | 1.90 | .70 | 160 | 20.00 | 25.00 |
| (I) | | | | 53,900 | 51,900 | | | | | .60 | 100 | 18.00 | 2.60 |
| (J) 57,916 | 53,444 | 66,333 | 58,245 | 54,202 | 52,518 | .35 | 1.50 | .38 | 1.50 | .65 | 100 | 19.00 | 1.00 |
| (K) | | | | 55,207 | | | | | | .45 | 35 | 17.00 | |
| (L) 59,882 | 57,280 | | | 59,510 | 57,812 | .15 | 1.60 | | | .40 | 85 | 25.00 | 27.00 |
| (M) | | 72,945 | 64,319 | 61,597 | 58,518 | | | | | .61 | 100 | 15.00 | 1.00 |
| (N) 80,540 | 73,825 | 86,389 | 77,750 | 72,889 | 69,376 | .60 | 3.00 | .70 | 3.00 | .90 | 150 | 25.00 | 3.00 |
| (O) 74,895 | 68,571 | 76,695 | 69,973 | 73,055 | 66,468 | .60 | 2.00 | .55 | 2.10 | 1.00 | 125 | 25.00 | 5.00 |

GRADING—CONCRETE PAVE.—LOS ANGELES

LOS ANGELES, Cal.—Geo. R. Curtis Paving Co., 2440 East 26th St., Vernon, at \$21,614.11, submitted low bid to Board of Public Works to improve Motor Ave., between Manning Ave. and National Blvd., under cash contract, involving:

- (1) Grading (13,100 cu. yds. excav. and 978 cu. yds. fill, incl. the removal of existing improvements).
- (2) 96,549 sq. ft. 6-in. concr. paving.
- (3) 5591 sq. ft. 4-in. asph. concr. wearing surf.
- (4) 3515 ft. unplas. light curb.
- (5) 17,647 sq. ft. 3-in. sidewalk.

- (6) 345 sq. ft. 6-in. sidewalk (driveways).
- (7) Sanitary sewer.
- (8) 705 ft. 6-in. house conn. sewers.
- (9) 100 ft. wooden guard rail.
- (10) 2 stairways, complete.
- (11) 4 manholes to be remodeled.
- (12) Installation of ornamental lighting system, complete.

Complete bids follow:

- (A) Geo. R. Curtis Paving Co. \$21,614.11
- (B) J. L. McClain
- (C) T. E. Sheelock
- (D) Simonovich & Pritch
- (E) R. J. Blanco
- (F) Geo. H. Oswald
- (G) John Topich
- (H) Arthur E. Pearson
- (I) Griffith Co.
- (J) P. J. Akmadzich
- (K) Alex. D. Chalmers
- (L) A. A. Alexander
- (M) L. B. Konjevod
- (N) So. Cal. Roads Co.
- (O) L. A. Paving Co.
- (P) Marter & Bock, Ltd.
- (Q) Ed. Johnson & Sons
- (R) Bob Bosko
- (S) Schelling Co.
- (T) Leo Miletich
- (U) Mano Constr. Co.

Unit bids follow:

| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | |
|-----------------|-----------|-------|------|------|-------|-----------|---------|---------|----------|----------|----------|--------|
| (A) \$ 4,300.00 | \$122 | \$07 | \$30 | \$09 | \$145 | \$1000.00 | \$1.00 | \$ 1.00 | \$100.00 | \$100.00 | \$425.00 | |
| (B) | 3,350.00 | .13 | .10 | .27 | .09 | .17 | 1250.00 | .95 | 1.00 | 80.00 | 450.00 | |
| (C) | 4,000.00 | .123 | .08 | .30 | .08 | .17 | 1200.00 | .90 | 1.20 | 90.00 | 50.00 | 470.00 |
| (D) | 3,350.00 | .125 | .16 | .30 | .11 | .15 | 1100.00 | .75 | .50 | 150.00 | 60.00 | 600.00 |
| (E) | 4,100.00 | .125 | .10 | .30 | .09 | .13 | 1244.00 | .86 | .75 | 100.00 | 90.00 | 620.00 |
| (F) | 3,525.00 | .122 | .095 | .35 | .095 | .175 | 1000.00 | 1.00 | .75 | 50.00 | 100.00 | 500.00 |
| (G) | 4,500.00 | .125 | .085 | .28 | .09 | .14 | 1400.00 | .75 | .75 | 100.00 | 100.00 | 395.00 |
| (H) | 4,750.00 | .125 | .085 | .32 | .09 | .15 | 1100.00 | .90 | .65 | 75.00 | 50.00 | 450.00 |
| (I) | 3,650.00 | .135 | .10 | .35 | .10 | .14 | 1000.00 | .80 | 1.00 | 100.00 | 20.00 | 400.00 |
| (J) | 4,000.00 | .135 | .10 | .30 | .09 | .135 | 1045.00 | 1.00 | .75 | 100.00 | 200.00 | 400.00 |
| (K) | 4,454.00 | .1275 | .12 | .34 | .09 | .14 | 997.50 | .95 | 1.20 | 140.00 | 70.00 | 550.00 |
| (L) | 4,800.00 | .13 | .095 | .45 | .092 | .13 | 1124.50 | 1.10 | .32 | 40.80 | 200.00 | 500.00 |
| (M) | 3,500.00 | .145 | .12 | .34 | .10 | .15 | 1200.00 | 1.00 | 1.00 | 200.00 | 200.00 | 500.00 |
| (N) | 4,800.00 | .137 | .11 | .35 | .11 | .17 | 1100.00 | .85 | 1.00 | 125.00 | 110.00 | 450.00 |
| (O) | 6,440.00 | .13 | .08 | .30 | .10 | .12 | 900.00 | .80 | 1.00 | 100.00 | 60.00 | 450.00 |
| (P) | 5,700.00 | .13 | .10 | .35 | .105 | .14 | 1400.00 | 1.00 | .80 | 125.00 | 70.00 | 540.00 |
| (Q) | 6,200.00 | .134 | .10 | .35 | .10 | .145 | 1400.00 | .75 | 1.00 | 85.00 | 40.00 | 550.00 |
| (R) | 4,500.00 | .1475 | .14 | .30 | .0975 | .16 | 1400.00 | 1.05 | 1.25 | 100.00 | 200.00 | 560.00 |
| (S) | 5,200.00 | .15 | .10 | .35 | .10 | .20 | 1450.00 | 1.25 | 1.50 | 110.00 | 135.00 | 700.00 |
| (T) | 5,240.00 | .12 | .15 | .36 | .10 | .20 | 1042.00 | 1.00 | 75.00 | 260.00 | 250.00 | 500.00 |
| (U) | 10,000.00 | .18 | .18 | .60 | .13 | .18 | 2500.00 | 2.00 | 2.50 | 500.00 | 50.00 | 850.00 |

BIDS OPENED

ALAMEDA, Alameda Co., Calif.—Hutchinson Co., 1450 Harrison Street, Oakland, at \$6201 submitted low bid to U. S. Bureau of Public Roads, 461 Market St., San Francisco, for constructing a portion of Unit No. 8, Government Island construction, Government Island, Alameda, consisting of grading the roadways and placing a

crushed rock or crushed gravel base course thereon, involving:

- (1) 6100 cu. yds. excav., unclass.;
- (2) 1350 cu. yds. subgrade reinforcement;
- (3) 2250 cu. yds. crushed gravel or crushed rock base course;
- (4) 220 M. gallons watering;
- (5) 300 lin. ft. header boards in place.

Complete bids follow:

(A) Hutchinson Co., Oakland.....\$6201

- (B) Heafey-Moore Co., Oakland..... 7600
- (C) Lee J. Immel, Berkeley..... 7950
- (D) Engineer's estimate

Unit bids follow:

| (1) | (2) | (3) | (4) | (5) | |
|----------|------|------|-------|-------|------|
| (A)..... | \$24 | \$83 | \$143 | \$165 | \$12 |
| (B)..... | .17 | 1.00 | 1.95 | 1.00 | .22 |
| (C)..... | .30 | .90 | 2.00 | 1.50 | .25 |
| (D)..... | .40 | 1.35 | 1.60 | .75 | .10 |

Bids held under advisement; low bidder recommended for award.

IMPROVE GARFIELD AVE.—SAN FRANCISCO

SAN FRANCISCO.—Eaton & Smith, 715 Ocean Ave., at \$10,534.13 submitted low bid to Department of Public Works to improve Garfield Street bet. Orizaba Ave. to Head St. and crossing at Graton and Garfield, involving:

- (1) 5,550 cu. yds. excavation;
- (2) 300 cu. yds. embankment;
- (3) 979 ft. unarmored concrete curb;
- (4) 8,150 sq. ft. 1-course conc. sidewalks;
- (5) 4 brick catchbasins;
- (6) 90 ft. 10-in. V.C.P. sewer;
- (7) 295 ft. 8-in. do.;
- (8) 236 ft. 12-in. do.;

- (9) 4 brick manholes;
- (10) 16 12x6-in. Y or T branches;
- (11) 12 8x6-in. do.;
- (12) 535 ft. 6-in. V.C.P. side sewer;
- (13) 21,680 sq. ft. asphalt. conc. pave.

Estimated cost \$12,000.

Complete bids follow:

| | |
|---------------------|-------------|
| (A) Eaton & Smith | \$10,534.13 |
| (B) Meyer Rosenberg | 11,507.70 |
| (C) Fay Imp. Co. | 11,647.41 |
| (D) E. J. Treacy | 12,070.70 |
| (E) M. J. Lynch | 13,533.90 |
| (F) C. L. Harney | 15,828.85 |

| | (A) | (B) | (C) | (D) | (E) | (F) |
|------|-------|--------|--------|--------|--------|-------|
| (1) | \$.40 | \$.40 | \$.50 | \$.55 | \$.60 | \$.80 |
| (2) | .01 | .10 | .01 | .01 | .01 | .01 |
| (3) | .50 | .50 | .50 | .50 | .50 | .55 |
| (4) | .12 | .12 | .10 | .13 | .14 | .16 |
| (5) | 80.00 | 100.00 | 105.00 | 90.00 | 85.00 | 90.00 |
| (6) | 1.50 | 2.00 | 1.80 | 1.50 | 2.00 | 2.00 |
| (7) | 1.50 | 3.00 | 1.50 | 2.00 | 2.00 | 3.00 |
| (8) | 1.50 | 3.50 | 1.75 | 2.50 | 2.00 | 3.50 |
| (9) | 80.00 | 100.00 | 100.00 | 100.00 | 100.00 | 90.00 |
| (10) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| (11) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| (12) | .75 | 1.50 | .75 | 1.00 | 1.50 | 1.00 |
| (13) | .216 | .185 | .237 | .24 | .25 | .27 |

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) |
|------|-------|--------|--------|--------|--------|-------|
| (1) | \$.40 | \$.40 | \$.50 | \$.55 | \$.60 | \$.80 |
| (2) | .01 | .10 | .01 | .01 | .01 | .01 |
| (3) | .50 | .50 | .50 | .50 | .50 | .55 |
| (4) | .12 | .12 | .10 | .13 | .14 | .16 |
| (5) | 80.00 | 100.00 | 105.00 | 90.00 | 85.00 | 90.00 |
| (6) | 1.50 | 2.00 | 1.80 | 1.50 | 2.00 | 2.00 |
| (7) | 1.50 | 3.00 | 1.50 | 2.00 | 2.00 | 3.00 |
| (8) | 1.50 | 3.50 | 1.75 | 2.50 | 2.00 | 3.50 |
| (9) | 80.00 | 100.00 | 100.00 | 100.00 | 100.00 | 90.00 |
| (10) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| (11) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| (12) | .75 | 1.50 | .75 | 1.00 | 1.50 | 1.00 |
| (13) | .216 | .185 | .237 | .24 | .25 | .27 |

GRADE—SURFACE—SISKIYOU COUNTY—STATE

SISKIYOU COUNTY, Cal.—Skeels & Graham Co., Box 576, Roseville, at \$15,984.04, submitted low bid to State Highway Commission to grade and surface with bituminous treated crushed gravel or stone, 0.8 mile at Cottonwood Creek. Project involves:

- (1) 16,800 cu. yds. rdwy. excav. without class;
- (2) 52,670 sta. yds. overhaul;
- (3) 150 cu. yds. struc. excav.;
- (4) 3,540 cu. yds. untreated crushed gravel or stone surfacing;
- (5) 230 M. gals. water applied;
- (6) 5 cu. yds. Class A cem. concrete (struc.);
- (7) 178 lbs. bar reinf. steel (struc.);
- (8) 23 lin. ft. 12-in. corr. metal pipe;
- (9) 134 lin. ft. 18-in. do.;
- (10) 44 lin. ft. 24-in. do.;
- (11) 60 bbls. heavy fuel oil;

- (12) 75 tons cut-back asphalt;
- (13) 40 sta. mix bitum. binder and mineral aggregate;
- (14) 143 cu. yds. selected rock fill;
- (15) 40 sta. finish roadway;
- (16) 4 monuments complete in place.

State will furnish corrugated metal pipe.

Complete bids follow:

| |
|--|
| (A) Skeels & Graham, Roseville, \$15,984.04. |
| (B) Tiffany, McReynolds, Tiffany, San Jose, \$16,519.72. |
| (C) Hemstreet & Bell, Marysville, \$18,228.88. |
| (D) Dunn & Baker, Klamath Falls, Oregon, \$18,807.00. |
| (E) J. P. Ewman, Redding, \$21,900.05 |
| (F) A. Young, Yreka, \$22,965.38. |
| (G) Milton A. Purdy, Oakland, \$25,624.50. |

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) |
|------|-------|-------|-------|-------|-------|-------|-------|
| (1) | .30 | .37 | .40 | .35 | .54 | .70 | .82 |
| (2) | .01 | .015 | .01 | .01 | .015 | .01 | .01 |
| (3) | .50 | 1.00 | 1.50 | 1.20 | 1.20 | 1.50 | 1.50 |
| (4) | 1.90 | 1.65 | 2.00 | 2.40 | 2.40 | 2.00 | 2.65 |
| (5) | 1.00 | 1.75 | 1.50 | 1.50 | 1.20 | 1.50 | 2.30 |
| (6) | 25.00 | 30.00 | 25.00 | 22.00 | 20.00 | 20.00 | 30.00 |
| (7) | .08 | .06 | .06 | .10 | .05 | .06 | .19 |
| (8) | .25 | .50 | .30 | .40 | .50 | .50 | .59 |
| (9) | .30 | .60 | .40 | .50 | .75 | .50 | .75 |
| (10) | .35 | .70 | .50 | .60 | 1.00 | .50 | 1.00 |
| (11) | 4.00 | 3.00 | 4.00 | 3.50 | 5.00 | 3.60 | 5.00 |
| (12) | 17.00 | 18.00 | 20.00 | 22.00 | 18.00 | 22.50 | 25.00 |
| (13) | 20.00 | 14.00 | 20.00 | 20.00 | 6.00 | 12.00 | 25.00 |
| (14) | 4.00 | 3.50 | 2.50 | 1.75 | 4.10 | 1.50 | 4.00 |
| (15) | 5.00 | 6.00 | 5.00 | 5.00 | 8.00 | 5.00 | 10.00 |
| (16) | 3.00 | 3.00 | 3.00 | 3.50 | 3.00 | 3.00 | 5.00 |

Complete bids follow:

| | |
|---------------------|-----------|
| (A) Meyer Rosenberg | \$1386.29 |
| (B) E. J. Treacy | 1724.07 |
| (C) Eaton & Smith | 2026.72 |
| (D) C. L. Harney | 2108.10 |
| (E) T. M. Gallagher | 3058.24 |

Unit bids follow:

| | | | | | |
|-----|-------|--------|--------|--------------|-----|
| (1) | .01 | .01 | .01 | 1.50 | |
| (2) | .75 | .55 | .60 | 1.00 1.00 | |
| (3) | 1.50 | 2.00 | 3.00 | 3.00 1.50 | |
| (4) | 75.00 | 100.00 | 100.00 | 100.00 75.00 | |
| (5) | 1.00 | 2.00 | 1.00 | 1.00 1.00 | |
| (6) | 7.00 | 22.50 | 25.00 | 20.00 10.00 | |
| (7) | 50.00 | 75.00 | 100.00 | 100.00 75.00 | |
| (8) | .33 | .39 | .44 | .45 | .23 |

AWARD
 MORGAN HILL, Santa Clara Co., Cal.—Palo Alto Road Material Co., Ltd., 465 California Ave., Palo Alto, at \$1.25 per bbl., awarded contract by city council to furnish 50-60 road oil to be applied hot on city streets. Complete bids follow:

| | |
|---------------------------------------|--------|
| P. A. Road Mat. Co., Palo Alto | \$1.26 |
| Ed. A. Peres, Richmond | 1.35 |
| Tiffany-McReynolds-Tiffany, San Jose | 1.45 |
| John B. Chase, San Jose | 1.51 |
| Lloyd W. Skeels, Morgan Hill | 1.75 |
| Pacific Truck Service, Inc., San Jose | 1.80 |

BERKELEY, Alameda Co., Calif.—Following bids received by city council to furnish rock and screenings as ordered during the fiscal year commencing July 1, 1932:

- (1) crushed rock (2) screenings.

| |
|---|
| Hutchinson Co., 4030 Hollis Street, Oakland (1) \$1.45 per ton; (2) \$1.65 per ton. |
| Transit Concrete Co., Ltd., foot of Broadway, Oakland, (1) \$1.50 per ton (2) \$1.50 per ton. |

Bids held under advisement.

BIDS OPENED

AKLAND, Cal.—Axel Cederberg, 1453 Excelsior Ave., Oakland, at \$32,794.44, submitted low bid to city council to construct reinforced concrete trestles in portions of Park Blvd., bet. Estates Drive and Mountain Blvd., involving:

- (1) 1,453.5 cu. yds. conc. in place.
- (2) 250,310 lbs. reinf. steel in place.

Engineer's estimate, \$36,000.

Complete bids follow:

| | (1) | (2) | Total |
|------------------------------|-------|-------|-----------|
| Axel Cederberg, Oakland | 16.07 | .0377 | 32,794.44 |
| B. A. Howkins, San Francisco | 17.55 | .036 | 34,520.09 |
| R. B. McNair, Oakland | 18.82 | .0367 | 36,541.25 |
| Eaton & Smith, San Francisco | 19.20 | .0367 | ..... |
| A. T. Howe, Santa Rosa | 19.00 | .0362 | ..... |
| M. B. McGowan, San Francisco | 17.55 | .0453 | ..... |
| A. J. Raisch, San Jose | 26.40 | .038 | ..... |
| E. T. Lesure, Oakland | 17.18 | 3.75 | ..... |
| Schuler & Mc-Donald, Cak. | 19.10 | .04 | ..... |
| Neves & Harp, Santa Clara | 19.87 | .04 | ..... |
| Jacobs & Pat-tani, Oak. | 24.40 | .03 | ..... |
| L. C. Seidel, Oak. | 18.90 | .04 | ..... |

Bids held under advisement.

BIDS OPENED

SAN FRANCISCO, Cal.—Meyer Rosenberg, 1755 San Bruno Ave., at \$1,386.29, submitted low bid to Department of Public Works to improve Montague Pl. from Montgomery St. westerly, involving:

- (1) 1200 cu. yds. cut.
- (2) 275 ft. concrete curb.
- (3) 137 ft. 8-in. ironstone pipe sewer.
- (4) 1 brick manhole.
- (5) 10 styse branches.
- (6) 8 side sewers.
- (7) 1 brick catch basin.
- (8) 2338 sq. ft. Class E conc. pave.

Complete bids follow:

| | |
|---------------------|-----------|
| (A) Meyer Rosenberg | \$1386.29 |
| (B) E. J. Treacy | 1724.07 |
| (C) Eaton & Smith | 2026.72 |
| (D) C. L. Harney | 2108.10 |
| (E) T. M. Gallagher | 3058.24 |

Unit bids follow:

| | | | | | |
|-----|-------|--------|--------|--------------|-----|
| (1) | .01 | .01 | .01 | 1.50 | |
| (2) | .75 | .55 | .60 | 1.00 1.00 | |
| (3) | 1.50 | 2.00 | 3.00 | 3.00 1.50 | |
| (4) | 75.00 | 100.00 | 100.00 | 100.00 75.00 | |
| (5) | 1.00 | 2.00 | 1.00 | 1.00 1.00 | |
| (6) | 7.00 | 22.50 | 25.00 | 20.00 10.00 | |
| (7) | 50.00 | 75.00 | 100.00 | 100.00 75.00 | |
| (8) | .33 | .39 | .44 | .45 | .23 |

Bids held under advisement.

BIDS OPENED

SAN FRANCISCO, Cal.—Eaton & Smith, 715 Ocean Ave., San Francisco, at \$653.15, submitted low bid to Department of Public Works to improve crossing of Bronte St. and Jarboe Ave., involving:

- (1) 250 cu. yds. excav.
- (2) 56 ft. asphalt concrete curb.
- (3) 211 sq. ft. 1-course conc. side-walk.

Engineer's estimate, \$750.

Complete bids follow:

| | |
|---------------------|----------|
| (A) Eaton & Smith | \$653.15 |
| (B) Meyer Rosenberg | 710.16 |

Unit bids follow:

| | (A) | (B) |
|-----|------|------|
| (1) | .50 | .01 |
| (2) | 1.00 | 1.50 |
| (3) | .15 | .20 |
| (4) | .25 | .33 |

Bids held under advisement.

SECTION E, FILLMORE ST. SEWER—SAN FRANCISCO

SAN FRANCISCO.—Meyer Rosenberg, 1755 San Bruno Ave., at \$56,875.50 submitted low bid to Department of Public Works to construct Section E of the Fillmore Street Sewer, involving:

- (1) 1,600 ft. 5-ft. 3-in. circular reinf. concrete sewer;
- (2) 1,739 ft. 3-ft. 6-in. by 5-ft. 3-in. reinf. conc. sewer;
- (3) 153 ft. 3-ft. by 4-ft 6-in. reinf. concrete sewer;
- (4) 35 ft. 21-in. V.C.P. sewer;
- (5) 70 ft. 18-in. do;
- (6) 35 ft. 12-in. do;
- (7) 200 ft. 10-in. culverts;
- (8) 12 manholes, brick or concrete on concrete sewer;
- (9) 6 brick manholes on existing brick sewer;
- (10) 2 brick manholes on existing V. C. P. sewers;

- (11) 1 reinf. conc. taper connection;
 - (12) 1 reinf. conc. junction structure (Steiner and Ellis Sts.);
 - (13) 1 do Steiner and Geary Sts.;
 - (14) 1 do, Steiner and Post Sts.;
 - (15) 1 do Steiner and Sutter Sts.;
 - (16) 1,840 ft. 6-in. V.C.P. underdrain,
 - (17) 950 ft. 2-in. do;
 - (18) 460 ft. 10-in. do;
 - (19) 230 ft. 12-in. do;
- Complete bids follow:
- (A) Meyer Rosenberg.....\$56,875.50
 - (B) MacDonald & Kahn.....69,875.75
 - (C) Eaton & Smith.....72,223.74
 - (D) C. L. Harney.....76,876.29
 - (E) Healy-Thibbits.....79,837.00
 - (F) C. W. & H. H. Haun.....80,681.25
 - (G) W. J. Tobin.....86,034.07
 - (H) E. J. Treacy.....86,594.00
 - (I) M. B. McGowan.....95,353.00
 - (J) Clinton Const. Co.....97,110.00
- Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) |
|-----------|---------|---------|---------|---------|---------|---------|---------|---------|----------|---------|
| (1)..... | \$16.25 | \$19.53 | \$20.65 | \$22.40 | \$23.00 | \$22.60 | \$24.11 | \$23.75 | \$ 25.80 | \$28.75 |
| (2)..... | 13.50 | 16.90 | 16.76 | 18.00 | 18.00 | 18.75 | 20.61 | 21.00 | 24.00 | 22.90 |
| (3)..... | 12.00 | 17.10 | 20.00 | 17.40 | 26.00 | 18.00 | 21.36 | 23.00 | 24.00 | 21.00 |
| (4)..... | 3.10 | 6.80 | 5.00 | 4.80 | 9.00 | 7.00 | 7.15 | 6.00 | 1.00 | 9.00 |
| (5)..... | 2.80 | 6.20 | 4.00 | 4.40 | 5.00 | 6.00 | 6.80 | 5.00 | 1.00 | 12.00 |
| (6)..... | 2.50 | 5.85 | 3.00 | 3.20 | 5.00 | 5.00 | 6.00 | 5.00 | 1.00 | 6.30 |
| (7)..... | 1.80 | 5.65 | 2.00 | 2.00 | 4.25 | 4.00 | 5.00 | 5.00 | 1.00 | 6.50 |
| (8)..... | 35.00 | 71.50 | 50.00 | 40.00 | 70.00 | 90.00 | 75.00 | 50.00 | 60.00 | 50.00 |
| (9)..... | 50.00 | 83.50 | 55.00 | 70.00 | 60.00 | 100.00 | 115.00 | 50.00 | 60.00 | 80.00 |
| (10)..... | 75.00 | 83.50 | 70.00 | 150.00 | 65.00 | 150.00 | 115.00 | 100.00 | 60.00 | 175.00 |
| (11)..... | 175.00 | 250.00 | 300.00 | 250.00 | 400.00 | 350.00 | 300.00 | 150.00 | 1000.00 | 210.00 |
| (12)..... | 270.00 | 300.00 | 350.00 | 325.00 | 250.00 | 450.00 | 300.00 | 450.00 | 1000.00 | 450.00 |
| (13)..... | 270.00 | 300.00 | 350.00 | 325.00 | 250.00 | 450.00 | 300.00 | 450.00 | 1000.00 | 430.00 |
| (14)..... | 340.00 | 370.00 | 350.00 | 325.00 | 250.00 | 550.00 | 300.00 | 450.00 | 1000.00 | 550.00 |
| (15)..... | 340.00 | 350.00 | 350.00 | 325.30 | 250.00 | 500.00 | 500.00 | 500.00 | 1000.00 | 460.00 |
| (16)..... | .45 | .12 | .60 | .50 | .50 | .50 | .40 | .50 | .20 | .50 |
| (17)..... | .50 | .14 | .65 | .75 | .60 | .65 | .50 | .60 | .20 | .60 |
| (18)..... | .60 | .18 | .75 | .90 | .75 | .80 | .60 | 1.00 | .20 | .80 |
| (19)..... | .70 | .24 | .85 | 1.00 | 1.00 | 1.00 | .80 | 1.30 | .20 | .80 |

IMPROVE PEABODY STREET—SAN FRANCISCO

SAN FRANCISCO.—C. L. Harney, 74 New Montgomery St., at \$422 submitted low bid to the Department of Public Works, to improve Peabody St., from Sunnydale Ave. to a point 256 ft. south, involving:

- (1) 256 ft. 8-in. V.C.P. sewer;
- (2) 14 8x6-in. Y or T branches;
- (3) 72 ft. 6-in. V.C.P. side sewer;
- (4) 1 brick manhole.

- (A) C. L. Harney.....\$422.00
 - (B) E. J. Treacy.....426.03
 - (C) Fay Imp. Co.....442.64
 - (D) Meyer Rosenberg.....466.00
 - (E) Eaton & Smith.....501.40
 - (F) T. M. Gallagher.....522.00
 - (G) M. J. Lynch.....530.69
 - (H) M. Bertolino.....725.00
 - (I) W. J. Tobin.....728.00
- Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) |
|----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| (1)..... | \$ 1.00 | \$ 1.10 | \$ 1.14 | \$ 1.20 | \$ 1.40 | \$ 1.50 | \$ 1.50 | \$ 2.00 | \$ 2.00 |
| (2)..... | 1.00 | .80 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 2.50 | 2.00 |
| (3)..... | 1.00 | .74 | .65 | .90 | .75 | .75 | .80 | 1.50 | 1.50 |
| (4)..... | 80.00 | 90.00 | 90.00 | 80.00 | 75.00 | 70.00 | 75.00 | 70.00 | 80.00 |

IMPROVE CROSSING—SAN FRANCISCO

SAN FRANCISCO.—Eaton & Smith, 715 Ocean Ave., at \$1796.13 submitted low bid to the Department of Public Works to improve crossing of 37th Ave. and Moraga St., involving:

- (1) 24 ft. unarmad concrete curb;
- (2) 660 sq. ft. I-course conc. sidewalks
- (3) 3 brick catchbasins;
- (4) 105 ft. 10-in. V.C.P. sewer;
- (5) 80 ft. 8-in. do;
- (6) 70 ft. 15-in. do;

- (7) 1 brick manhole;
 - (8) 4893 sq. ft. asph. conc. pavement.
- Complete bids follow:
- (A) Eaton & Smith.....\$1796.13
 - (B) Union Faving Co.....1808.58
 - (C) E. J. Treacy.....1811.44
 - (D) Fay Imp. Co.....1984.39
 - (E) Meyer Rosenberg.....2054.53
 - (F) C. L. Harney.....2100.09
 - (G) J. D. O'Hare.....2161.32
- Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) |
|----------|--------|--------|---------|--------|--------|--------|--------|
| (1)..... | \$.60 | \$.40 | \$ 1.00 | \$.62 | \$.75 | \$.75 | \$.90 |
| (2)..... | .12 | .135 | .13 | .14 | .15 | .12 | .14 |
| (3)..... | 70.00 | 75.00 | 70.00 | 90.00 | 100.00 | 80.00 | 80.00 |
| (4)..... | 1.00 | 1.00 | .75 | 1.25 | 1.50 | 1.00 | 2.00 |
| (5)..... | 1.35 | 1.00 | 1.00 | 1.25 | 1.25 | 1.50 | 1.00 |
| (6)..... | 2.00 | 2.00 | 1.75 | 2.75 | 3.00 | 4.00 | 3.00 |
| (7)..... | 70.00 | 75.00 | \$5.00 | \$5.00 | 90.00 | 80.00 | 70.00 |
| (8)..... | .21 | .216 | .23 | .234 | .21 | .23 | .24 |

BIDS OPENED

YOLO COUNTY, Cal.—D. MacDonald, 204 23rd St., Sacramento, at \$55,481.55, submitted low bid to State Highway Commission to grade and pave with Portland cement concrete about 1.7 miles between Swingle and Yolo Causeway, involving:

- (1) 16,100 cu. yds. rdwy. excav. with-out class;
 - (2) 66,500 sta. yds. overhaul;
 - (3) 33,300 cu. yds. imp. borrow;
 - (4) 55 cu. yds. struc. excav.;
 - (5) 18,780 sq. yds. subgrade for pave.;
 - (6) 3,990 cu. yds. Class A Port. cem. concrete (pave.);
 - (7) 88,700 lbs. bar reinf. steel (pave.);
 - (8) 63 lin. ft. 18-in. corr. metal pipe;
 - (9) 18 lin. ft. salvage existing culvert;
 - (10) 1,835 cu. yds. Port. cem. conc. remove from existing pave.;
 - (11) 550 cu. yds. salvage surface (base and detour);
 - (12) 37 M. gals. water apply to surf.;
 - (13) 230 tons crushed gravel or stone (bit. treated surf.);
 - (14) 12 tons cut-back asphalt;
 - (15) 626 bbls. fuel oil (shoulders and detour);
 - (16) 0.3 mi. existing property fence (move and reset);
 - (17) 1.2 miles new property fence;
 - (18) 1 gate complete in place;
 - (19) 91 sta. finish rdwy.;
 - (20) 9 monuments complete in place.
- State will furnish corrugated metal pipe.

- Complete bids follow:
- (A) D. MacDonald, Sacramento.....\$55,481.55
 - (B) C. W. Wood, Stockton.....53,804.30
 - (C) Hanrahan Co., S. F.....60,111.30
 - (D) Bundesen & Lauritzen, and Delta Dredging Co., Pittsburg.....60,260.10
- Unit bids follow:

| | (A) | (B) | (C) | (D) |
|-----------|--------|--------|--------|--------|
| (1)..... | .18 | .20 | .19 | .20 |
| (2)..... | .01 | .01 | .01 | .007 |
| (3)..... | .25 | .33 | .30 | .37 |
| (4)..... | 1.00 | 1.00 | .50 | .60 |
| (5)..... | .09 | .06 | .09 | .05 |
| (6)..... | 7.65 | 7.50 | 7.75 | 8.20 |
| (7)..... | .0425 | .045 | .05 | .047 |
| (8)..... | .50 | .25 | .40 | .40 |
| (9)..... | .50 | 1.00 | .75 | .40 |
| (10)..... | 1.20 | 1.50 | 1.50 | 1.50 |
| (11)..... | .60 | 1.00 | .60 | .50 |
| (12)..... | 1.50 | 2.00 | 1.50 | 1.50 |
| (13)..... | 3.00 | 3.50 | 3.50 | 3.50 |
| (14)..... | 20.00 | 15.00 | 10.00 | 15.00 |
| (15)..... | 2.25 | 2.75 | 2.40 | 2.65 |
| (16)..... | 300.00 | 200.00 | 150.00 | 200.00 |
| (17)..... | 350.00 | 400.00 | 250.00 | 350.00 |
| (18)..... | 15.00 | 12.00 | 15.00 | 15.00 |
| (19)..... | 5.00 | 4.00 | 3.50 | 5.00 |
| (20)..... | 3.00 | 3.00 | 2.50 | 2.50 |

BIDS OPENED

SACRAMENTO, Cal.—A. Teichert & Son, P. O. Box 1118, Sacramento, at \$1905.48, submitted low bid to county supervisors to construct earth fill on Fair Oaks Blvd., Howe Ave. and Fulton Ave., involving:

- (1) 2100 cu. yds. fill.
- (2) 650 cu. yds. fill.
- (3) 1133 cu. yds. fill.
- (4) 3108 cu. yds. fill.

- Complete bids follow:
- (A) A. Teichert & Son, Sacramento.....\$1095.48
 - (B) J. R. Reeves, Sacramento.....2074.50
 - (C) H. A. Anderson, Sacramento.....2350.50
 - (D) Neal & Watt.....3367.63
- Unit bids follow:

| | (1) | (2) | (3) | (4) |
|----------|-----|-----|-----|-----|
| (A)..... | .28 | .20 | .28 | .28 |
| (B)..... | .32 | .20 | .30 | .30 |
| (C)..... | .40 | .38 | .30 | .39 |
| (D)..... | .53 | .34 | .43 | .43 |

Bids held under advisement.

BIDS OPENED

RIVERSIDE and SAN BERNARDINO COUNTIES, Cal.—Southwest Paving Co., 712 Lankershim Bldg., Los Angeles, at \$38,140.80, submitted low bid to State Highway Commission to treat earth shoulders with fuel oil over about 23.2 miles between Corona and the Orange County line; between the Santa Ana River Bridge and Ontario, San Bernardino County to treat roadbed with fuel oil over about 22.4 miles between the junction of Routes 31 and 59 near Cajon Summit and the Los Angeles County line, involving: (1) 21,920 bbls. heavy fuel oil.

Complete bids follow:

| | | |
|--------------------------------------|-------|-----------|
| Southwest Paving Co., L. A. | 1.74 | 38,140.80 |
| Kemper Con. Co., Ltd., L. A. | 1.78 | 39,017.60 |
| F. W. Peschke, Hollywood | 1.83 | 40,103.60 |
| R. E. Hazzard Contr. Co., San Diego | 1.895 | 41,538.40 |
| Miracle Co., San Diego | 1.91 | 41,867.20 |
| Martin Bros. Trucking Co., Long B'ch | 1.94 | 42,524.80 |

MONTREY COUNTY, Cal.—Granite Construction Co., Bin No. 9, Watsonville, at \$280.65, submitted only bid to District Engineer, State Highway Commission, San Luis Obispo, to improve 1.9 miles between Carmel city limits and the Carmel River bridge, portions to be treated with fuel oil and seal coat to be applied over the entire length, involving: (1) 250 bbls. fuel oil \$ 4.00 (2) 31 tons asph. road oil. 18.00 (3) 323 tons screenings 3.85

AWARD

OAKLAND, Cal.—Herbert K. Henderson, 393 40th St., Oakland, at \$4,723.10 awarded contract by the county supervisors to construct timber bridge on the Mines Road over Mocho Creek, involving: (1) 220 cu. yds. excav. for struc.; (2) 205 cu. yds. conc. for struc.; (3) 4950 b.m. ft. Douglas fir timber; (4) 2200 b.m. ft. Redwood timber; (5) 3400 lbs. reinf. steel. Complete bids follow: (A) H. K. Henderson, Oakland, \$4,723.10. (B) J. E. Petersen, Oakland, \$4,914.85. (C) A. B. Bruce & Son, Pleasanton, \$4,974.50. (D) J. H. Fitzmaurice, Oakland, \$4,999.01. (E) George Swanstrom, Oakland, \$5,175.25. (F) A. Söda & Sons, Oakland, \$5,177.66. (G) W. E. Lyon, Oakland, \$5,945.00. (H) L. C. Seidel, Oakland, \$6,412.00.

Unit bids follow:

| | (1) | (2) | (3) | (4) | (5) |
|-----|--------|---------|---------|---------|--------|
| (A) | \$2.75 | \$10.18 | \$36.00 | \$36.00 | \$0.54 |
| (B) | 1.00 | 12.25 | 36.00 | 112.00 | .045 |
| (C) | 1.25 | 10.00 | 43.00 | 105.00 | .04 |
| (D) | 1.95 | 12.15 | 39.48 | 65.00 | .04 |
| (E) | 3.24 | 11.14 | 38.50 | 70.00 | .085 |
| (F) | 2.73 | 10.00 | 44.95 | 75.00 | .055 |
| (G) | 3.15 | 12.95 | 46.00 | 83.75 | .04 |
| (H) | 2.40 | 15.00 | 50.00 | 90.00 | .04 |

BIDS OPENED

BERKELEY, Alameda Co., Calif.—Following bids received by city council to furnish 100 tons, more or less, of asphalt, delivered f.o.b. Corporation Yard Spur, from July 1, 1932: Gilmore Oil Co. \$7,000 per ton Union Oil Co. 7.00 per ton Associated Oil Co. 7.55 per ton Casemite Co. 8.50 per ton Shell Oil Co. 16.00 per ton Standard Oil Co. current mkt. price Bids held under advisement.

BIDS OPENED

FORT BARRY, Marin Co., Cal.—J. V. Galbraith, 211-219 Second St., Petaluma, at \$890 submitted low bid to Constructing Quartermaster, Fort Mason, San Francisco, for approximately 3000 ft. of macadam surfacing; (a) lin. ft. deducted. Complete bids follow: J. V. Galbraith, Petaluma, (a) \$30; total \$890. Lee J. Immel, Berkeley (a) \$30; \$1,078. O. F. Mummy, Sausalito, \$40; \$1071. V. Maggiora, Sausalito, \$30; \$1100. A. H. Ruoff & Co., San Rafael, \$20; \$1273. George Peres, Richmond, \$25; \$1655. Meyer Rosenberg, San Francisco, \$40; \$1690. P. L. Burr, San Francisco, \$30; \$1,689. Louis Lambretti, Mill Valley, \$48; \$1739. E. J. Treacy, San Francisco, \$70; \$2490. James Tobin, San Francisco, \$112; \$3808.

Bids held under advisement.

BIDS OPENED

SANTA CLARA CO., Cal.—Pacific Truck Service, Inc., 646 Park Ave., San Jose, at \$2955, submitted low bid to District Engineer, State Highway Commission, San Francisco, for about 5.7 miles between Gilroy and the Pajaro River, rock borders to be bituminous surface treated and earth shoulders to be treated with fuel oil as a dust palliative, involving: (1) 900 tons screenings. (2) 50 tons road oil. (3) 250 bbls. fuel oil. Complete bids follow: (A) Pacific Truck Service, Inc., San Jose \$2958.00 (B) Lee J. Immel, Berkeley \$3925.00 (C) Granite Con. Co., Watsonville 4190.00 (D) Tiffany - McReynolds-Tiffany, San Jose 4562.50

Unit bids follow:

| | (1) | (2) | (3) |
|-----|------|-------|------|
| (A) | 2.14 | 12.74 | 1.58 |
| (B) | 3.00 | 16.00 | 1.70 |
| (C) | 3.10 | 17.00 | 2.20 |
| (D) | 3.50 | 18.00 | 2.25 |

Bids held under advisement.

SAN LEANDRO, Alameda Co., Cal.—San Leandro Rock Co., 2485 Washington St., San Leandro, submitted only bid to city council to furnish rock and screenings for year ending June 30, 1933, as follows: Red Rock macadam \$1.05 Red rock, 1-inch 1.05 Red rock screenings 1.05 Rock fill .75 Concrete rock 1.45 Concrete rock screenings 1.45 Bird's-eye 1.50 Bids held under advisement. 28

CONTRACT AWARDED

SAN FRANCISCO.—Eaton & Smith, 715 Ocean Ave., at \$1,225.75 awarded contract by State Board of Harbor Commissioners, Ferry Bldg., for paving on Clay St. and The Embarcadero, involving: (1) 4500 sq. ft. 2-inch Topeka, 3-in. base on 3-in. rock base; (2) approx. 125 tons 2-in. Topeka on paving lock base. (3) total.

Following is a complete list of bids: Eaton & Smith (1) \$ 1.55 (2) 4.85 (3) 1,225.75 Pacific States Const. (1) \$ 209 (2) 3.92 (3) 1,409.60 Pay Imp. Co. (1) \$.16 (2) 6.00 (3) 1,454.00

VENTURA COUNTY, Cal.—Oil-fields Trucking Co., Taft, at \$5211, submitted low bid to District Engineer, State Highway Commission, Los Angeles, for treating with fuel oil 10.1 mi. of earth shoulders between Calleguas Creek and Los Angeles-Ventura County line, involving: (1) 2700 bbls. fuel oil. Bids were:

| | | |
|---------------------------|--------|-----------|
| | (1) | Total |
| Oilfields Trucking Co. | \$1.93 | \$5211.00 |
| Western Motor Transporter | 1.938 | 5232.60 |
| E. P. Ferry | 2.69 | 7263.00 |

BIDS OPENED

COLORADO STATE HIGHWAY—M. E. Carlson, Denver, submitted low bid to State Highway Department, Denver, at \$153,839.04 for highway construction on Combined F. A. Projects Nos. 149-C, Construction Div. No. 3, 149-D; Construction Div. No. 2, 149-FR; Construction Div. No. 1, 149-GR; Construction Div. No. 1 and 149-HR, a plant mix oil processed surfacing project, 55,321 miles long, located between Denver and Limon, on State Highway No. 8, Adams, Arapahoe and Elbert Counties, involving: (1) 96,870 tons plant mix oil processes surfacing at \$1.40 ton. (2) 2,650 tons plant mix oil processes surfacing for stock piles at \$1.30 ton. (3) 403,000 gal. base course oiling at 1.5c gal. (4) 54,569 miles oil processing at \$160 per mile.

The other bids were:

| | |
|-----------------------------------|--------------|
| Hinman Bros., Denver | \$160,339.25 |
| Hamilton & Gleason Co., Denver | \$162,772.30 |
| Driscoll Construction Co., Pueblo | \$166,695.10 |
| Heafey-Moore Co., Oakland, Cal. | \$181,246.23 |
| Lewy-Fleisher, Denver | \$183,647.55 |
| C. V. Hallenbeck, Denver | \$195,591.40 |
| A. H. Read Co., Cheyenne, Wyo. | \$226,591.40 |
| Stevens Bros., St. Paul, Minn. | \$252,820.70 |
| Peple Bros., Trinidad | \$280,519.65 |

28

BIDS OPENED

ARIZONA STATE HIGHWAY—II. L. Royden, 14 N. 12th Ave., Phoenix, submitted low bid to Highway Commission, June 10, at \$53,389.30, for highway improvement between Flagstaff and Williams, F. A. 24, 1st Rec. Unit A. The work, which is to begin about 15 miles west of Flagstaff and extend easterly 8.2 miles toward Rioran, consists of the grading, draining and placing of sub-grade stabilizer and is to be completed on or before Nov. 15, 1932. The items are:

ROADWAY

| |
|--|
| 130 squares clearing and grubbing. |
| 10,800 cu. yds. roadway excavation. |
| 1,800 cu. yds. drainage excavation. |
| 750 cu. yds. structural excavation. |
| 64,500 cu. yds. borrow excavation. |
| 63,000 sta. yds. earthwork overhaul. |
| 29,000 cu. yds. stabilizer. |
| 65,000 cu. yds. m.l. stabilizer haul. |
| 230 cu. yds. concrete. |
| 11,100 lbs. reinf. steel. |
| 718 lin. ft. C. M. P. (various sizes). |
| 63,400 lin. ft. line fence. |

BRIDGES

| |
|-------------------------------------|
| 275 cu. yds. drainage excavation. |
| 510 cu. yds. structural excavation. |
| 258 cu. yds. concrete. |
| 22,900 lbs. reinf. steel. |

and other incidental items such as slides and over-breakage, rip-rap, cable, road guard, etc. 28

ENGINEERING NEWS

BRIDGES

STOCKTON, San Joaquin Co., Cal.—E. H. Riley, 306 First National Bank Bldg., Stockton, at \$73,910 awarded contract by county supervisors to construct the Garwood Ferry bridge, involving:

1100 cu. yds. excavation;
955 cu. yds. concrete Class A;
460 cu. yds. concrete Class B.
50 cu. yds. concrete Class E,
56 tons reinf. steel.
270 tons structural steel.
Timber piles (decrease for each ft. less than quantity specified).

SEATTLE, Wash.—Until June 27, bids will be received by King County Commissioners to construct bridge over Green river on the Kummer Cut-off road between Enumclaw and Black Diamond. Plans have been prepared for two types of bridge: one concrete and the other of steel construction. If a steel structure is erected 700 tons of structural steel will be required in the two spans on one supporting tower that will bridge the 450 feet between banks. In addition the steel span will require 77 tons of reinforcing steel for the concrete deck, footings and abutments as well as 1200 cu. yds. of concrete and 1750 cu. yds. of structural excavation. The total length of the spans and approaches will be 685 ft. If a concrete structure is decided upon after the bids are opened three spans with two supporting towers will be built. Plans obtainable from Thos. D. Hunt, King County Engineer, at Seattle.

SAN JOSE, Santa Clara Co., Cal.—Plans and specifications have been submitted to the city council by the Southern Pacific Railroad, 65 Market St., San Francisco, for the proposed Julian Street Subway. The plans provide for a structure 23-ft. in width which has not been accepted by the city. The city, it is understood, desires to increase this width. Under the plans submitted the project would involve:

9,800 cu. yds. excavation;
450 cu. yds. mass concrete;
1,550 cu. yds. reinforced concrete;
70 cu. yds. concrete (handrail);
13,000 sq. ft. concrete paving;
1,350 lin. ft. concrete curb;
165,000 yds. reinforcing steel;
230,000 lbs. structural steel;
drainage system, including pumps;
electrical work;
290 piles.
Bids for construction will be asked in about three weeks.

SAN BERNARDINO, Cal.—Until 11 A. M., June 27, bids will be received by county supervisors to construct concrete and steel bridge on Orange St., bet. Redlands & Highland, across Santa Ana River; will be 322 ft. in length with a 30-ft. roadway. Estimated cost \$24,000. Howard L. Way, county surveyor.

SAN BERNARDINO, Calif.—State Railroad Commission has authorized City of San Bernardino to reconstruct viaduct on Mount Vernon Ave. over Santa Fe Railway, and has ordered the railway company to pay one-third of the estimated cost of \$75,000. The state will aid the city in meeting its share. Plans call for viaduct 40 ft.

wide with 5-ft. sidewalk, bet. 4th and 2nd Sts.; elimination of the 3rd St. ramp, construct new street connection bet. viaduct and 3rd Street on the ground level and improve turn approach at 4th St. The total cost is placed at \$225,000.

SEATTLE, Wash.—Thos. D. Hunt, King county surveyor, is completing plans for a bridge over Green river on the Kummer Cut-off road between Enumclaw and Black Diamond. Plans have been prepared for two types of bridge: one concrete and the other of steel construction. If a steel structure is erected 700 tons of structural steel will be required in the two spans on one supporting tower that will bridge the 450 feet between banks. In addition the steel span will require 77 tons of reinforcing steel for the concrete deck, footings and abutments as well as 1200 cu. yds. of concrete and 1750 cu. yds. of structural excavation. The total length of the spans and approaches will be 685 ft. If a concrete structure is decided upon after the bids are opened three spans with two supporting towers will be built.

VENTURA COUNTY, Cal.—Until June 29, 2 P. M., bids will be received by State Highway Commission, Sacramento, to construct two reinforced concrete girder bridges near Ventura, and to grade and Portland cement concrete pave about 84 lin. ft. of roadway approaches, involving:

- (1) 7050 cu. yds. structure excav.;
- (2) 11,700 cu. yds. imp. borrow;
- (3) 2290 sq. yds. subgrade for pave;
- (4) 1600 cu. yds. Class "A" Port. cem. conc. (footing blocks);
- (5) 737 cu. yds. Class "A" Port. cem. conc. (struc.);
- (6) 685 cu. yds. Class "A" Port. cem. conc. (pave.);
- (7) 92 cu. yds. Class "E" Port. cem. conc.;
- (8) 1 lot gunia casing;
- (9) 1,190,000 lbs. bar reinf. steel;
- (10) 62,000 lbs. cast steel;
- (11) 1 lot exist. struc. removed;
- (12) 183 cu. yds. exist. pave removed;
- (13) 2000 lin. ft. temporary timber railing;
- (14) 1 lot light equip.;
- (15) 3700 lin. ft. traffic strips;
- (16) 4 concrete monuments in place; aches);

- (17) 200 lbs. heavy fuel oil (approx.)
- (18) 1 lot mics. items of work.

SAN DIEGO COUNTY, Cal.—Until June 29, 2 p. m., bids will be received by State Highway Commission, Sacramento, to construct reinforced concrete girder bridge over the Atchison, Topeka & Santa Fe Railway, about two miles south of Del Mar, consisting of two 38-ft. spans, two 43-ft. 4-in. spans, and nine 40-ft. spans on concrete bents, involving:

- (1) 5,000 cu. yds. struc. exca.
- (2) 5,900 lin. ft. reinf. conc. piles, incl. test piles.
- (3) 3,490 cu. yds. Class "A" Port. cem. conc. (struc.).
- (4) 40 yds. Class "E" posts, cem. conc. struc.
- (5) 820 cu. yds. Class "A" Port. cem. conc. (footing blocks).
- (6) 660,000 lbs. reinf. steel.
- (7) 14,300 lbs. cast steel rockers and bearings.
- (8) 180 lin. ft. 8-in. corr. metal pipe.
- (9) 1 lot miscel. items of work.

State will furnish corrugated metal pipe and spillway assemblies.

MONTEREY COUNTY, Cal.—Bids will be asked shortly by State Highway Commission to construct a stone-faced arch bridge over Wildcat Creek, on the San Simeon-Carmel Highway.

COCONINO COUNTY, Ariz.—Until June 28, 10 a. m., bids will be received by C. H. Sweetser, district engineer, U. S. Bureau of Public Roads, 802 Title & Trust Bldg., Phoenix, Ariz., to construct Oak Creek Bridge and grading approaches, Section F of Route 7, Oak Creek National Forest Highway in Coconino National Forest, involving in the main:

- (1) 1,800 cu. yds. unclassified excavation.
- (2) 550 cu. yds. unclassified excavation (structures).
- (3) 390 cu. yds. concrete.
- (4) 49,000 lbs. reinforcing steel.
- (5) 120,000 lbs. structural steel.
- (6) 75 cu. yds. cement rubble masonry.
- (7) 104 lin. ft. wood guard rail.
- (8) 230 lin. ft. protection ditch.

Plans obtainable from district engineer on deposit of \$10, returnable, checks for same to be made payable to Regional Fiscal Agent, U. S. Forest Service.

EUREKA, Humboldt Co., Cal.—Until June 27, 10 a. m., bids will be received by Fred M. Kay, county clerk, to construct a cable suspension bridge over the Matole River near Petrolia. Estimated cost, \$10,000. Plans obtainable from Frank E. Kelly, county surveyor.

REDWOOD CITY, San Mateo Co., Cal.—Until June 20, 11 a. m., to be opened at 2 p. m., bids will be received by E. B. Hinman, county clerk, to construct culvert over San Francisco Creek on the Middlefield Road. Estimated cost, \$15,000; San Mateo and Santa Clara Counties and the City of Palo Alto sharing the expense. Specifications obtainable from Palo Alto City Engineer J. F. Byxbee, Jr. Quantities will be published in tomorrow's issue. Certified check of 10% required with bid.

SKILSAW Portable Electric Hand Saws (four models).

SKILSAW Portable Electric Sander.

SKILSAW Radial Arm Attachments.

SYNTRON Portable Electric Hammers (four models, motorless).

MALL Flexible Shaft Machines (50 models).

Electric Drills, Grinders, Buffers, Routers, Lock Mortisers.

Peter H. Nelson

Labor Saving Portable Electric Tools

1246 Mission St., San Francisco

UNderhill 7662

SALES ; SERVICE ; RENTALS

EUREKA, Humboldt Co., Cal.—Until June 22, 10 a. m., bids will be received by Fred M. Kay, county clerk, to construct a bridge over the South fork of the Eel River at Redway. Estimated cost, \$20,000. Plans obtainable from County Surveyor Frank E. Kelly.

GLENDALE, Los Angeles Co., Cal.—Pozzo Construction Co., 421 Macy St., Los Angeles, submitted only regular bid to city council to widen from 28 ft. to 53 ft. the concrete bridge over Verdugo Wash. Project involves:
 (1) Removal of old wing wall and cutting concrete for bridge seat.
 (2) 1433 cu. yds. excavation.
 (3) 5700 cu. yds. timber piles.
 (4) 2850 cu. yds. concrete piles.
 (5) Anchor bolts in place.
 (6) 15 cu. yds. class F concrete.

Counterfort Type of Abutments
 (7) 625 cu. yds. class A abutments.
 (8) 22 tons reinforcing steel.
Alternate on Solid Type
 (9) 1063 cu. yds. class A concrete.
 (10) 10 tons reinforcing steel.

The totals were:
 (A) G. A. Gleibisch—Counterfort type, (a) wood piles, \$15,494.50; (b) with concrete piles, \$15,893.50. Solid type, (a) \$15,717.50; (b) \$16,116.50. (Certified check insufficient.)

(B) Oberg Bros.—Counterfort type, (a) \$17,995.70, (b) \$18,137.50; solid type, (a) \$17,401.75, (b) \$17,544.25. (Bid did not contain statement of qualifications.)

(C) W. J. Hunter—Counterfort type, (a) \$19,270.60, (b) \$18,501.10, solid type, (a) \$20,535.75; (b) \$19,766.25. (Bid did not contain statement of qualifications.)

(D) Pozzo Constr. Co.—Counterfort type, (a) \$20,904.23, (b) \$18,937.73; solid type, (a) \$22,038.90, (b) \$20,072.40.

The bids were:

| | (A) | (B) | (C) | (D) |
|------|----------|----------|----------|----------|
| (1) | \$400.00 | \$850.00 | \$767.00 | \$737.00 |
| (2) | .50 | .50 | 1.25 | .875 |
| (3) | .93 | .95 | 1.30 | 1.43 |
| (4) | 2.00 | 1.95 | 2.33 | 2.17 |
| (5) | 16.00 | 16.00 | 25.00 | 46.00 |
| (6) | 10.00 | 20.00 | 25.00 | 15.44 |
| (7) | 12.00 | 14.50 | 12.25 | 13.88 |
| (8) | 63.00 | .0355 | .0259 | .039 |
| (9) | 8.00 | 8.75 | 10.00 | 10.09 |
| (10) | 60.50 | .0365 | .0269 | .04 |

SAN JOSE, Santa Clara Co., Cal.—Engineering Department, Southern Pacific Co., 65 Market St., San Francisco, is completing plans and work will be started shortly by company forces on the construction of the San Carlos Street Viaduct. The structure will be of reinforced concrete construction. Original estimates placed the cost at \$150,000 but due to revisions in the plans this cost estimate is reduced considerably. In the original plans the following approximate quantities of materials were involved:
 1,300 cu. yds. mass concrete;
 3,600 cu. yds. reinforced concrete;
 450,000 lbs. reinforced steel;
 390,000 lbs. structural steel;
 33,000 sq. ft. concrete paving;
 800 piles.

SACRAMENTO, Cal.—Until June 27 10 A. M., bids will be received by Harry W. Hall, county clerk, to construct a bridge on Sylvan Road. Certified check 10% payable to chairman of board, required with bid. Specifications obtainable from office of County Engineer Charles W. Deterding. Quantities will be published shortly.

OREGON STATE—Until June, 22, 10 A. M., bids will be received by the State Highway Commission, Portland, Ore., for the following construction:

CLACKAMAS COUNTY—Bridge over Albemarle Creek on East Portland-Oregon City Highway at Oregon City, involving 1,050 cu. yds. excav., 2,800 lin. ft. foundation piling, 900 lin. ft. conc. piling, 945 cu. yds. conc., 168,000 lbs. metal reinforcement and 390 lin. ft. conc. handrail.

CLATSOP COUNTY—Remove old 100 ft. steel truss span bridge and 48 lin. ft. trestle across Wahanna Creek on a random location of Oregon Coast Highway just north of Seaside. Entire structure to become property of successful bidder and to be removed from site.

LANE COUNTY—17 bridges on Cheshire-Prairie Road Section of the Siuslaw Highway, involving 5,400 lin. ft. creosoted piling, 900 cu. yds. conc., 190,000 lbs. metal reinforcement, 2,600 lin. ft. handrail and 220 M. F. B. M. lumber.

MARION AND LINN COUNTIES—Steel bridge over Santiam River on a county road at Mehama, involving 84,000 lbs. struc. steel, 10,000 lbs. reinforcing steel and 49 cu. yds. concrete. This is a county project advertised in behalf of the County Courts of Marion and Linn Counties and will be paid for from county funds.

UMATILLA COUNTY—Bridge over O.W.R.R. & N. Co. tracks on Columbia River Highway at Umatilla, involving 600 cu. yds. excav., 500 cu. yds. conc., 102,000 lbs. metal reinforcement and 389 lin. ft. conc. handrail.
WASHINGTON COUNTY—Bridge over Dawson Creek on Tualatin Valley Highway about 2 mi. east of Hillsboro, involving 1,250 lin. ft. creos. piling, 115 cu. yds. conc., 24,000 lbs. metal reinforcement, 26 M.F.B.M. lumber and 326 lin. ft. handrail.

YAMHILL COUNTY—2 bridges on Secondary State Highway No. 153, between Amity and Bellevue. Alternate bids to be received. Alternate "A" involves 1,500 lin. ft. creos. piling, 222 cu. yds. conc., 45,000 lbs. metal reinforcement, 30 M.F.B.M. creos. lumber, 135,000 lbs. struc. steel and 720 lin. ft. handrail; Alternate "B" involves 1,500 lin. ft. piling, 24 M.F.B.M. lumber, 127,000 lbs. struc. steel and 228 lin. ft. trestle superstructure.

Specifications obtainable from office of State Highway Commission, Room 322, State Office Building, Salem, on deposit of \$5.

DREDGING, HARBOR WORKS & EXCAVATIONS

SACRAMENTO, Cal.—The State Reclamation Board has announced that the 1932-33 program calls for an expenditure of \$1,237,693. The largest single item on the program is \$440,230 for the Colusa weir, levees, etc. Other items are: American River levees and clearing, \$333,597; levees at Meridian, Sacramento River, \$84,797; levees from Lake of the Woods to Start Band, Feather River, south of Marysville, \$115,436; completion of the east levee in the Yolo By-pass from Fremont to the head of Ryer Island, 580,437; levees on Cache and Hass sloughs, north of Rio Vista, \$54,820; levees along the Sacramento River, Colusa, to Cheney, \$48,000; levees on Simmed by slough above Marysville, \$15,000.

The board has remaining on its program approximately \$73,314 for contingencies.

Walter E. Garrison is the state director of public works; R. L. Jones, deputy in charge of flood control and reclamation.

SAN FRANCISCO, Cal. San Francisco Bridge Co., 503 Market St., San Francisco, at \$27,885, submitted low

bid to U. S. Engineer's Office for dredging in San Rafael Creek, involving:

- (1) 31,747 cu. yds. Sections A and B.
- (2) 207,041 cu. yds. Sections C and D.

Complete bids follow:

| | Unit | Total |
|---------------------------------|--------|----------|
| S. F. Bridge Co., S. F. | .1172 | \$27,985 |
| American Dredging Co., S. F. | .1183 | 28,243 |
| Thos. Atkin | .1248 | 29,800 |
| Franks Contr. Co., S. F. | .125 | 29,849 |
| Hydraulic Dredging Co., Oakland | .13 | 31,042 |
| Dutton Dredg. Co., Ltd., S. F. | .14375 | 34,325 |
| Engineer's estimate | .1179 | ..... |

Bids held under advisement.

SEATTLE, Wash.—Until June 30, 3 p. m., bids will be received by United States Engineer's Office, Burke Bldg., for dredging in the Duwamish Waterway, involving removal of 366,000 cu. yds. Estimated cost, \$35,000. Specifications obtainable from above.

OKLAND, Cal.—Bids will be asked June 13, to be opened June 20, 4:30 p. m. (previously reported to be opened June 13), by A. H. Abel, secretary, City Port Commission, Grove St. Pier, for sheet pile bulkhead for the foot of Peralta St. Estimated cost, \$18,000. Project involves:

- (1) 27,000 lin. ft. 6-in. by 12-in. creosoted sheet piling.
- (2) 32,000 ft. b. m. green lumber.
- (3) 12,000 ft. creosoted lumber, 12-lb. treated.
- (4) 10,650 lin. ft. green piles.
- (5) 35 tons steel rods, washers and plates.

Specifications obtainable from secretary.

STOCKTON, San Joaquin Co., Cal.—Realty Engineering Co., 367 1/2 Lth. Oakland, at \$2156, submitted low bid to U. S. Engineer's Office, California Fruit Bldg., Sacramento, for making test borings through and near certain existing levees on Venice and Mandeville Island in the San Joaquin River, about 17 miles downstream from the city of Stockton. Contract involves 1960 lin. ft. test boring.

Complete bids follow:

| | Unit | Total |
|-------------------------|----------|---------|
| Realty Eng. Co., Oak. | 1.10 | 2156.00 |
| Verne W. Winters, Yreka | 1.47 | 2881.20 |
| M. B. McGowan, S. F. | 1.51 | 2959.60 |
| D. G. Longtin, S. F. | 2.00 | 3920.00 |
| L. Hecht, S. F. | 2.33 1/2 | 4573.33 |
| A. Paulsen, Woodland | 2.55 | 4930.00 |
| E. G. Linscott, Berk. | 3.00 | 5880.00 |
| Engineer's Estimate | 1.119 | 2192.57 |

Bids held under advisement.

LOS ANGELES, Cal.—A. V. Montin, 1057 West 80th St., awarded contract by county supervisors, June 6, at \$11,050, to construct extension to the rock jetty at Alamitos Bay outlet of the San Gabriel River, involving:
 (1) 225 lin. ft. permanent railway trestle, all materials to be furnished by the district;
 (2) 4600 tons (2000 lbs.) class A rock in jetty (furnishing and placing), district to pay the freight;
 (3) 4400 tons (2000 lbs.) class B rock jetty (furnishing and placing), district to pay the freight.

E. C. Eaton, county flood control engineer, Bids were opened April 4.

MACHINERY AND EQUIPMENT

SEBASTOPOL, Sonoma Co., Cal.—Until July 27, 7:30 P.M., bids will be received by E. Best, clerk, Board of Trustees of Analy Union High School

District, to furnish on school bus and one body to be built thereon to accommodate 45 to 50 passengers. Bids to state amount bidder will allow for a G. M. C. bus now belonging to district. Specifications to be furnished by bidder.

ONTARIO, San Bernardino Co., Cal.—Until 7 P. M., July 5, bids will be received by Chaffey Union high school district for the following transportation equipment: (1) two school coach chassis of latest design built and lengthened in frame to carry 49 passengers; (2) two school coach bodies of 49 - passenger capacity. N. E. Trautman, clerk.

SAN FRANCISCO—Until June 21, 10 A. M., under Schedule No. 928-32-274, bids will be received by Quartermaster Supply Officer, General Depot, Fort Mason, to furnish and deliver one 200 Ampere A.C.-D.C., single operator, portable welding motor generator arc welding set. Specifications and further information obtainable from above.

COLORADO STATE—Purchase of machinery and equipment estimated to cost \$198,421, for the use of the state highway department, has been approved by the state auditing board, Denver. A call for bids will be issued shortly. Chas. D. Vail is the State Highway Engineer.

OAKLAND, Cal.—Following bids received by East Bay Municipal Utility District to furnish and deliver:

- (1) one 4-wheel trailer, gross weight with load 10-tons, to be furnished under Proposal No. 395.
- (2) One motor truck chassis, gross weight with load 8-tons, to be furnished under Proposal No. 395.

TRAILER

Wm. B. Gibson, Ltd.....\$1463.60
Alternate, \$1533.10.

Utility Trailer Sales Co..... 1298.00
Rellance Trailer & Truck Co..... 1375.00
Cochran & Celli..... 1483.00

TRUCK

Kleiber Motor Co.....\$2640.00
Auto Car Sales Co..... 5765.00
Doan Motor Truck Co..... 3490.00
Fageol Motor Sales Co..... 2403.75
Sterling Motor Co..... 2470.00
Alternate, \$2632.

Bids held under advisement.

PLACERVILLE, El Dorado Co., Cal.—Until June 22, 12 m., bids will be received by W. A. Rantz, secretary, Board of High School Trustees, El Dorado County High School, to furnish one school bus, 24-passenger capacity, cost not to exceed \$2000. Specifications obtainable from the secretary of board.

OAKLAND, Cal.—G. H. Gilbert, receiver for Fageol Motor Sales Co., at \$2403.75 awarded contract by East Bay Municipal Utility District to furnish and deliver one motor truck chassis, gross weight with load 8-tons.

OAKLAND, Cal.—Utility Trailer Sales Co., at \$1298 awarded contract by East Bay Municipal Utility District to furnish and deliver one four-wheel trailer, gross weight with load 10 tons.

CARLSBAD CAVERNS, N. M.—Worthington Co., Inc., San Francisco, awarded contract at approximately \$15,000 by the National Park Service for furnishing a 240 h. p. Diesel engine and generator to be installed in the power house at Carlsbad Caverns, N. M.

SAN PEDRO, Los Angeles Co., Cal.—Cummins Engine Co., Columbus, Ind., submitted low bid at \$11,441.29 (alternate \$11,122.29) to Navy Department, Bureau of Supplies and Accounts, May 31, for Diesel generating and pumping units and spares for San Pedro; Schedule 8071, Eng. Hill Diesel Engine Co., Lansing, Mich., bid \$11,485.

RAILROADS

ALAMEDA, Cal.—United Commercial Co., Inc., 234 Steuart St., San Francisco, at \$13,985 awarded contract by Constructing Quartermaster, Benton Field Air Depot, Alameda, for furnishing and laying approximately 4000 feet of railroad track at the Benton Field Air Depot.

ALBUQUERQUE, N. M.—H. R. McKee, New Mexico division superintendent for the A. T. & S. F. Ry., has announced that construction of 12 miles of railroad will be built during the present summer. The work will be located south of Albuquerque and in the vicinity of Rincon. The line will be laid with 90-lb. rails. Work will start about July 20.

RESERVOIRS AND DAMS

LOS ANGELES, Cal.—California Portland Cement Co. awarded contract by county supervisors at \$100,500 net, or \$2.01 per bbl., for supplying approximately 50,000 bbls. cement in cloth sacks, L. O. H. truck at mill of bidder, to be used in the construction of San Gabriel Dam No. 2.

PIPE LINES, WELLS, ETC.

To Ask Brick Bids About June 20th.
HALL OF RECORDS Cost, \$300,000
MARTINEZ, Contra Costa Co., Cal.
Three-story Class A steel frame and concrete Hall of Records (Hollow tile and metal lath partitions, steel sash, heating plant).
Owner—County of Contra Costa.
Architect—E. Geoffrey Bangs, 411 30th St., Oakland.
Structural Engineer—F. H. Tibbitts, Alaska Commercial Bldg., San Francisco.
Mechanical Engineer—G. M. Simonson, Call Bldg., San Francisco.

SANTA MARIA, Santa Barbara Co., Cal.—Santa Maria Gas Co. has started construction of the new 21-mile gas pipe line from a point north of the Santa Maria River to Oilport, near Avila. A crew of 50 men is at work. The estimated cost is \$200,000 and the time limit set for completion is 90 days.

LOS ANGELES, Cal.—W. W. Pipe Shop, 3520 Gundry Ave., Long Beach,

awarded contract by city manager at \$23,713.20 to furnish wrought steel gas pipe and line pipe, involving:
600 ft. 3/4-in. pipe; 5000 ft. 1-in. pipe; 30,000 ft. 1 1/4-in. pipe; 10,000 ft. 2-in. pipe; 50,000 ft. 2-in. pipe ends; 10,000 ft. 4-in. pipe ends; 4000 ft. 6-in. pipe ends; 2000 ft. 8-in. pipe.

SAN BRUNO, San Mateo Co., Cal.—Western Well Drilling Co., 522 W. Santa Clara St., San Jose, at \$1755.29 for the well casing and \$4180 (only bid) for drilling the well, awarded contract by city council for construction in connection with Municipal Water System, involving:
GRAVEL ENVELOPE WELL—Using Hydraulic rotary equipment.
WELL CASING AND SURFACE SEALING PIPE—Delivered to site of proposed well.
Western Pipe & Steel Co., San Francisco, at \$1951.60 submitted only other bid for well casing.

SEWERS AND SEWAGE DISPOSAL PLANTS

GARBERVILLE, Humboldt Co., Cal.—Bids will be asked shortly by the trustees of the Garberville Sanitary District for the purchase of the \$10,000 bond issue, recently voted to finance construction of sewers to serve the district.

CAPITOLA, Santa Cruz Co., Cal.—County supervisors set June 22 in Capitola Sanitary District to vote bonds of \$21,500 to finance construction of a sewer system including pump-house, sewer lines and outfall.

SANTA CRUZ, Santa Cruz Co., Cal.—City Engineer Roy Fowler is making survey for drainage improvements on D. C. Berry property at the east city limits.

LONG BEACH, Cal.—United Concrete Pipe Corp., 1347 W. 268th St., Los Angeles, awarded contract by city council at \$27,000 to construct centrifugal reinforced concrete transmission main in Cerritos Ave., bet. Spring St. and the Alamitos pumping plant.

EL CENTRO, Imperial Co., Cal.—The city councils of El Centro and Imperial have set June 9 as the date upon which the two councils will meet to discuss ways and means for the construction of a new sewer and outfall to serve both communities. Phil Knights is city engineer of El Centro.

LONG BEACH, Cal.—City Council has authorized city engineer, A. H. Adams, to prepare revised data for Assessment Limitation Report on proposed storm drain in Pump District No. 8. As soon as this is completed, the revised report will be sent to the city council after which a date for hearing will be set. The district covers the territory between California Ave. and Redondo Ave., and between the Newport line of the Pacific Electric Railway and the ocean, approximately 2.5 square miles. It contains approximately 13,000 parcels of land. The construction will involve 15 to 18 miles of sewer and the pipe will range from 10-in. cement pipe to 48-in. reinforced concrete. The monolith or semi-elliptic section will range from 4 ft. to 6 ft. 6-in. There will be approximately one mile of tunnel, 7 ft. 9 in. in diameter, with steel and Gunite lining. The estimated cost is about \$900,000.

**CAPITAL CITY
TITLE COMPANY**

▼

J. C. PALEN,
Manager

▼

914 Seventh Street
Sacramento :: California

SAN FRANCISCO, Cal.—MacDonald & Kahn, Financial Center Bldg., at \$69,857.75 (second low bidder), awarded contract by Department of Public Works to construct Section B of the Fillmore St. sewer. Meyer Rosenberg, 1755 San Bruno Ave., submitted low bid on this project at \$56,875.50, but was permitted to withdraw his bid, claiming an error.

SEATTLE, Wash.—Joe Coluccio, 1425 Hanford St., Seattle, awarded contract at \$99,527, using concrete pipe, to construct a sewer system in 43rd Ave. North and other streets.

AMERICAN LAKE, Wash.—Strong & MacDonald, P. C. Security Bldg., Tacoma, at \$38,850, submitted low bid to Superintendent of Construction, Veterans' Hospital, Palo Alto for a vitrified clay and reinforced concrete outfall sewer, 19,000 feet in length, at the Veterans' Hospital, American Lake. Following is a complete list of the bids received:

| | |
|---|----------|
| Strong & MacDonald, Tacoma | \$38,850 |
| J. E. Thornburn & Co., Seattle | 38,960 |
| Carl Bjork, Seattle | 39,974 |
| Thomas Scalzo, Seattle | 40,000 |
| General Construction Co., Seattle | 41,000 |
| Felix Ardorbe, Seattle | 43,000 |
| American Concrete Pipe Co., Tacoma | 43,228 |
| Wright Contracting Co., Aberdeen, Wash. | 45,330 |
| EK & Lynn, Portland | 45,971 |
| Queen City Construction Co., Seattle | 46,000 |
| Kern & Kibbe, Portland | 47,160 |
| I. Reese & Co., Seattle | 47,996 |
| Jos. Warter, Sr., Tacoma | 48,300 |
| J. Delvendahl, Seattle | 48,865 |
| L. Romano Engineering Co., Seattle | 49,700 |
| J. F. Shea, Portland | 50,000 |
| MacRae Bros., Seattle | 53,080 |
| Parker-Schram Co., Portland | 55,200 |
| L. Coluccio, Seattle | 66,645 |
| Paine-Galucci, Inc., Tacoma | 73,760 |

Bids held under advisement.

LOS ANGELES, Cal.—M. Miller, 208 West 2nd St., awarded contract by Board of Public Works, June 6, at \$41,539.37 (based on Type 1, for vitrified pipe), to construct Section No. 34-B of the north outfall sewer, from Vanowen St. and White Oak Ave. to Vanowen St. and Corbin Ave., approximately 13,225.03 ft. of sewer involving pipe as follows:

- 5247.73 ft. 18-in. pipe, 2000-D load, pipe;
 - 6006.12 ft. 15-in. pipe, 2100-D load, pipe;
 - 3006.62 ft. 15-in. pipe; 2000-D load, pipe;
 - 4314.56 ft. 15-in. pipe, 1900-D load, pipe;
- A total of 13,225.03 lin. ft. of sewer, 9 manholes B;
1 junction chamber F;
27 junction chambers G;
1 trap manhole.

WATERWORKS

OAKLAND, Cal.—Until June 24, 7:30 P. M., bids will be received by John H. Kimball, Secretary, East Bay Municipal Utility District, 112 16th St., Oakland, to furnish 7500 lin. ft. electric welded sheet steel pipe, 4-in. thick, 24-in. diameter. Specifications obtainable from above office.

OAKLAND, Cal.—Until June 24, 7:30 P. M., bids will be received by John H. Kimball, Secretary, East Bay Municipal Utility District, 512 16th St., Oakland, to furnish 98 gate valves, 8-

in. to 20-in. Specifications obtainable from above office.

OAKLAND, Cal.—U. S. Pipe & Foundry Co., Monadnock Bldg., San Francisco, at \$33,360 awarded contract by East Bay Municipal Utility District to furnish:

- (1) 25,000 ft. 4-in. cast iron water pipe;
- (2) 45,000 ft. 6-in. do;
- (3) 5,000 ft. 10-in. do;

SAN BERNARDINO, Cal.—The Board of Water Commissioners has authorized the purchase of 4350 ft. of pipe for a new line to be laid in the west fork of Devil Canyon to reclaim the surface flow of mountain run-off water. Laying of the line will be done by department forces. The pipe will include 1630 ft. of 8-in. and 2700 ft. of 6-in. Wm. Starke is water superintendent.

SAN RAPHAEL, Marin Co., Cal.—Following bids received by Marin Municipal Water District to furnish and deliver cast iron pipe and valves:

- Cast Iron Pipe**
- (1) 30,100 ft. 12-in. Class 200.
 - (2) 4,400 ft. 10-in. Class 150.
- R. D. Wood & Co., Philadelphia, Pa., \$54,059.40.
 (1) \$1.026, (2) \$0.722.
 American Cast Iron Pipe Co., \$35,053.20.
 U. S. Cast Iron Pipe Co., \$38,321.51.
 (1) \$1.1515, (2) \$0.8094.
 Pacific States Cast Iron Pipe Co., \$44.125.
 (1) \$1.33, (2) \$0.93.

- Valves**
- (1) 11, 12-in. 175-lb.
 - (2) 2, 12-in. 125-lb.
 - (3) 4, 10-in. 125-lb.
- Kennedy Valve Co., 448 10th St., San Francisco, \$849.61.
 (1) \$56.35, (2) \$46.50, (3) \$32.69.
 Waterworks Supply Co., \$935.25.
 (1) \$66.95, (2) \$39.90, (3) \$29.75.
 Cap & Valve Co., \$1003.
 Grinnell Company \$1003.
 (1) \$67, (2) \$53, (3) \$40.
 Crane Company \$1071.
 (1) \$75, (2) \$48, (3) \$37.50.
 Rensselaer Valve Co., \$1292.65.
 Alternate \$1100.
 Claussen Company \$2475.
 (1) \$195.50, (2) \$62.50, (3) \$50.
 Walworth Co. of California \$288.
 (2) \$76, (3) \$44.

Bids held under advisement.

OCEANSIDE, San Diego Co., Cal.—Frank J. Moran, 610 East "A" St., Ontario, awarded contract by city council at \$1648.49 to furnish and lay concrete water pipe, standpipes, etc., for a municipal water pipe line.

DENVER, Colo.—Until June 16, under Specification No. 573-D, bids will be received by U. S. Reclamation Bureau, Denver, to furnish two motor-driven centrifugal pumps. Specifications obtainable from above.

GRIDLEY, Butte Co., Cal.—Pacific States Cast Iron Pipe Co., 111 Sutter St., San Francisco, awarded contract by city trustees to furnish and deliver cast iron pipe, minimum car, 6000 lbs., as follows:

- 2000 ft. 4-in. C. I. Bell and Spigot.
 - 2000 ft. 6-in. C. I. Bell and Spigot.
 - 6x6x6x6 crosses; 6x6x6 tees; 6x6x4 tees.
 - 4x4x2x2 Double Hub Taped for 2-in. standard; 4x4x4 crosses; 4x4x4 tees; 6x2 plugs; 4x2 plugs; 6-in. 45 deg. ellis; 4-in. 45 deg. ellis.
- Pipe to be Class 150.

GLENDALE, Los Angeles Co., Cal.—Contracts for cast iron pipe and fittings awarded by city council as follows:

- (1) 2,500 ft. 24-in. class "250," 24-in. cast iron pipe to American Cast Iron Pipe Co. at \$3.95 ft.
- (2) 10 tons class D fittings to Alhambra Foundry Co at \$78 ton.

ALHAMBRA, Los Angeles County, Cal.—The Winthroath Pump Co., Ltd., 1190 Meridian St., Alhambra, awarded contract by city commission at \$7,072.25 to furnish deep well pump for well No. 2 in Kewen Canyon, San Marino.

OAKLAND, Cal.—Duncanson-Harrelson Co., 1405 deYoung Bldg., San Francisco, at \$22,258 awarded contract by city council to construct 8th Street culvert extension and Lake Merritt control house and gates, consisting of eight concrete boxes, approximately 53 ft. long and 6x6 ft., a concrete, steel and tile Lake Merritt control house and steel control gates.

BEVERLY HILLS, Los Angeles Co., Cal.—Until 8 P. M., June 21, bids will be received by city council to furnish, trench and lay approximately 3600 ft. of 6- and 8-in. welded steel pipe. Specifications obtainable from Salisbury, Bradshaw & Taylor, 714 W 10th St., Los Angeles, consulting engineers. E. J. Firminger, city clerk.

GLENDALE, Los Angeles Co., Cal.—Bids to furnish cast iron pipe and fittings for public service department opened by city council follow:

- (1) 2500 ft. 24-in. cast iron pipe;
 - (2) 10 tons Class D bell and spigot fittings.
- The bids were:
 National Cast Iron Pipe Co., (1) Class C, \$4.77 ft.; (2) \$77.50 ton.
 U. S. Pipe & Foundry Co., (1) Class 250, \$4.35; (2) \$90.
 American Cast Iron Pipe Co., (1) Class 250, \$3.95; (2) \$80.
 Utilities Equip. Corp., (1) Class 250, \$3,997.5; (2) \$80.
 Long Beach Iron Works, (2) \$100.
 Commercial Iron Works, (2) \$85.
 Alhambra Foundry Co., (2) \$78.
 Hercules Foundry, (2) \$85.
 Reliable Iron Foundry, (2) \$80.
 Southwest Foundry & Machine Co., (2) \$80.

OAKLAND, Cal.—U. S. Pipe & Foundry Co., Monadnock Bldg., San Francisco, at \$35,900 submitted low bid to East Bay Municipal Utility District, to furnish:

- (1) 25,000 ft. 4-in. cast iron water pipe
- (2) 45,000 ft. 6-in. do;
- (3) 5,000 ft. 10-in. do;

Complete bids follow:
 U. S. Pipe & Foundry Co., San Francisco (lump sum), \$33,300.
 R. D. Wood & Co., by Utilities Equipment Corp., S. F., (1) \$5.20; (2) \$4.25; (3) \$9.90, total, \$33,712.50.
 Pacific States C. I. Pipe Co., S. F., (lump sum), \$33,550.
 American C. I. Pipe So., S. F. (lump sum), \$34,160.
 National C. I. Pipe Co., S. F. (1) \$4.35 (2) \$4.65; (3) \$9.95, total, \$34,525.
 Bids held under advisement.

SAN FRANCISCO—Until June 20, 3 P. M., under Bid No. 854, bids will be received by T. A. Brooks, city purchasing agent, 270 City Hall, to furnish and deliver cast iron pipe fittings as may be ordered by the Water Department from time to time during the fiscal year 1932. Contract involves approximately 60 tons.

LOS ANGELES, Cal.—The validity of the \$220,000,000 bond issue of the Metropolitan Water District of Southern California was upheld by the Supreme Court of California, June 2. The decision affirms the judgment of the Los Angeles County Superior Court, which validated all proceedings incidental to the election September 29, 1931, and determined the sufficiency of the provisions for the collection of an annual tax sufficient to pay interest on the indebtedness as it falls due, and to constitute a sinking fund for the payment of principal on or before maturity.

In the findings of the Superior Court, all claims of J. E. Burney, taxpayer, as intervenor, were denied and the judge decided that funds for the campaign before election had been legally expended, and that the district has a legal right to levy taxes. The court upheld the petitioner's stand in its memorandum of points on demurrer that the Metropolitan Water District Act does not contravene the due process of law clause of the 14th Amendment to the United States Constitution. The district, as petitioner, also maintained the point advanced by the taxpayer defendant that Article III, Sec. 1, of the California Constitution, concerning the division of governmental powers, does not apply to local or quasi-municipal corporations such as the petitioning district, but applies only to the state government.

James H. Howard, chief counsel; Chas. J. Cooper, Jr., and Ray W. Bruce appeared as attorneys for the district. The Supreme Court number of the case is L. A. 13503.

W. P. Whitsett, chairman of the board of directors, has announced that the chief counsel and other officials are now in Washington negotiating with the Federal Reconstruction Finance Corporation for the purchase of all or a part of the \$220,000,000 bond issue.

The Swing Bill, granting rights of way for the proposed aqueduct from Boulder Canyon in Los Angeles, was approved June 1 by the House Rules Committee. The bill has been unanimously approved by the House Public Lands Committee and by the Department of the Interior.

SAN BRUNO, San Mateo Co., Cal.—All bids rejected by city council for construction in connection with municipal water system, involving:

Water System Extension

- (1) \$900 lin. ft. 2-in. wrought steel pipe.
- (2) 1450 lin. ft. 4-in. cast iron pipe.
- (3) 25 2-in. gate valves.
- (4) 7 4-in. gate valves.
- (5) 2 4-in. hydrants.

Complete bids follow:

- (A) E. M. Gallagher, S. F.\$4847.00
- (B) H. E. Conner, Redwood City 4979.00
- (C) G. C. DeGolyer, Oakland. 5141.50
- (D) O. G. Ritchie, San Jose. 6439.00

- Unit bids follow:
- | | (1) | (2) | (3) | (4) | (5) |
|-----------|-----|-----|-------|-------|-------|
| (A) | .41 | .50 | 7.00 | 15.00 | 62.00 |
| (B) | .41 | .52 | 12.00 | 12.00 | 60.00 |
| (C) | .42 | .61 | 8.00 | 15.00 | 60.00 |
| (D) | .55 | .77 | 7.50 | 12.50 | 65.00 |

Work will be done by day labor and material will be bought in open market.

MARCH FIELD, Riverside Co., Cal.—Until 10 a. m., June 25, bids will be received by the Constructing Quartermaster, March Field, for installation of two 25,000-gallon gasoline storage tanks, control equipment and fill and delivery lines at March Field; Specification No. 9152-D. Bidding data

may be obtained at March Field upon deposit of \$5. Guarantee in the form of a certified check or bid bond for \$490 must accompany each bid. Capt. L. S. Woods, constructing quartermaster. The work includes the installation of two 25,000-gallon tanks, furnished by the Government; furnishing and installing fill and delivery line pipes; making connections in existing water supply; laying a drain from old and new tanks; furnishing and installing water trap, valves and tank control apparatus; and connecting the new tanks to the existing hydraulic gasoline fueling system.

VICTORVILLE, San Bernardino Co., Cal.—The \$50,000 bond issue for purchase of water system of Appleton Water Co. carried at the recent election. The issue will also provide funds for addition and extensions to the existing system, including pumping plant, fire hydrants and a reservoir. Chas. L. Foulke, 455 4th St., San Bernardino, is the consulting engineer.

SAN BERNARDINO, Cal.—Until 7:30 p. m., June 20, bids will be received by city council to furnish welded sheet steel drive pipe for the Devil Canyon project, in accordance with Specifications No. 1077, obtainable from city clerk, John H. Osborn, involving:

- (1) 1650 ft. of 8-in. pipe;
 - (2) 2700 ft. of 6-in. pipe.
- William Starke, water superintendent. Certified check or bond for 10% required with bid.

OAKLAND, Alameda Co., Cal.—Scott Machinery Co., 960 Folsom St., San Francisco, at \$2757, submitted low bid to County Supervisors for erection and completion of water softening equipment, etc., at the Arroyo Sanatorium near Livermore. Following is a complete list of the bids received:

| | |
|------------------------------------|--------|
| Scott Machinery Co., S. F. | \$2757 |
| Ocean Shore Iron Works, S. F. | 2825 |
| Straus-Stephens Co. | 2830 |
| W. H. Picard, Oakland | 3240 |

Bids held under advisement. 9

SAN FRANCISCO—Until June 20, 3 p. m., under Bid No. 855, bids will be received by T. A. Brooks, city purchasing agent, 270 City Hall, to furnish water meters for water department, as follows:

- (1) 2000 5/8-in. meters.
- (2) 20 1-in. meters.
- (3) 30 1 1/4-in. meters.
- (4) 100 2-in. meters.

STREETS AND HIGHWAYS

SANTA MARIA, Santa Barbara Co., Cal.—Until 7:30 p. m., June 20, bids will be received by city council to improve Orange St., between Miller St. and Airport Ave., under 1911 Act, involving:

- (1) 63,715 sq. ft. 4-in. asph. concr. pavement.
 - (2) 6,275 sq. ft. 4-in. and 6-in. concrete gutter;
 - (3) 1,968 ft. concrete curb;
 - (4) 2,885 sq. ft. 3-in. sidewalk.
- York Peterson, city engineer; Mrs. Flora A. Rivers, city clerk.

SAN RAFAEL, Marin Co., Cal.—Until June 20, 3:30 P. M., bids will be received by Constructing Quartermaster, Hamilton Field, 329 Fourth St., for plowing, discing, harrowing and general leveling by dragging of approximately 400 acres and filling in existing drainage ditches at Hamilton Field. Specifications obtainable from above.

SAN DIEGO COUNTY, Cal.—Until June 29, 2 P. M., bids will be received by State Highway Commission, Sacramento, to pave with asphalt concrete about 2.1 miles between Rose Canyon and Torrey Pines Reservoir, involving:

- (1) 24,700 sq. yds. subgrade for pave;
- (2) 10,250 tons asphalt concrete;
- (3) 20 culvert markers;
- (4) 111 sta. finish roadway.

OAKLAND, Cal.—Heafey-Moore Co., 344 High St., Oakland, at \$5319.48, awarded contract by county supervisors to oil macadam surface roads in Washington Township involving 510,300 sq. ft. oil macadam surface. Complete bids follow:

| | |
|----------------------------------|-----------|
| Heafey-Moore, Oakland | \$5919.48 |
| M. J. Lynch, San Francisco | 6838.92 |
| L. J. Immel, Berkeley | 6940.08 |
| J. A. Casson, Hayward | 8164.89 |

OAKLAND, Alameda Co., Cal.—Bids will be asked shortly by City Port Commission to build road to lead to the garbage wharf and to be known as the Middle Harbor Road. \$20,000 has been appropriated and specifications are being prepared by the City Street Department. Work will probably be done by day labor.

DEL NORTE COUNTY, Cal.—Mercer-Fraser Co., Second and Commercial Sts., Eureka, at \$58,028.25 submitted low bid to State Highway Commission to surface with bituminous treated crushed gravel or stone, 6.9 miles between Crescent City and Madrona Camp. Project involves:

- Complete bids follow:
- | | |
|--|-------------|
| (A) Mercer-Fraser Co., Eureka | \$58,028.25 |
| (B) Hemstreet & Bell, Marysville | 59,906.95 |
| (C) Pacific States Con. Co., San Francisco | 62,433.85 |
| (D) A. Teichert & Son, Sacramento | 63,807.00 |

- Unit bids follow:
- (1) 4,300 cu. yds. rdwy. excav. without class;
 - (2) 3,700 cu. yds. selected material (shoulders);
 - (3) 150 cu. yds. struc. excav;
 - (4) 19,025 tons crushed gravel or stone
 - (5) 550 tons cut-back asphalt;
 - (6) 4 cu. yds. Class A cem. concrete (struc.);
 - (7) 125 lbs. bar reinf. steel (struc.);
 - (8) 64 lin. ft. 48-in. corr. metal pipe.
- State will furnish corrugated metal pipe.

| | A | B | C | D |
|-----------|-------|-------|-------|-------|
| (1) | .80 | .50 | .45 | .50 |
| (2) | .60 | .65 | .75 | .60 |
| (3) | .25 | .50 | .90 | .75 |
| (4) | 1.92 | 1.90 | 2.07 | 2.15 |
| (5) | 16.50 | 20.00 | 19.00 | 19.00 |
| (6) | 15.00 | 18.00 | 23.00 | 30.00 |
| (7) | .03 | .05 | .06 | .10 |
| (8) | 1.00 | .80 | .90 | .75 |

SACRAMENTO, Cal.—Until June 20, 10 a. m., bids will be received by H. W. Hall, county clerk, for resurfacing of Freeport Blvd. from the city limits to the Municipal Airport and for improvement of roads in vicinity of Elk Grove and Florin, a distance of two miles. Surface will be 20 ft. wide, of asphaltic concrete, 3 in. in center and 4 in. at edges. Certified check, 10% payable to chairman of Board of Supervisors, required with bid. Specifications obtainable from C. W. Detering, county engineer, Court-House, Sacramento. 8

HONOLULU, T. H.—R. E. Woolley, Honolulu, at \$161,650 awarded contract by Bureau of Yards and Docks, Navy Department, Washington, D. C., runway at Pearl Harbor.

AMADOR CO., Cal.—As previously reported, until June 22, 2 P. M., bids will be received by State Highway Commission, Sacramento, to surface with bituminous treated crushed gravel or stone about 4.8 miles between Amador City and Martell involving:

- (1) 246 sta. prepare exist. base.
- (2) 1,200 cu. yds. cru. gravel or stone (base, place).
- (3) 6,300 cu. yds. cru. gravel or stone (bit. treated surf., place).
- (4) 373 tons cut-back asphalt (bit. binder).
- (5) 325 bbls. light fuel oil.
- (6) 287 sta. mix. bit. binder and mineral aggregate.
- (7) 337 M. gal. water apply to base.
- (8) 235 sta. finish. shoulders.

State will furnish crushed gravel or stone.

SAN BERNARDINO CO., Cal.—As previously reported, until June 22, 2 P. M., bids will be received by State Highway Commission, Sacramento, to grade and surface with oil treated crushed gravel or stone about 16.5 miles between Haloran Summit and Mountain Pass involving:

- (1) 197,000 cu. yds. rdwy. excav. without class.
- (2) 332,000 sta. yds. overhaul.
- (3) 31,000 cu. yds. ditch and channel excav.
- (4) 36,200 cu. yds. gravel base.
- (5) 9,650 cu. yds. struc. excav.
- (6) 45,500 bbls. fuel oil (surf.).
- (7) 13,400 bbls. fuel oil (surf.).
- (8) 280 bbls. fuel oil (detours).
- (9) 140 tons cut-back asphalt (seal coat).
- (10) 50 tons cut-back asphalt (bit. treated surf.).
- (11) 352 lin. ft. 24-ft. corrug. metal pipe.
- (12) 3,594 lin. ft. 36-ft. do.
- (13) 2,450 M. gal. water applied to sub-grade and base.
- (14) 19,635 lin. ft. furnish. treated piles.
- (15) 758 drive piles.
- (16) 42,000 lbs. struc. metal.
- (17) 336 M. ft. b. m. redwood timber, dense sel. all-heart struc. grade.
- (18) 258 M. ft. b. m. redwood timber, sel. all-heart struc. grade.
- (19) 2.5 mi. new property fence.
- (20) 40 galv. iron guide posts.
- (21) 863 sta. finish. roadway.
- (22) 250 monuments, complete, in place.

State will furnish corrugated metal pipe.

SACRAMENTO COUNTY, Cal.—Ferd Constr. Co., 70 Bellevue Ave., Belmont, at \$102,985 awarded contract by State Highway Commission, Sacramento, to grade and treat existing rock borders with bituminous surface, about 11.9 miles between McConnell and Sacramento.

VENTURA COUNTY, Cal.—United Concrete Pipe Co., Box 1, Station 11, Los Angeles, at \$65,483 awarded contract by State Highway Commission, Sacramento, to grade and pave with Portland cement concrete and asphalt concrete about 2.4 miles between Montalvo and Oxnard.

SPOKANE COUNTY, Wash.—Until June 28, 10 A. M., bids will be received by Samuel J. Humes, Director of Highways, Olympia, Wash., for paving with Portland cement concrete about 3.3 ml. of State Road No. 3, Spokane, to Whitworth, F. A. P. No. 94-C, and about 4.6 ml. of State Road No. 6,

Juncton State Road No. 3 to Peone Creek, F. A. P. No. 186-A, both in Spokane County.

Certified check 5% required with bid. Specifications obtainable from District Engineer's Office on deposit of \$2, returnable.

MONTEREY, Monterey Co., Cal.—Santa Maria Construction Co., 101 N. Broadway, Santa Maria, at \$6002.60, submitted low bid to district engineer, State Highway Commission, San Luis Obispo, to improve 6.9 mi. in Monterey County, between 2 mi. and 9 mi. north of Salinas; 3.5 mi. to be treated with heavy fuel oil on each side of existing pavement and about 1.4 ml. finishing shoulders, involving:

- (1) 4720 bbls. fuel oil.
 - (2) Finishing.
- Complete bids follow:
- | | |
|--|-----------|
| (A) Santa Maria Con. Co., Santa Maria | \$6002.60 |
| (B) L. J. Immel, Berkeley..... | 6121.40 |
| (C) Stewart & Nuss, Fresno..... | 6213.35 |
| (D) Granite Constr. Co., Watsonville | 6412.95 |
| (E) Peninsula Paving Co., San Francisco | 7165.00 |

Unit bids follow:

| | | | | |
|-----------|------|------|------|------|
| (A) | (B) | (C) | (D) | (E) |
| (1) | 2.18 | 2.17 | 2.13 | 2.30 |
| (2) | 1.00 | 3.00 | 5.75 | 2.15 |

Bids held under advisement.

ASOTIN Co., Wash.—Until June 28, 10 A. M., bids will be received by Samuel J. Humes, director of highways, Olympia, Wash., for grading about 2.4 ml. of Asotin-Oregon State Line Road, Anatone South, Section 3, in Asotin County, involving 15.6 acres clearing, 138,730 cu. yds. excavation, 2,265 lin. ft. pipe culverts and other items.

Certified check 5% required with bid. Specifications obtainable from district engineer's office, on deposit of \$2, returnable.

TULARE COUNTY, Cal.—Until June 23, 2 P. M., bids will be received by C. H. Sweetser, District Engineer, U. S. Bureau of Public Roads, 461 Market St., San Francisco, to improve 10.555 ml. of Section B of Route 1, the Generals Highway, Sequoia National Park, involving:

- (1) 14,000 cu. yds. unclass. excav.
- (2) 880 cu. yds. unclass. excav. (struc)
- (3) 7100 sta. yds. overhaul;
- (4) 450 M. gals. watering;
- (5) 10,500 cu. yds. crushed rock for subgrade reinf.;
- (6) 585 cu. yds. cement rubble masonry.
- (7) 112 lin. ft. corrugated metal pipe;
- (8) 175 cu. yds. hand laid rock embankment;
- (9) 1256 lin. ft. stone guardrail;
- (10) 6400 lin. ft. cable guardrail;
- (11) 145,000 gals. apply fuel oil (government furnished);
- (12) 10,555 ml. processing oil treated crushed rock.

Specifications obtainable from above office on deposit of \$10, checks payable to Regional Fiscal Agent, U. S. Forest Service.

VENTURA CO., Cal.—Plans for the final section of the Mariposa-Ventura Highway are being completed by C. H. Sweetser, district engineer of the U. S. Bureau of Public Roads, 461 Market St., San Francisco, under an arrangement with the directors of Joint Highway District No. 6, whereby national forest funds will aid in the construction. This section will be located in the Sespe Valley, Ventura, and will be 17 miles in length, consisting of a graded road 26 feet in width. The work will involve approx-

imately 1,500,000 cu. yds. of excavation, about half of which is rock. The estimated cost is between \$600,000 and \$700,000. As soon as completed, the plans and estimate will be forwarded to C. W. Petit, chief engineer of the district, Ventura County courthouse.

SAN MATEO, San Mateo Co., Cal.—Until June 29, 2 p. m., bids will be received by State Highway Commission, Sacramento, to pave with concrete about 0.6-mile between Sierra Point and South San Francisco, involving:

- (1) 3150 cu. yds. roadside borrow.
- (2) 2865 tons crusher run base.
- (3) 3360 cu. yds. cushion course.
- (4) 2600 cu. yds. Class "A" conc. (pave).
- (5) 760 tons cru. gravel or stone (bit. treated surf.).
- (6) 38 tons cut back asph. (bit. treated surf.).
- (7) 80 bbls. light fuel oil (shoulders).
- (8) 80 tons screenings (shoulders).
- (9) 30 sta. finish. roadway.

State will furnish cement.
See call for bids under official proposal section in this issue.

MONTEREY COUNTY, Cal.—Santa Maria Construction Co., 101 N. Broadway, Santa Maria, at \$6002.60, awarded contract by State Highway Commission to improve 6.9 mi. in Monterey County, between 2 mi. and 9 mi. north of Salinas; 3.5 ml. to be treated with heavy fuel oil on each side of existing pavement and about 1.4 ml. finishing shoulders.

CONTRA COSTA COUNTY, Cal.—Basich Bros., 20550 Normandie Ave., Torrance, at \$322,793.10, awarded contract by State Highway Commission to grade and pave with Portland cement concrete and asphalt concrete, 10.6 miles between San Pablo and Carquinez Bridge.

WASHINGTON STATE—Until July 6, 10 A. M., bids will be received by Samuel J. Humes, Director of Highways, Olympia, Wash., to:

Construct bit. surface on about 62 ml. State Road No. 4, as follows: Tonasket to Republic, 42 mi. Okanogan and Ferry Counties, Republic to Forest Boundary, 12 mi., Ferry County; and Willour North, 8 mi., Lincoln County.

Pave with Portland Cement Concrete 3.1 mi. State Road No. 5, Yakima to Nelson Bridge, No. 161-C, Yakima County.

Grading and surf. about 3.2 miles State Road No. 8, Wind River to Collins, No. 112-C, Skamania County, involving 23 acres clearing, 193,440 cu. yds. excav., 14,280 cu. yds. crushed stone surf. and other items.

DEL NORTE COUNTY, Cal.—Mercer-Fraser Co., Second and Commercial Sts., Eureka, at \$58,028.25 was awarded contract by State Highway Commission to surface with bituminous treated crushed gravel or stone, 6.9 miles between Crescent City and Madonna Camp.

SANTA CLARA COUNTY, Cal.—Pacific Truck Service, Inc., 646 Park Ave., San Jose, at \$2958 awarded contract by State Highway Commission for about 5.7 miles between Gilroy and the Pajaro River, rock borders to be bituminous surface treated and earth shoulders to be treated with fuel oil as a dust palliative.

OREGON STATE—Until June 23, 10 A. M., bids will be received by State Highway Commission, Portland Hotel, Portland, Ore., for the following highway construction:

DOUGLAS COUNTY—Scottsburg-Paradise Creek Section of Umpqua Highway. 11.05 mi. screened gravel surf. involving 22,000 cu. yds. screened gravel.

KLAMATH COUNTY—Terminal City-Klamath Falls Section. The Dalles-California Highway. 1.72 mi. conc. pave. and 0.52 mi. crushed rock surf.

LANE COUNTY—Cheshire-Prairie Road Section of Siuslaw Highway. 4.02 mi. grading, involving 69,000 cu. yds. excavation.

LINCOLN & TILLAMOOK COUNTIES—Bit. mac. Project No. 9, involving construction of 2.0 mi. bit. mac. and application of 19.5 mi. oil mat surf. treatment. Work in three units in vicinity of Hebo and Otis.

LINN, BENTON AND POLK COUNTIES—Bit. Mac. Project No. 12, involving 19.3 mi. pavement widening and resurfacing and 2.0 mi. non-skid surf. treatment. Work in four units in vicinities of Tangent, Mouthout and Corvallis.

TILLAMOOK COUNTY—Kilchis River-Tillamook Section Oregon Coast Highway. 1.63 mi. conc. pave. and 0.57 mi. gravel surf.

UMATILLA COUNTY—Adams-Milton Section, Oregon-Washington Highway. Construct 17.7 mi. bit. mac. pave., widening and resurfacing.

WASHINGTON COUNTY—Rodgers Farm Section, Secondary Highway No. 140 and Fanno Section, Secondary Highway No. 141. 1.85 mi. grading and surf. involving 16,000 cu. yds. excav. and 3700 cu. yds. surf. materials.

Specifications obtainable from office of State Highway Commission, Room 322 State Office Bldg., Salem, on deposit of \$5.

YOLO COUNTY, Cal.—D. MacDonaid, 204 23rd St., Sacramento, at \$55,481.55 awarded contract by State Highway Commission to grade and pave with Portland cement concrete about 1.7 miles between Swingle and Yolo Counties.

SISKIYOU COUNTY, Cal.—Skeels & Graham Co., Box 576, Roseville, at \$15,984.04, awarded contract by State Highway Commission to grade and surface with bituminous treated crushed gravel or stone, 0.8-mile at Cottonwood Creek.

LOS ANGELES, Cal.—Griffith Co., 502 L. A. Railway Bldg., Los Angeles, awarded contract by Board of Public Works at \$74,990.44 to improve 98th St., bet. Avalon Blvd. and Western Ave. (Center line length 12,916 lin. ft.), under cash contract. Quantities published in issue of May 13.

OAKLAND, Cal.—Worden & Farsythe, 264 Sybil Ave., San Leandro, at \$6650 submitted low bid to East Bay Municipal Utility District to furnish under Specification LS 82: 35,000 sq. ft. bituminous surfacing (street pavements).

Complete bids follow:
 Worden & Farsythe, San Leandro, \$19; total, \$6650.
 Independent Constr. Co., Oakland, \$1947; total, \$6814.
 W. H. Larson, Berkeley, \$224; total \$7840.
 Hutchinson Co., Oakland, \$29; total, \$10,150.
 Bids held under advisement.

Sacramento, Calif.—Until June 27, 10 A. M., bids will be received by Harry W. Hall, County Clerk, to construct an asphalt macadam shoulder on Greenback Lane. Certified check 10% payable to chairman of board, required with bid. Specifications obtainable from office of County Engineer Charles W. Deterding. Quantities will be published shortly.

CALIFORNIA—Col. Walter E. Garrison, director of the State Department of Public Works, announces bids will be asked this month for the following projects:

San Diego—Rose Canyon to Sorrento Creek; Coast Route; 4.4 miles; Port. cem. concrete.

Los Angeles—Barranca St. to Pomona; Los Angeles-Brea Canyon lateral; 6.0 miles; Port. cem. concrete.

Alameda—Castro Hill to Stanton Ave.; Oakland-Stockton lateral; 2.4 miles; Port. cem. concrete.

Los Angeles—Brea Canyon to Pomona; Pomona-Pullerton Road; 6.2 miles; Port. cem. concrete.

Imperial—Sand Hills to Araz Junction; El Centro-Yuma lateral; 7.9 miles; asphalt concrete.

Shasta—Canyon Creek to Hat Creek Summit; Redding-Alturas lateral; 10.2 miles; bituminous treated crushed rock surfacing.

San Bernardino—Camp Waterman to Waterman Canyon; Crest Road; 4.5 miles; bituminous treated crushed rock surfacing.

Mendocino—Little Dann Creek to Stacey's Place; Redwood Highway; 1.6 miles; untreated crushed rock surface.

Monterey—San Remo Divide to Carmel River; San Simeon-Carmel Highway; 3.7 miles; grading.

STOCKTON, San Joaquin Co., Cal.—Until June 27, 11 a. m., bids will be received by Eugene D. Graham, county clerk, to construct 2.7 miles of road from Lincoln St. and Charter Way to the Lane Road for a connecting link with the Garwood Ferry Road, involving:

- (1) 11,500 cu. yds. grading roadside borrow.
- (2) 31,500 cu. yds. imported borrow.
- (3) 6 install pipe.

Estimated cost, \$13,500. Specifications obtainable from office of County Surveyor J. B. Manthey. Certified check or bond payable to Chairman of Board of Supervisors, 10%, required with bid.

RIVERSIDE and SAN BERNARDINO COUNTIES, Cal.—Southwest Paving Co., 712 Lankershim Bldg., Los Angeles, at \$38,140.80 awarded contract by State Highway Commission to treat earth shoulders with fuel oil

over about 23.2 miles between Corona and the Orange County line; between the Santa Ana River Bridge and Ontario; San Bernardino County to treat roadbed with fuel oil over about 23.4 miles between the junction of Routes 31 and 59 near Cajon Summit and the Los Angeles County line.

SALINAS, Monterey Co., Cal.—W. A. Dontanville, Box 544, Salinas, at \$975.57, awarded contract by city council to improve Grove St. from northerly boundary of Maple Park Addition No. 1 to 155.59 ft. northerly, involving:

- (1) 5290 sq. ft. grading;
- (2) 5290 sq. ft. paving; 5-in. hydraulic cement concrete;
- (3) 311.2 lin. ft. curb.

Complete bids follow:
 (A) W. A. Dontanville, Salinas.
 (B) Granite Construction Co., Watsonville.

| | (1) | (2) | (3) | Tot. |
|-----------|------|-----|-----|---------|
| (A) | .015 | .15 | .33 | 975.54 |
| (B) | .015 | .18 | .36 | 1143.67 |

BERKELEY, Cal.—W. H. Lawrence, 1400 East 32nd St., Oakland, at \$4688, for paving, and Hutchinson Co., 1450 Harrison St., Oakland, at \$1480, for grading, submitted low bids to regents of the University of California for (a) paving portions of Canyon Road and roads of Poultry Research Station, (b) grading road and culverts in Strawberry Canyon on the grounds of the University of California, Berkeley.

Complete bids follow:
 (a) Paving—
 W. H. Lawrence, Oakland..... \$4688
 Lee J. Immel, Berkeley..... 4899
 J. H. Fitzmaurice, Oakland..... 5433
 Hutchinson Co., Oakland..... 5530
 George Peres, Richmond..... 6189
 (b) Grading—
 Hutchinson Co., Oakland..... \$1480
 Ariss Knapp Co., Oakland..... 1735
 Lee J. Immel, Berkeley..... 2053
 Bids held under advisement.

IDAHO STATE HIGHWAY—U. B. Lee, 1653 Carpenter Ave., San Leandro, Cal., awarded contract by State Highway Department at \$17,160 to construct road mix oil mat on the Idaho-Montana Highway from Robert's to Dubois, 24,896 miles, in Dubois, Jefferson and Clark Counties. Engineer's estimate, \$20,042.

SALINAS, Monterey Co., Cal.—Until July 5, 10 a. m., bids will be received by C. F. Joy, county clerk, for grading a portion of San Miguel Canyon Road from Lake School to State Highway at Prunedale, in Supervisor District No. 1, Monterey County, involving:

- (1) 29,800 cu. yds. excav.
- (2) 5,400 sta. yds. overhaul.
- (3) 30 struct. excav. for pipe.
- (4) 88 lin. ft. 12-in. culvert.
- (5) 207 lin. ft. 15-in. culvert.
- (6) 92 lin. ft. 18-in. culvert.
- (7) 64 lin. ft. 36-in. culvert.
- (8) 62 lin. ft. 48-in. culvert.
- (9) 2,000 cu. yds. local rock on road.

County will furnish all culvert. Specifications obtainable from above office on deposit of \$10, returnable. Certified check—10 per cent—required with bid. Howard Cozens, county surveyor.

See call for bids under official proposal section in this issue.

OAKDALE, Stanislaus Co., Cal.—City trustees contemplate oiling approximately one mile of streets in the residential district. The cost is estimated at \$1500. Bid: to furnish oil will be asked shortly.

**SUB-CONTRACTORS
 MATERIALMEN**

Stop Your Losses

Credit information on general
 contractors, owners, builders and
 individuals.

**MATERIALMEN'S
 CREDIT BUREAU**

J. E. Higgins, General Manager

564 Market St.—KEarny 6245-46
 Night Phone DOuglas 5304
 San Francisco

BUILDING NEWS

APARTMENTS

Plans Being Completed
APARTMENTS Cost, \$35,000
SAN FRANCISCO, Cal., E. Larkin St.
 100 ft. N Bay.

Three-story and basement brick veneer, frame & stucco apartments (6 2-room and 6 2-room apts.), tile and composition roof, steam heating system, hardwood floors, tile baths and kitchens, canvas walls, etc.).

Owner and Builder—S. Bertone, 3008 Larkin St., San Francisco.
 Plans by Irvine & Ebbebs, 2048 Market Street.

Plans Completed.
APARTMENT, ETC. Cost, \$10,000
SAN MATEO, San Mateo Co., Cal.
 Two-story and basement frame and stucco apartment and dancing studio (tile roof, gas heat, hardwood floors, etc.)

Owner—G. Bragato, 363 Eldorado St., San Mateo.

Plans by Peter Canali, 604 Montgomery St., San Francisco.

As soon as financial arrangements are made bids will be asked by owner.

To Be Done By Day's Work.
APARTMENTS Cost, \$20,000
SAN FRANCISCO, E Valencia St.
 S Twenty-fourth St.

Three-story and basement frame and stucco apartments (30 apts.)
 Owner—E. Bailey, 1341 Valencia St., San Francisco.

Architect—Not Given.

BONDS

SAN GABRIEL, Los Angeles Co., Cal.—San Gabriel High School District defeated a \$345,000 bond issue at a special election. Proceeds were to have been used for the purchase of site and the construction of a new high school plant. Marsh, Smith & Powell, 516 Architects' Bldg., Los Angeles, and Scott Quintin, Edison Bldg., Alhambra, are the architects for the district.

SALINAS, Monterey Co., Cal.—Election will be held June 27 in Spring School District to vote bonds of \$15,000 to finance school improvements. Trustees of the district are: Garrett H. Smock, John Tamaguni and John Brazil.

NAPA, Napa Co., Cal.—Napa School District is considering the advisability of floating a bond issue in the amount of \$18,000 to finance construction of a new school in Napa.

FACTORIES AND WAREHOUSES

CARLSBAD, N. M.—C. C. Moore & Co., 450 Mission St., San Francisco, and 601 W. Fifth St., Los Angeles, have the contract for the complete construction of a manufacturing plant at Carlsbad, N. M., for the U. S. Potash Co., subsidiary of the Pacific Coast Borax Co. The work is about 30 per cent complete. Buildings are to be steel frame structures with asbestos roofing, brick work, waterproofing, steel sash, fire doors, acoustical plaster, including materials,

steam heating system, tile work, etc. Cost of the plant will total about \$900,000. The following subcontracts have been awarded: brick work, mill work, sheet metal, glass and glazing and painting to George Wagner, 181 South Park, San Francisco; plumbing and heating to Henry Bok, Carlsbad; structural steel to Virginia Bridge & Iron Co. (practically finished); roof to Wayland Co., 563 2nd St., San Francisco; plastering to H. E. Russell, El Paso. The general contractor will install the electrical work.

STOCKTON, San Joaquin Co., Cal.—Cornelius Aircraft Corp., is conferring with City Manager W. B. Hogan and J. C. Sommers, traffic manager of the Stockton Chamber of Commerce, regarding the construction of a \$200,000 plant in Stockton for the manufacture of "Free-Wing" Planes.

Plans Being Completed.
BUILDING Cost, \$15,000
SAN FRANCISCO, E Van Ness Ave.
 108 S Twelfth St.

One-story Class C brick building (packing plant, offices, retail store) tar and gravel roof, concrete floor, refrigeration plant, water heaters, sterilizers, etc; 7x122 ft.

Owner—Michael O'Connor.
 Architect—C. A. Berger, 309 Valencia St., San Francisco.
 Lessee—Consolidated Oyster Co., 435 Minna St., San Francisco.
 Bids will be asked within one week.

GOVERNMENT WORK AND SUPPLIES

MARCH FIELD, Riverside Co., Cal.—Until 10 a. m., June 25, bids will be received by the Constructing Quartermaster, March Field, for installation of two 25,000-gallon gasoline storage tanks, control equipment and fill and delivery lines at March Field; Specification No. 9152-D. Bidding data may be obtained at March Field upon deposit of \$5. Guarantee in the form of a certified check or bid bond for \$490 must accompany each bid. Capt. L. S. Woods, constructing quartermaster. The work includes the installation of two 25,000-gallon tanks, furnished by the Government; furnishing and installing fill and delivery lines; making connections in existing water supply; laying a drain from old and new tanks; furnishing and installing water trap, valves and tank control apparatus; and connecting the new tanks to the existing hydraulic gasoline fueling system.

Plans Approved—Bids To Be Asked Shortly.

NURSES' HOME Cost, \$150,000
SEATTLE, Wash., Beacon Hill
 Fireproof nurses' home in connection with Marine Hospital.

Owner—United States Government.
 Architect—Bebb & Gould and John Graham, Hoge Bldg., Seattle.
 Plans have been approved by the Supervising Architect, Treasury Department, Washington, D. C., and bids will be asked shortly.

SAN FRANCISCO—Until June 21, 10 A. M., under Schedule No. 325-32-274, bids will be received by Quartermaster Supply Officer, General Depot, Fort Mason, to furnish and deliver

one 300 Ampere A.C.-D.C., single operator, portable welding motor generator arc welding set. Specifications and further information obtainable from above.

Completing Plans.
POST OFFICE Cost, \$150,000
VALLEJO, Solano Co., Cal. Main and Carolina Streets.

One-story and basement Class A reinforced concrete and granite Post Office building.

Owner—United States Government.
 Architect—Charles Dean, California State Life Bldg., Sacramento.
 Bids will be asked in about two weeks.

OAHU, T. H.—Until June 23, under Circular No. 80, bids will be received by U. S. Engineer Office, Honolulu, T. H., to construct rigid steel tower at Ft. Weaver, Island of Oahu, T. H. Deposit of \$15, required for plans, obtainable from above.

Plans Being Figured—Bids Close July 14.

POST OFFICE Cost, \$39,000
GLENDALE, Los Angeles Co., Cal. Broadway, between Jackson and Louise Streets.

Two-story and basement reinforced concrete post office (100x230 ft.; exterior brick walls, granite base and entrance steps, terra cotta tile partitions, bronze doors, etc.)

Owner—United States Government.
 Architect—George M. Lindsay and E. P. Eiden, Union Insurance Bldg., Los Angeles.

Bids will be asked in 30 to 60 days.

SAN RAFAEL, Marin Co., Cal.—Appropriations available in the James Omnibus Army Bill before the House Military Affairs Committee for Marin Meadows (Hamilton Field) Bombing Base, near San Rafael, provide headquarters building, \$35,000; improvement of landing field, \$130,000; officers' quarters, \$215,000, and non-commissioned officers' quarters, \$120,000.

ALAMEDA, Alameda Co., Cal.—Appropriations available in the James Omnibus Army Bill, before the House Military Affairs Committee, for Benton Field, Alameda, provide \$605,500 for completion of shops, including assembly and test hangars, dope storage, heating and engine test block; depot warehouse, \$500,000; administration building, \$80,000; railroad spur, \$35,000; garage, \$48,000; fire and guard house, \$38,000; pier, \$125,000; paint, oil and dope storage and oil reclamation, \$35,000; gasoline storage system, \$20,000, and paved aprons, \$80,000.

TATOOSH ISLAND—Western Construction Co., Seaboard Bldg., Seattle, at \$31,296 awarded contract by Supervising Architect, Treasury Department, to erect weather bureau station at Tatoosh Island; will be two-story and basement with tower and residence quarters for the observer. Plans prepared by W. F. Higgins, architect, Portland, Oregon.

SAN RAFAEL, Marin Co., Cal.—Until June 20, 3:30 P. M., bids will be received by Constructing Quartermaster, Hamilton Field, \$29 Fourths

St. for plowing, discing, harrowing and general leveling by dragging of approximately 400 acres and filling in existing drainage ditches at Hamilton Field. Specifications obtainable from above.

SAN RAFAEL, Marin Co., Cal.—Following contracts awarded by Constructing Quartermaster, San Rafael, for grading, excavation and railroad work at the Marin Meadows (Hamilton Field) Bombing Base.
Grading, Excavation and Railroad—J. V. Galbraith, Petaluma.....\$ 9,071
Roads, Culverts and Bridges—Barratt & Hilt, 918 Harrison St., San Francisco\$23,244
Railroad Spur, Ballast, Ties—Frank Bryant, 2911 23rd St., San Francisco\$ 4,150

CALIFORNIA—The \$2,290,000,000 relief and public works bill, sponsored by Speaker John N. Garner, was passed by the House this week. The bill, carrying appropriations of \$100,000,000 for direct federal relief, \$1,000,000,000 for expansion of Reconstruction Finance Corporation's operations and \$1,190,000,000 for public buildings and river and harbor projects, now goes to the Senate.

Allotments in Northern California include: Hayward, \$100,000; Livermore, \$80,000; Richmond, \$155,000; Burlingame, \$220,000; Fresno, \$650,000; Lodi, \$105,000; Martinez, \$95,000; Redding, \$150,000; Redwood City, \$125,000; \$70,000 for buildings at Antioch, Crockett, Mill Valley, San Anselmo, Sausalito, Sunnyvale and Vacaville, and \$55,000 for buildings at Niles and San Bruno.

Allotments for the following Southern California postoffice buildings are included in the bill: Los Angeles, \$3,200,000; Alhambra, \$195,000; Anaheim, \$130,000; Burbank, \$155,000; Claremont, \$85,000; Colton, \$80,000; Compton, \$125,000; Corona, \$85,000; Culver City, \$120,000; El Monte, \$80,000; Escondido, \$80,000; Fullerton, \$110,000; Hollywood, \$1,250,000; Huntington Beach, \$80,000; Huntington Park, \$210,000; Inglewood, \$210,000; Monrovia, \$130,000; North Hollywood, \$110,000; Oceanside, \$85,000; Ontario, \$135,000; Orange, \$90,000; Pasadena, \$325,000; Redondo Beach, \$135,000; San Fernando, \$110,000; San Gabriel, \$140,000; Santa Barbara, \$260,000; Santa Monica, \$325,000; South Gate, \$75,000; South Pasadena, \$115,000; Torrance, \$85,000; Upland, \$80,000; Van Nuys, \$110,000; Venice, \$150,000; Whittier, \$160,000; Wilmington, \$185,000. An allotment of \$7,400,000 for the new Los Angeles federal office building is also included in the bill.

HALLS AND SOCIETY BUILDINGS

Preparing Working Drawings.
MEMORIAL BLDG. Cost, \$20,000
BENICIA, Solano Co., Cal.
One-story and basement frame and stucco memorial building (65x85 ft.), auditorium to seat 350.
Owner—County of Solano.
Architect—W. E. Coffman, Forum Bldg., Sacramento.

Low Bidder.
MEMORIAL HALL Cost, \$30,000
SONORA, Tuolumne Co., Cal.
One-story memorial hall (club rooms), locker rooms, auditorium, etc.).
Owner—County of Tuolumne.
Architect—G. Frederick Ashley, 525 Market St., San Francisco.
Low Bidder—H. H. Larsen Co., 64 South Park St., San Francisco at \$19,230.

Preparing Plans.
MEMORIAL BLDG. Cost, \$20,000
BENICIA, Solano Co., Calif.
One-story and basement memorial building (65x85-ft.) auditorium to seat 350.
Owner—County of Solano.
Architect—W. E. Coffman, Forum Bldg., Sacramento.

On either side of the large entrance hall are the meeting and club rooms. The meeting room is 16x22-ft. and the club room 16x22-ft. Beyond this is the main auditorium, which is 30x49-ft. in size. A stage 17x50-ft. and a gallery above the entrance hall and rooms will seat about 150. This will make a seating capacity of approximately 350 for the auditorium and gallery. Building will be similar to the one recently completed at Grass Valley.

Commissioned To Prepare Plans.
MEMORIAL Cost, \$90,000
SANTA MARIA, Santa Barbara Co.
Veterans' Memorial Building.
Owner—County of Santa Barbara.
Architect—A. M. Hansen, Santa Maria

HOSPITALS

Plans to be Prepared.
HOSPITAL ADDITION Cost, \$45,000
KEENE, Kern Co., Cal.
County Preventorium Addition.
Owner—County of Kern.
Architect—To be selected.

Funds to finance this project will be provided in the 1932-33 budget. It is announced by Supervisor Stanley Abel.

Bids Wanted—To Close June 22, 1932.
A. M.
ADDITION Cost, \$40,000
HANFORD, Kings Co., Cal.

Two-story wing addition and general alterations to county hospital (reinforced concrete and brick construction, gypsum tile walls, interior Schumacher and rock lath partitions, linoleum floors, tile floors, wood and steel sash, steam heating system, exhaust system, signal call system (50 beds); 2 diet kitchens, 2 utility rooms, 1 emergency operating department, one maternity department, children's wards, 5 baths, cells; plaster cast rooms, locker and sewing rooms.
Owner—County of Kings.
Architect—E. J. Kump, Rowell Bldg., Fresno.

Bids Wanted—To Close June 20, 1932.
HEALTH CENTER Cost, \$—
TORRANCE, Los Angeles Co., Cal.

One and two-story brick health center (12x13 ft.); nurses' rooms, office, laboratory, examination room, etc.)
Owner—Torrance-Redondo Health Center.
Plans by William Davidson, 1066 Hall of Records, Los Angeles.

Preparing Working Drawings.
SANITARIUM Cost, \$300,000
ALTA LOMA, San Bernardino Co., Cal. 10 Acre Site.

Six-story Class A Sanitarium (32x125 ft.); (72 patients rooms, main kitchen, diet kitchen, six saloons, laundry, boiler room, two elevators, dumb waiters, steam heating system, etc.)
Owner—Upland Sanitarium Corp. (Dr. H. H. Johnson, President), 1601 N. Wilcox Ave., Los Angeles.
Architect—Edward Cray Taylor and Ellis Wing Taylor, 903 W. Third St., Los Angeles.

LOS ANGELES, Cal.—Superior Judge Charles S. Crall has approved payment of \$2,000,000, provided in the will of the late Henry E. Huntington, for construction of the Collis P. and Howard Huntington Memorial Hospital. Henry M. Robinson, chairman of the Board of Directors of the Security-First National Bank of Los Angeles, will act as chairman of the Board of Trustees for the institution. It will probably be a year before the project matures. A site has not yet been selected nor an architect retained.

HOTELS

Plans Completed.
ALTERATIONS Cost, \$15,000
SAN FRANCISCO, SE Eddy and Mason Streets.

Alterations to four-story brick rooming house (remodel interior, all modernized; 60 rooms and baths).
Owner—A. W. Wilson, 1925 Gough St. and O'Farrell and Shannan Sts., San Francisco.
Architect—C. A. Meussdorffer, 785 Market St., San Francisco.
Owner will take bids within one week.

Owner Taking Segregated Bids.
ALTERATIONS Cost, \$15,000
SAN FRANCISCO, SE Eddy and Mason Streets.

Alterations to four-story brick rooming house (remodel interior, all modernized; 60 rooms and baths).
Owner—A. W. Wilson, 1925 Gough St. and O'Farrell and Shannan Sts., San Francisco.
Architect—C. A. Meussdorffer, 785 Market St., San Francisco.

POWER PLANTS

VERNON, Los Angeles Co., Calif.—Delta Star Electric Co., Chicago, Ill., awarded contract by city council at \$148,932 to furnish, deliver and install complete, switching gear for new municipal power plant.

SANTA MARIA, Santa Barbara Co., Cal.—Midland Counties Public Service Corp., will start work in three weeks on rerouting transmission line from San Luis Obispo to top of Cuesta grade. The new line is to be built on steel towers, 65 to 85 ft. in height, and will take care of two circuits. One will have 70,000 volts to be built now and another whose voltage depends on the growth of demand, to be built later. The cost is estimated at \$60,000.

LOS ANGELES, Cal.—Until 10 A. M., June 1, bids will be received by D. P. Nicklin, purchasing agent of the Los Angeles Water and Power Bureau 207 S Broadway, for constant current transformer, 55 KW., 4800-volt, 6.6-amp, 50-cycle, station type, complete with control panel. Spec. No. 8833.

VERNON, Los Angeles Co., Cal.—Mitty Brothers Constr. Co., 5551 Downey Road, awarded contract by city council at \$209,525 to construct power building and cable tunnel on Soto St., Vernon. The building will be 240x170 feet in area, with a 56-foot ceiling; steel frame construction, reinforced concrete walls, floors and roof.

OCEANSIDE, San Diego Co., Cal.—Ralph B. Black, representing the Atlas Diesel Engine Co., has been requested by the Oceanside City Council to submit plans and estimates for the establishment of a municipal light and power plant.

SEATTLE, Wash.—Bayley Hipkins, Inc., 605 Eitel Bldg., Seattle, awarded contract by Board of Public Works at \$1,747,705 to construct Diablo power house and other work in connection with the Skagit River Power Development Project.

SAN LUIS OBISPO, Cal.—D. O. Smalley, district superintendent, Midland Counties Public Service Corporation, has announced that work will start about June 15 on construction of a transmission line from San Luis Obispo to the summit of the grade north of that city. A new substation is to be erected about 40 miles south of San Luis Obispo.

SAN BERNARDINO, Cal.—Southern Sierras Power Co. will start work this week on construction of a power line from a point near Camp Cajon to the summit of Cajon Pass, about 4 miles, to furnish power for airplane beacon light to be erected at the summit. Beacon will have a 1500 watt lamp capable of a 10-mile beam, with steel tower. Est. cost, \$5000. Robert Neuman, district manager.

PUBLIC BUILDINGS, FIRE HOUSES AND JAILS

Plans Being Completed.
MUSEUM Cost, \$14,000
PACIFIC GROVE, Monterey Co., Cal.
Forest Ave. and Grove St.
One-story steel frame and gallow tile museum.

Owner—City of Pacific Grove (gift to Mrs. Lucie B. Chase).
Architect—Allen C. Collins, Monterey.
Plans will be completed in about three weeks and bids will be asked by Mrs. Lucie B. Chase.

Contracts Awarded.
ARMORY Cost, \$—
POMONA, Los Angeles Co., Cal.
One-story and a basement reinforced concrete armory.
Owner—State of California.
Architect—State Department of Public Works, Division of Architecture, George B. McDougall, State Architect, Sacramento.

Foundations, walls and certain floors are reinforced concrete. Drill shed floor is wood on wood joist construction. Roof trusses are steel with wood purlins, sheathing and clay tile roof.
General Work
L. A. Geisler, 6212 Middleton St., Huntington Park, \$19,525.

Electric
H. H. Walker Co., Los Angeles, \$1703.
Plumbing and Heating
Toner & Brooks, Pomona, \$2235.

SCHOOLS

To Ask Bids Shortly.
COLLEGE BLDG. Cost, \$175,000
PASADENA, Los Angeles Co., Cal.
No. 1201 E. California St.
Reinforced concrete optical building 175x60 ft., 55 ft. high; store trim, tile partitions, steel roof trusses, steel sash, concrete floors, etc.

Owner—California Institute of Technology, 1201 E. California St., Pasadena.
Plans by Engineering Department of Owner.

Hunter & Hudson, 41 Sutter St., San Francisco, have prepared plans for the air conditioning plant, heating and ventilating system.

Preparing Working Drawings.
HOUSE OF STUDIES Cost, \$55,000
(1st unit)
OAKLAND, Alameda Co., Cal. Chabot Road and College Ave.

Three-story and basement frame and brick veneer house of studies (main wing, 140x36 ft.) concrete basement, cast stone trim, slate roof.

Owner—College of St. Albert, The Great (Dominican House of Studies), Steiner and Bush Sts., San Francisco.

Architect—Arnold Constable, 580 Market St., San Francisco.

Completing Plans.
SCHOOL Cost, \$125,000
CLAREMONT, Los Angeles Co., Cal.
Foothill and Indian Hill Bldvs.

Two-story and basement reinforced concrete high school (223x176 ft.) steel roof joists, steel and wood sash, steam heat, etc.

Owner—Claremont High School Dist. Architect—Marsh, Smith & Powell, Architects Bldg., Los Angeles.
Bids will be asked in two weeks.

Plans Being Figured—Bids close June 22, 7:30 P. M.
SCHOOL ADD. Cost, \$—

TUPMAN, Kern Co., Cal.
Additions to garage & kitchen building at Elk Hills School.

Owner—Elk Hills School District, Earl McFarland, clerk, Tupman, Calif. Architect—Chas. E. Butner, Cory Bldg., Fresno, Calif.

Certified check 10% payable to clerk required with bid. Plans obtainable from architect on deposit of \$10, returnable.

BANKS, STORES & OFFICES

Plans Being Completed.
STORE Cost, \$30,000
BERKELEY, Alameda Co., Cal. College Ave. and Russell St.

One-story Class C concrete store (terra cotta tile front).
Owner—K. E. Parker.

Plans by Eng. Dept. of lessee.
Lessee—Safeway Stores, Inc., 4th and Jackson Sts., Oakland.

Contractor—K. E. Parker, 135 South Park, San Francisco.
Sub bids will be taken in about two weeks.

Preparing Working Drawings.
MEDICAL-DENTAL BLDG.
First unit, \$200,000

OAKLAND, Alameda Co., Cal. Grand Ave. and Harrison St.

Twelve-story and full basement Class B reinforced concrete medical-dental building (35 doctors' offices, 4 stores on ground floor) Pan type with concrete joists, 2 passenger elevators, water softeners, filters ornamental iron, terra cotta tile in corridors, steam heating system, electric fixtures, steel windows, main and auxiliary boiler, club room on roof.

Owner—Medical-Dental Tower, Inc. (Group of Doctors now forming a corporation).
Architect—W. H. Weeks and Associates, 525 Market St., San Francisco.

Hugo Arnstein, % F. F. Porter Co., 411 15th St., Oakland, is in charge of the leasing and financing.

Plans to Be Prepared.
STORE Cost, \$15,000
FRESNO, Fresno Co., Cal. Fulton St. bet. Tuolumne and Merced Sts.

One-story reinforced concrete store, 26x150 feet.
Owner—Ciftu's Luggage Shop, 1210 Fulton St., Fresno.
Architect—Not Given.

Contract Awarded.
STORE Cost, \$85,000
OAKLAND, Alameda Co., Cal. SW 13th and Washington Sts.

Two-story and basement store (50x125 ft.).
Owner—Ben J. Reilly, 480 Perkins St., Oakland; Eugene R. Tuit, et al. Plans by Eng. Dept. of W. T. Grant Co.

Lessee—W. T. Grant Co., New York City.
Contractor—Lindgren & Swinerton, Inc., 225 Bush St., San Francisco.

Plans Being Completed.
ALTERATIONS Cost, \$15,000
SAN FRANCISCO, No. 425 Bush St.

Alterations to five-story brick Class C loft building; new elevator, oil burner steam heating plant, marble and tile work, plumbing, etc.)
Owner—425 Bush Street.
Architect—Alben Froberg, Ray Bldg., Oakland.

Bids will be asked in about two weeks.

Contract Awarded.
SALESROOMS Cont. Price, \$39,935
SAN FRANCISCO, Eleventh and Mission Streets.

Two-story reinforced concrete salesroom building, service station, etc. (composition roof, plaster facing, art stone trim, plate glass, steel sash, Neou lights, toilets, etc.)

Owner—Goodyear Tile & Rubber Co., 6701 S. Central Ave., Los Angeles
Plans by Eng. Dept. of Owner.
Agent—Milton Meyer, 50 Sutter St., San Francisco.

Contractor—Meyer Bros., 727 Portola Drive, San Francisco.

Planned.
ALTER STORE Cost, \$30,000
FRESNO, Fresno Co., Cal. Fulton and Tulare Streets.

Alter store (work will involve interior changes and installation of new store fronts).

Owner—Fresno Building & Investment Co.
Architect—Not Given.

Lessee—Silver Department Store, Tulare and Fulton Sts., Fresno.

THEATRES

Preparing Working Drawings.
THEATRE Cost, \$25,000
WHEATLAND, Santa Clara Co., Cal. Lincoln Ave.

One- and 2-story steel frame and reinforced concrete theatre and store (theatre to seat 800), tile and composition roof, steam heat, etc.

Owner—Jas. Beatty (Liberty Amusement Co.), 60 S. San Pedro St., San Jose.

Plans by Bruce Barnard, Beans Bldg., San Jose.
Bids will be asked in two weeks.

WHARVES AND DOCKS

SEATTLE, Wash.—K. B. Stevens, consulting engineer, 2901 Western Ave., Seattle, completing revised plans for oil loading wharf to be built at foot of Broad St. by the Union Oil Co. The proposed wharf will be from 200 to 300 ft. in length, of timber construction, and will provide three additional tanker berths. The estimated cost is \$125,000. Bids will be called about June 21.

Daily Construction Report Service

offering the best for less

CONTRACTORS—EQUIPMENT DEALERS—
MATERIALMEN — Pacific Constructor Daily
News Service, published in connection with the official A.G.C. magazine, offers complete and up-to-the-minute information on all types of Engineering Construction in California and the major projects in the Western States.

It is compiled by the most complete staff ever assembled on a service of its kind on the Pacific Coast, and assures its users of only authentic and reliable reports.

If you have not yet received a copy of this service, send for a few days' samples (no charge), and be convinced that it is the most complete Engineering Report Service in the West.

Subscription price is \$5.00 per month, or \$50.00 a year when paid in advance, which includes semi-monthly issues of magazine.

FREE TO ADVERTISERS

PUBLISHED BY
STARK-RATH PUB. CO.

PACIFIC
QUALITY • INTEGRITY • RESPONSIBILITY
CONSTRUCTOR

547 MISSION STREET
SAN FRANCISCO

DAILY NEWS SERVICE

MEMBERS OF THE ASSOCIATED GENERAL CONTRACTORS

PACIFIC COAST AND INTERMOUNTAIN TERRITORY

CALIFORNIA STATE BRANCH

1318 Pershing Square Bldg.—Trinity 9418—Los Angeles

O. C. STRUTHERS, President
 E. L. KIER, Vice-President
 MELVILLE DOZIER, JR., Manager
 GEORGE HERZ, Secretary

NORTHERN CALIFORNIA CHAPTER

206 Sansome St.—Garfield 7107—San Francisco, Calif.

C. W. Wood, President
 Geo. C. Pollock, Vice-President
 Floyd O. Booe, Secretary-Manager

- Atkinson, Lynn S. (HPR).....1316-17 Edwards & Wilbey Bldg., L. A., Tr. 7451
- Atkinson, Guy F., Co., Inc. (BHPR) 601 Russ Bldg., S. F., Sut. 3629
- Ball, N. M. (HP).....1889 Yosemite Rd., Berkeley, AS. 6722
- Basalt Rock Co., Inc. (H).....900 8th St., Napa, Napa 105
- Bechtel Co., W. A. (BHPR).....155 Sansome St., S. F., GA. 0780
- Bevanda, M. J. (HP).....319 Elks Bldg., Stockton 7470
- Bishop, E. B. (HP).....900 Forum Bldg., Sacramento 2436
- Bodenhamer Const. Co. (HPR).....
 Box 643, 354 Hobart St., Oakland, Glencourt 5022
- Calif. Const. Co. (BHPR).....715 Standard Oil Bldg., S. F., DO. 4820
- Casson, Jack A. (HP).....Hayden, Nevada, Main 1767
- Clark & Henry Const. Co. (HP).....564 Market St., S. F., DO. 2903
- Colley, W. C. (HPR).....35 Northampton Ave., Berkeley, ASH. 1233
- Conner, J. L. (HP).....P. O. Box No. 86, Monterey 1137-M
- Connolly, T. E. (HP).....Phelan Bldg., S. F., KE. 4044
- Conyes, R. A. (HPR).....1043 38th St., Oakland, Olym. 9391
- Currie, James (HPR).....1100 Peninsula Ave., Burlingame, Burl. 3497
- Delin, C. M. (HPR).....206 Sansome St., San Francisco, Gar. 1767
- Dodge Bros., Inc. (HPR).....Fallon, Nevada, Main 1101
- Drumm, A. D., Jr. (HP).....Fallon, Nevada, Main 441
- Eaton & Smith (HPR).....715 Ocean Ave., San Francisco, DE. 6700
- Fairbanks, A. J. & J. L., Inc. (HPR).....Linden Ave., So. S. F., 436
- Fay Improvement Co., The (HPR).....3560 Y St., Sacramento Capital 472
- Fitzmaurice, J. H. (HP).....2857 Hannah St., Oakland, Higate 2436
- Force Const. Co. (HP).....70 Bellevue, Piedmont, Calif., HU. 9349
- Fredrickson Bros. (BHPR).....First Natl. Bank Bldg., Stockton, 5974
 Fredrickson & Watson Const. (BHPR).....873 81st Ave., Oakland, SW. 1264
- French, George J., Jr. (HP).....P. O. Box No. 675, Stockton, 6676
- Gerwick, Ben C., Inc. (HP).....112 Market St., S. F., SU. 8454
- Granite Construction Co. (BHPR).....Watsonville, California, 988
- Hanrahan Co. (HP).....Hobart Bldg., San Francisco, A. 1639
- Harney, Charles L. (HP).....74 New Montgomery St., S. F., CA. 1711
- Hauser, W. H. (HPR).....3129 E. 7th St., Oakland, Fruitvale 6790
- Healey-Moore Co. (HP).....344 High Cal., Oakland, AN. 0466
- Hemstreet & Bell (HP).....411 "C" Street, Marysville, 433
- Hodgman & MacVicar (HP).....714 Plymouth, Pasadena, Ter. 1563
- Holland, J. P., Inc. (HPR).....1834 McKinnon Ave., S. F., MI. 5400
- Isbell Const. Co. (HP).....Carson City, Nev., Ph. 1754 (Also Fresno)
- Jenkins, M. A. (HP).....3560 Y St., Sacramento Capital 472
- Jones & King (HPR).....Hayward, Calif., Hay. 74
- Kaiser Paving Co. (BHPR).....Latham Square Bldg., Oak., HI. 2614
- Knapp, J. F. (HPR).....916 Financial Center Bldg., Oak., GL. 1620
- Larsen Bros. (HP).....10059 Carpenter St., San Leandro, Sweet. 1717
- Lee, U. B. (HP).....10059 Carpenter St., San Leandro, Sweet. 1717
- Le Tourneau, R. C. (HPR).....122 Moss Ave., Stockton, 471
- Lord & Bishop (HPR).....Native Sons Bldg., Sacramento, Main 3981
- Lovelace, Nat. (HP).....P. O. Box 903, Sacramento, Capital 1990
- Malcom, C. T. (HPR).....Walnut Creek, Calif., W. C. 277
- McDonald, D. (HPR).....204 23rd St., Sacramento, Cap. 1806
- McGillivray Const. Co. (HPR).....Box 927, Sacramento, Capital 2170
- McMillan, W. C. (HP).....2088 Howard St., San Francisco, MA. 3743
- Mercer-Fraser Co. (BHPR).....Eureka, Eureka 808
- Nevada Contracting Co. (HPR).....Fallon, Nevada, Phone 1851
- Nevada Rock & Sand Co. (HP).....Reno, Nevada, Reno 5291
- Nightbert, Fred W. (HPR).....P. O. Box 576, Roseville, Calif. 473
- Pacific Pavements Co., Ltd. (HP).....85 Barstow St., S. F., HE. 4178
- Pacific States Construction Co. (HP).....Call Bldg., S. F., DO. 0879
- Phillips, John, Co. (HP).....582 Market St., San Francisco, KE. 4471
- Pollock, Geo., Co. (HPR).....P. O. Box 903, Sacramento, Capital 1990
- Rohl, H. W., Co. (HPR) 4351 Alhambra Ave., Los Angeles, CL. 6141
- Six Companies, Inc. (BHPR) Financial Center Bldg., S. F., Gar. 3842
- Siems-Helmers, Inc. (BHPR).....206 Sansome St., S. F., DA. 5235
- Skels & Graham Co. (HPR).....P. O. Box 576, Roseville, Calif. 473
- Tedford, J. N. (HP).....Fallon, Nevada, Main 473
- Teichert, A. & Son, Inc. (HP) 1846 37th St., Sacramento, Main 6586
- Tieslar Bros. (HP).....2819 Grove St., Berkeley, BE. 8635
- Tucker, H. V., Co. (HPR).....300 Vermont St., S. F., MA. 7533
- Ulrich Const. Co., Geo. J. (BHP).....Modesto, Modesto 321
- Von der Hellen & Pierson (HPR).....Castaic, Calif. 8974
- Ward Engineering Co. (HP).....315 Montgomery St., S. F., DAv. 8498
- Wood, C. W. (HP).....P. O. Box 1433, Stockton, 8743
- Young, Clarence (HP).....5250 Broadway, O. L. 3743
- Young & Son Co., Ltd. (HP) 599 Colusa Ave., Berkeley, Berk 5551

Associate Members

- American Bitumuls Co. (Bitumuls).....200 Bush St., S. F., CA. 6653
- Anderson Bros. Supply Co. (Commissary).....Boulder City, Nev. 4800
- Andrews, F. T., Co. (C. F. A.).....1650 Russ Bldg., S. F., GA. 7712
- Associated Oil Co. (Asso. Prod.).....79 N. Mont'y St., S. F., KE. 4800
- Austin Western Road Machinery Co. (Road Machinery).....
 435 Brannan St., San Francisco, DO. 2183
- Autocar Sales & Service Co. (Autocar Trucks).....
 326 Howard, San Francisco, SU. 1730
- Bacon, Edward R. Co., (Road Machinery).....
 Folsom and 17th Sts., San Francisco, HE. 3700
- Blake Bros. Co. (Crushed Rock).....Baiboa Bldg., S. F., KE. 5320
- Calaveras Cement Co.....315 Montgomery, San Francisco, DO. 4224
- California Corrugated Culvert Co. (Corrugated Pipe).....
 5th & Parker, West Berkeley, BE. 5420
- Cement Gun Construction Co. (Structural Steel).....
 85 Second St., San Francisco, SU. 8306
- Contractors' Ins. Agency (Insurance) 206 Sansome, S. F., SU. 3400
- Cowell Lime & Cement Co. (Cement).....2 Market St., S. F., GA. 4870
- Garfield & Co. (Equipment).....Hearst Bldg., San Francisco, SU. 1036
- Geiger Iron Works (Equip.).....P. O. Box 423, Stockton, Stock. 1898
- Granite Rock Co. (Crushed Rock).....Watsonville, Wat. 988
- Harneschleger Sales Corp. (Equip.).....82 Beale St., S. F., DO. 2313
- Harron, Rickard & McConno Co. (Equip.).....437 4th St., San Francisco, UN. 3740
- Link-Belt Co. (Equip.).....400 Paul Ave., San Francisco, DE. 6400
- Modern Vehicle Co. (Mfrs. Steel Dump Bodies).....
 1600 Bryant St., San Francisco, UN. 3740
- Murray & Ready (Labor Agency) 784 Howard St., S. F., SU. 1205
- Northwest Engineering Co. (Shovels).....23 Main St., S. F., SU. 7053
- Pacific Coast Aggregates.....700 Wells Fargo Bldg., S. F., SU. 8940
- Pacific Coast Engineering Co. (Structural Steel).....
 Foot of W. 14th St., Oakland, HI. 1322
- Pacific H. B. A. Steel Co., Inc. (Drill Steel).....
 540 Brannan St., San Francisco, GA. 6683
- Pacific Portland Cement Co. (Golden Gate).....
 Hunter-Dulon Bldg., San Francisco, CA. 4100
- Pland-Evans (Commissary).....Merchants' Ex. Bldg., S. F., CA. 5923
- Robinson Tractor Co. (Caterpillar Tractors).....
 1705 09 E. 12th St., Oakland, FR. 2485
- Santa Cruz Portland Cement Co. (Santa Cruz).....
 Crocker Bldg., San Francisco, CA. 3307
- Shell Oil Co. (Shell Products).....100 Bush St., S. F., EX. 5400
- Soule Steel Co. (Reinforcing Steel).....1750 Army St., S. F., VA. 4141
- Spears-Wellis Machinery Co. (Equip.) 1832 9th St., Oak., HO. 4100
- Standard Oil Co. of Calif. (Standard Products).....
 Standard Oil Bldg., San Francisco, SU. 7700
- Traffic Service Bureau (Freight Audits) 24 Calif. St., S. F., GA. 6194
- Union Oil Co. of Calif. (Union Prod.) Mills Bldg., S. F., SU. 1400
- United Commercial Co., Inc. (Equip.) 234 Steuart St., S. F., DO. 0430

SOUTHERN CALIFORNIA CHAPTER

1318 Pershing Square Bldg.—Trinity 9418
 Los Angeles, Calif.

C. G. FitzGerald, President
 Melville Dozier, Jr., Manager
 LYNN S. ATKINSON, First Vice-President (Engineering Div.)
 WM. A. SIMPSON, Second Vice-President (Building Div.)

The address of the firm is the same city in which is located the Chapter office unless otherwise shown in membership list.

Building Contractors

- Atkinson, J. F.1102 Story Bldg., Vandike 7783
- Baruch Corp., Herbert M.1015 Lincoln Bldg., Trinity 5473
- Bradley Constr. Co., K. R.1833 West Pico, Washington 2786
- Burgin, W. Jay.....1100 Redondo Ave., Long Beach, L. B. 81103
- Byerts & Dunn.....7908 Santa Monica Blvd., CRestview 9602
- Clinton Construction Co., 1103 Spring ArCADE Bldg., MADison 2597
- Crowell, Wm. C.495 S. Bldwy., Pasadena, WAKefield 6692
- Crowell Co., Weymouth.....2104 E. 15th St., Westmore 5708
- DeCamp-Hudson Co., Ltd.....1277 W. 24th St., Westmore 3382
- Dixon, L. E., Co.609 So. Grand Ave., Trinity 4923
- Escherich Bros.....234 W. 37th Place, ADams 6294

ALAMEDA COUNTY CHAPTER

354 Hobart St., Rm. 410—Glencourt 7400—Oakland, Calif.

S. G. Johnson, President H. J. Christensen, Treasurer
 Geo. J. Maurer, Vice-President W. E. Hague, Manager

| | | |
|--------------------------|--------------------------|----------------------------|
| Hall, J. F. | 531 Douglas Bldg. | MUTual 6722 |
| Houghton & Anderson | 143 Rose St. | MUTual 5430 |
| K. P. Lowell & Co., Ltd. | 606 Union Bank Bldg. | VAndike 4072 |
| Macdonald & Driver | 311 Board of Trade Bldg. | TUcker 6467 |
| McKee, Robert E. | 1128 Central Bldg. | TRinity 0291 |
| Miller, Geo. | 401 N. Canon Dr. | B. H., OXFord 7404 |
| Simpson Construction Co. | 1007 Architects Bldg. | MUTual 7261 |
| Snell, Fred C. | 339 N. Beverly Dr. | Beverly Hills, OXFord 6409 |
| Willard-Brent Co. | 254 E. 27th St. | Richmond 2101 |

Bridges, Foundations

| | | |
|---------------------------|------------------------|---------------|
| Ledbetter Co., W. M. | Box 1264, Arcade Sta. | CApital 13415 |
| Ober Brothers | 707 San Fernando Bldg. | ANGelus 8759 |
| Raymond Concrete Pile Co. | 1008 Washington Bldg. | VAndike 6536 |

Highways, Paving, Grading

| | | |
|----------------------------|---|---------|
| Basich Bros. | Torrance, Gardena 466 | |
| Bock, Geo. J. | 1007 S. Harvard, Empire | 7614 |
| Donovan & Sons, J. C. | 4031 Goodwin Ave., Olympic | 0423 |
| Ferry, Peter L. | San Fernando Rd. and Bwy., Glendale, | OL 1164 |
| Fleming Construction Co. | Pomona | |
| Griffith Company | L. A. Railway Bldg., Westmore | 9343 |
| Hall-Johnson Co. | P. O. Box 387, Alhambra, Eliot | 1855 |
| Herz & Co., Geo. | 310 Platte Bldg., San Bernardino, S. B. | 241-42 |
| Heuser, Chas. U. | 316 Allen Ave., Glendale, Douglas | 3965 |
| Hudson, Chas. H. | 408 Rives-Strong Bldg., VAndike | 3374 |
| Jahn & Bressi | 701 Lane Mortgage Bldg., TRinity | 8674 |
| Lang Transportation Co. | 5501 Santa Fe Ave., Jefferson | 3104 |
| Lewis Construction Co. | 300 S. Juwanita St., Washington | 1407 |
| Packard & Tanner | 905 W. Latham St., Phoenix, Ariz. | |
| Pearson & Dickerson | 4485 Cypress, Riverside, 1600 | |
| Ross, M. S. | 4011 Goodwin Ave., CApital 7603 | |
| Wells & Bressler | P. O. Box 596, Santa Ana, 227 | |
| Willis, C. G. & Sons, Inc. | 2119 E. 23th St., LAfayette | 9826 |

Pipe Lines, Water Works

| | | |
|----------------------------|-----------------------------------|------|
| American Concrete Pipe Co. | P. O. Box 1428, Arcade Sta., JE. | 4211 |
| Haverty Co., Thos. | 316 E. 8th St., VAndike | 1171 |
| United Concrete Pipe Co. | Box 1, Station H, L. A., TWinoaks | 9190 |

Subways, Conduits

| | | |
|------------------------|-----------------------|--|
| Delta Construction Co. | P. O. Box 79, Compton | |
|------------------------|-----------------------|--|

General Engineering

| | | |
|--------------------------------|-------------------------------------|------|
| Atkinson, Lynn S. | 609 S. Grand, TRinity | 7451 |
| Bartmus, Peter | Hollywood Riviera, Redondo, Redondo | 6404 |
| Bent Bros., Inc. | 418 S. Pecan St., ANGelus | 7510 |
| Campbell-Reichert Co. | 4000 Whiteside Ave., ANGelus | 0598 |
| Cox, R. L. | 1100 Westminster, Alhambra | 1639 |
| Emco Conc. Cutting Corp. | 1517 Santa Fe Ave., VAndike | 7168 |
| Fitz-Gerald Eng. & Constr. Co. | 216 Rowan Bldg., TRinity | 5088 |
| Foley, D. A. Constr. Co. | 716 Grant Bldg., TUcker | 7814 |
| Kemper Const. Co., Ltd. | 3701 Overland, Los Angeles | |
| Macco Construction Co. | Hynes, Jefferson | 1148 |
| Merritt-Chapman-Scott Corp. | P. O. Box 507, San Pedro, | 2880 |
| Mittry Bros. Construction Co. | 722 Detwiler Bldg., VAndike | 0210 |
| Morrison Knudsen Co. | 411 West Fifth St., MUTual | 7684 |
| Robinson-Roberts Co. | 706 Rives-Strong Bldg., TRinity | 2889 |
| Spicer, C. A. | 818 Financial Center Bldg., TUcker | 9570 |
| Standard Dredging Co. | 325 Central Bldg., TRinity | 3253 |
| Watson, R. A. | 1026 N. McCadden Pl., GRANite | 4121 |

Affiliates

| | | |
|------------------------------|---------------------------------------|-------|
| Brushers & Co., G. | 501 Security Bldg., TRinity | 5091 |
| Consolidated Rock Prod. Co. | 656 S. Los Angeles St., TRinity | 0241 |
| Gilmore Oil Co. | 2423 E. 26th St., JEFFerson | 1211 |
| Graham Brothers | 1215 W. 7th St., Long Beach, L. B. | 65251 |
| Hartford Accident & Ins. Co. | 545 S. Spring St., MADison | 1471 |
| L. A. Brick Co. | 1078 Mission Road, ANGelus | 5684 |
| San Lumber Co. | Crescent Drive, Beverly Hills, OXFord | 6191 |
| Union Oil Co. | Union Oil Bldg., TUcker | 7211 |

SAN DIEGO CHAPTER

Spreckels Theater Bldg.—Main 4289—San Diego, Calif.

George R. Daley, President M. A. Mathias, Manager
 M. H. Golden, Vice-President

| | | |
|--------------------------------|---------------------------------------|--------|
| Carroll, B. C. | 4396 Maryland St., Hillcrest | 5274-M |
| Daley Corporation (HP) | 4430 Boundary St., Randolph | 1136 |
| Dennis Constr. Co., V. R. (HP) | Box 183, Sta. A, Hillcrest | 8293 |
| Ford, E. Paul (HP) | Box 201, E. San Diego, Randolph | 5101 |
| Golden, M. H. (B) | 404 California Bank Bldg., Franklin | 7983 |
| Grove, Cecil B. | 4316 Island Ave., Franklin | 7474 |
| Hazard Constr. Co., R. E. (HP) | 2508 Kettner Blvd., Franklin | 6315 |
| Jarboe Constr. Co. (B) | 208 Spreckels Theatre Bldg., Franklin | 3792 |
| Kier Const. Co., W. E. (B) | First National Bank Bldg., Main | 2427 |
| Larsen, B. O. (B) | 1340 E St., Main | 4752 |
| Miracle Constr. Co. (HP) | Box 601, E. San Diego, Main | 2295 |
| Penick & Sons, T. B. (HP) | 3075 L St., Main | 4582 |

PACIFIC NORTHWEST BRANCH

4134 Arcade Building, Seattle, Wash.

JAS. MURDOCK, President H. V. BOGERT, Rec. Secretary J. B. WARRACK, Treasurer
 J. C. COMPTON, Vice-President P. L. CROOKS, Vice-Pres. and Secretary

PORTLAND CHAPTER

Multnomah Hotel—Atwater 7883—Portland, Ore.

Paul L. Crooks, President Philip Hart, 2nd Vice-President
 Ross B. Hammond, 1st Vice-President J. A. Lyons, Treasurer
 G. B. Herington, Executive Secretary

| | | |
|--------------------------------|-----------------------|------|
| Baker Construction Co. (B) | Security Bldg., Atw. | 9211 |
| Christensen, Fred, Inc. (BHP) | 187 E. 34th St., Ea. | 8934 |
| Cochrane Construction Co. (HP) | 65th & Ainsworth, Tr. | 5944 |

Class of Construction: (B) BUILDING; (H) HIGHWAY; (P) PUBLIC WORKS; (R) RAILROAD.

| | | |
|-------------------------------------|---------------------------------|------|
| Compton, J. C. (HP) | McMinnville, Ore., McM. | 106 |
| Crooks, P. L., Inc. (HPR) | Henry Bldg., Atw. | 7767 |
| Dann, J. J. (PHR) | 300 Henry Bldg., Atw. | 5837 |
| Edlefsen-Weygandt Co. (HP) | Foot of Jefferson, Atwater | 4090 |
| Endicott, Wm. | Corvallis, Oregon | |
| Gates, E. L. (HPR) | Eugene, Oregon | |
| Gilpin Construction Co. (HPR) | Henry Bldg., Atw. | 6220 |
| Greenwood, A. C. (HPR) | 500 N. Front St., Br. | 3030 |
| Cuthrie & Co., A., Inc. (BPHR) | 552 Sherlock Bldg., Atw. | 8316 |
| Hammond, Ross B. (B) | 1312 Public Service Bldg., Atw. | 2159 |
| Hauser Bros. Construction Co. (PHR) | Multnomah Hotel, Atw. | 7441 |

| | |
|--------------------------------|---|
| Hoffman, L. H. (BP) | Public Service Bldg., Atw. 3181 |
| Jacobsen-Jensen Co. (PHR) | 407 Stanton, Car. 3313 |
| Johnson Contract Co. (HPR) | 414 Exchange Bldg., Atw. 0678 |
| Johnson-Gardner Co. (HPR) | 414 Exchange Bldg., Atw. 0678 |
| Kern & Kibbe (HPR) | 290 E. Salmon St., Ea. 4116 |
| Kernan, F. J. | Porter Bldg., At. 2035 |
| La Pointe Constr Co. | 1291 Cumberlan Rd., Be. 6000 |
| Lindstrom & Feigenson (BPHR) | 1991 Halsey St., Ta. 9226 |
| Lvons, J. A. (BPHR) | 1001 Halsey St., Tr. 2841 |
| Milne Constr. Co. | 1653 E. Broadway, Tab. 7277 |
| Morrison & Knudsen (BPHR) | 319 Broadway, Boise, Idaho |
| Morgan, T. M. (H) | 5410 Wilshire Blvd., Los Angeles |
| Newport Construction Co. (PHR) | 317 Exchange Bldg., Atw. 5900 |
| Pacific Bridge Co. (BPHR) | Ft. of E. Salmon St., Ea. 2164 |
| Parker & Banfield (BP) | 984 E. 17th St., Sel. 6182 |
| Parker-Schram Co. (PHR) | Couch Bldg., Atw. 4375 |
| Peck, E. C., & Co. (PH) | 319 Broadway, Boise, Idaho |
| Fuckett, W. H. Co. (PHR) | Box 1109, Klamath Falls, Ore. |
| Quinn, J. L. (B) | 343 Vancouver Ave., Tr. 7825 |
| Rebman, J. (PH) | 605 Weatherly Bldg., Ea. 3613 |
| Robertson, Hay & Wallace (B) | 605 Weatherly Bldg., Ea. 3613 |
| *Saxton & Looney | Corvallis, Ore. |
| Seed, John S. (B) | 201 Worcester Bldg., Atw. 6444 |
| | Honorary Member and Director of Chapter |
| Shea & Co., J. F. (PHR) | 211 Henry Bldg., Atw. 2435 |
| Sullivan & Doyle (PHR) | Ft. of Curry St., Atw. 5297 |
| | Box 104, Portland, Ore. |
| United Contracting Co. (BPHR) | 309-10 Stock Ex. Bldg., Atw. 5296 |
| von der Hellen & Pierson (HR) | Naches, Wash. |
| White, Ernest & Co. (B) | Twin Falls, Idaho |
| Wren & Greenough (PHR) | 1037 Com. Bldg., At. 9882 |
| Wright Constr. Co. (BPH) | Aberdeen, Wash. |
| Young, I. L. (BPH) | 524 Henry Bldg., At. 0297 |

Associate Members Portland Chapter

| | |
|-------------------------------------|----------------------------------|
| Balzer Machinery Co. | 275 Pine St., Atw. 9391 |
| Beall Pipe & Tank Co. | 85 Columbia Blvd., Wa. 3171 |
| Clyde Equipment Co. | 555 Thurman St., Br. 5561 |
| Collins Concrete Pipe Co. | 410 River St., Wa. 7670 |
| Feenaughty Machinery Co. | 309 E. Yamhill, Ea. 2187 |
| Grand Sheet Metal Works | 60 E. Third N., Ea. 2181 |
| Latture, J. L. Equip. Co. | 312-314 E. Madison St., Ea. 8166 |
| Loggers & Contractors Machy. Co. | 345 E. Madison St., Ea. 4128 |
| Metropolitan Casualty Ins. Co., The | Wilcox Bldg., Atw. 7521 |
| National Hospital Assn. | 400 Mohawk Bldg., Atw. 5291 |
| Oregon Portland Cement | 321 E. Madison, Ea. 3116 |
| Phoenix Iron Works | 360 Hawthorne, Ea. 0029 |
| Pomeroy, J. H., & Co. | Box 48, Seattle, Wash. |
| Pure Iron Culvert & Mfg. Co. | 763 Gladstone, Sel. 2275 |
| Santa Cruz Portland Cement | 45 Fourth St., Atw. 9848 |
| Standard Oil Co. | Pacific Bldg., Bea. 4161 |
| Swigert, Hart & Yet | Ft. of E. Salmon St., Lan. 1125 |
| Union Oil Co. of California | Yeon Bldg., Atw. 9521 |
| Wallace Bridge & Structural Steel | P. O. Box 48, Seattle, Wash. |
| Shell Oil Co. | Commerce Bldg., At. 7321 |

SPOKANE CHAPTER

West 515 First Avenue—Main 6822—Spokane

Max J. Kunej, President I. G. Anderson, Vice-President
 Nick Norman, Vice-President Dan Hannah, Secty.-Treas.

| | |
|-------------------------------|----------------------------|
| Alloway & Georg (B) | Hutton Bldg. |
| Auld & Shinn (B) | 1121 Indiana |
| Burnette, C. A. (H) | 1118 Ide Ave. |
| Byers, W. A. (H) | W. 1204 Mansfield |
| Clifton & Applegate (HPR) | Hutton Bldg. |
| Collins, J. H. & Co. (H) | Colville, Wash. |
| Colonial Building Co. (BH) | Hutton Bldg. |
| Crick, James (H) | Realty Bldg. |
| Degerstrom, N. A. (HPR) | Peyton Bldg. |
| Edwards, J. E. (H) | S. 1423 Adams |
| Geist, W. L. (H) | W. 444 23rd |
| Hansen Construction Co. | W. 1517 Jackson |
| Harding, Geo. (H) | Walls Walla, Wash. |
| Hargrave Construction Co. (H) | W. 418 Twentieth |
| Hewett, F. R. (H) | W. 420 Twenty-second |
| Joslin & McAllister (H) | Realty Bldg. |
| Kunej, Max J. (H) | Hutton Bldg. |
| Larson Bros. (B) | Hyde Bldg. |
| Long, Oliver J. (H) | W. 1924 Mansfield |
| Lyon & Price (H) | W. 503 Fourteenth |
| March Construction Co. | W. 1002 Riverside, Spokane |

| | |
|----------------------------------|----------------------|
| Martin, F. E. (B) | Galax Hotel |
| McLellan, A. (B) | E. 932 Ermina |
| Medby, M. C. (B) | S. 3614 Arthur |
| Meyers, W. C. | S. 2217 Tekoa St. |
| Morin, S. C. (B) | Paulsen Bldg. |
| Norman, Nick (B) | 231 Waverly Place |
| Nyberg, Carl (H) | Realty Bldg. |
| Orino, Sam (H) | Realty Bldg. |
| Payne, Mrs. C. M. | N. 2602 Hamilton St. |
| Power, C. A. (H) | S. 1703 Grand |
| Siems, Spokane Co. (BPHR) | Realty Bldg. |
| Standard Asphalt Paving Co. (HP) | Chronicle Bldg. |
| D. A. Sullivan & Co. | Realty Building |
| Terteling, J. A., & Sons (HP) | 511 Sound Ave. |
| Tobin, James, & Son (H) | Box 916 |
| Triangle Construction Co. (H) | W. 1220 Ide |
| True-House Construction Co. (B) | N. 119 Wall |
| Wheeler & England (HP) | Coeur d'Alene, Idaho |
| Young, Peter J. (B) | S. 11 Cedar St. |

Associate Members

| | |
|---|----------------------------------|
| Beall Pipe & Tank Corp. | Realty Bldg. |
| Brandt Bros. | W. 14 Main Ave. |
| Coeur d'Alene Hardware & Foundry | Wallace, Idaho |
| Commercial Importing Co. | 617 Western Ave., Seattle, Wash. |
| Consolidated Supply Co. | W. 1310 Ide Ave. |
| Construction Equipment Co. | 1118 Ide Ave. |
| Feenaughty Machinery Co. | N. 715 Division St. |
| W. P. Fuller & Co. | N. 229 Post St. |
| General Machinery Co. | E. 3501 Riverside |
| Gladding-McBean & Co. | 524 Old National Bldg. |
| Haweey Fuel Co. | N. 740 Division St. |
| Hofius-Ferris Equipment Co. | W. 728 Mallon |
| Holley-Mason Hardware Co. | S. 157 Howard |
| Jones & Dillingham Co. | W. 715 First Ave. |
| Jones & Mitchell | Hutton Bldg. |
| Long Lake Lumber Co. | N. 348 Wall St. |
| W. S. McCrea & Co. | 212 Symons Bldg. |
| J. E. McGovern Co. | 550 Peyton Bldg. |
| North-Atwater Co. | S. 157 Monroe St. |
| Old National Insurance Agency | Old National Bank Bldg. |
| Oriental Importing Tea & Coffee Co. | W. 917 First |
| Spokane Concrete Pipe Co. | N. 2627 Dakota |
| Spokane Culvert & Tank Co. | N. End Division Street Bridge |
| Spokane Paper & Stationery Co. | S. 152 Jefferson |
| Standard Oil Co. of Calif. | Old National Bldg. |
| Union Oil Co. | 611 Chronicle Bldg. |
| Washington Brick, Lime & Sewer Pipe Co. | S. 151 Washington St. |
| Washington Machinery & Supply Co. | W. 9 Cataldo |

MOUNTAIN PACIFIC CHAPTER

(Strictly a Public Works Chapter, practically every member carrying on highway, public works and railroad construction)

Washington Hotel—Seattle, Wash.

| | |
|-----------------------------------|---|
| John W. Rumsey, President | Lee Johnson, Secretary, Treasurer |
| John M. Clifton, Vice-President | James D. Brown, Manager |
| Allen & Goven | Olympia, Wash. |
| Barnard Curtiss Co. | Ellensburg, Wash. |
| Clifton, Applegate & Toole | Hutton Bldg., Spokane, Ma. 4415 |
| Columbia Power & Investment Co. | Stevenson, Wash. |
| Coyle Construction Co. | 901 Westlake N., Seattle, Gar. 5741 |
| N. A. Degerstrom | 444 Peyton Bldg., Spokane |
| Dorsey & Wilder, Inc. | 2006 State St., Bellingham, Wash. 1310 |
| Fuel Oil Service | Olympia, Wash. |
| Goodfellow Bros. | Wenatchee, Wash. |
| Grays Harbor Const. | Hoquiam, Wash., Hoq. 303 |
| Hargrave Construction Co. | W. 418, 20th Ave., Spokane |
| Hendricks & Co. | Chehalis, Wash. |
| F. R. Hewitt | 420 W. 22nd, Spokane, Riv. 7554 |
| Johnson, Homer G. | Perkins Hotel, Portland |
| Joslin & McAllister | Spokane, Wash. |
| Lee H. Johnson | 920 N. Tacoma Ave., Tacoma, Ma. 6241 |
| Lidyal, Wiley | Securities Bldg., Seattle |
| Lyon & Price | 503 W. 14th, Spokane, Riv. 5319-R |
| Norris Bros. | Burlington, Wash. |
| Chas. A. Powers | S. 1703 Grand, Spokane, Riv. 3640 |
| Puget Sound Bridge & Dredging Co. | Seattle, El. 7300 |
| Puget Sound Construction Co. | Colman Bldg., Seattle, El. 7311 |
| Fred G. Redmon | 206 S. 4th Ave., Yakima, 9133 |
| Rumsey & Co. | Lumber Exchange Bldg., Seattle, Ma. 8751 |
| Standard Asphalt Co. | Chronicle Bldg., Spokane, Wash., Ma. 1669 |
| von der Hellen & Pierson | Enumclaw, Wash. |
| Winston Bros. | 4560 Colorado Ave., Seattle, Glen. 2268 |

PACIFIC

25¢
per Copy

SKILL - INTEGRITY



RESPONSIBILITY

CONSTRUCTOR

CONSOLIDATED WITH

Building and Engineering News

IN THIS ISSUE



TRADE ASSOCIATIONS URGED TO SOLVE
OUR ECONOMIC DISTRESS

By Leo H. Shapiro, Attorney-at-Law

A.G.C. FIGHTS FOR CONTRACT METHOD ON
COAST RANGE TUNNEL PROJECT FOR
SAN FRANCISCO WATER SYSTEM

WHERE DOES THE BURDEN OF PROOF FALL
IN FEDERAL TAXATION?

By Ross L. Perkins, C. P. A.

MODIFICATIONS OF CONTRACTS AS AFFECT-
ING THE SURETY COMPANY'S
LIABILITY

By George N. Crocker, Counsel for A. G. C.

CO-OPERATIVE CONSTRUCTION CREDIT

A. G. C. CHAPTER ACTIVITIES

CONSTRUCTION NEWS

UNIT BID PRICES



The A-C Model "L"

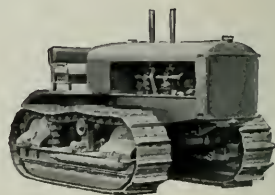
Establishes Horsepower Record

All the power you will ever need—wide range of speeds—clean-cut design—clearance—durability—are features of the Allis-Chalmers Model "L."

Six cylinders, six forward speeds—up to 6½ miles per hour. Same kind of responsive power, economy and performance as in the K35—only in a large tractor.

See us for the facts regarding a new horsepower record recently established by the Model "L."

Power...Economy...Performance



**ALLIS-CHALMERS
TRACTORS and
EQUIPMENT**

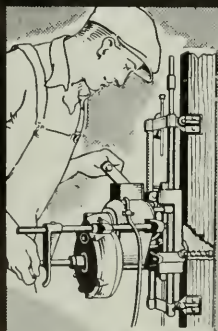
**Eby Machinery
Company, Ltd.**

35 MAIN STREET

DOuglas 1068

San Francisco

WAPPAT *Electric* TOOLS



Are Built to Last Longer

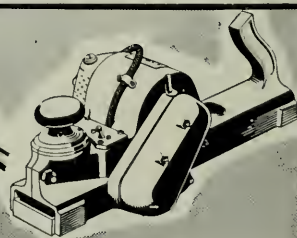
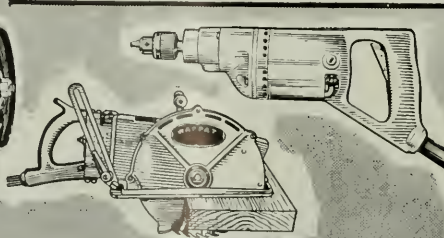
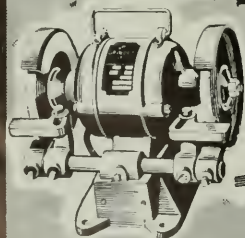
Cuts production costs . . . Speeds up the job . . . Makes for greater efficiency . . .
A size and type for every purpose.

Ask for a Demonstration

M. N. THACKABERRY

228 First Street, San Francisco
KEarny 4467

308 E. Third St., Los Angeles
TOOLS RENTED MUtual 7508



PACIFIC CONSTRUCTOR

With which is Consolidated Building and Engineering News

Official Publication of the Associated General Contractors of America
for the Eleven Pacific Coast States

J. P. FARRELL, *Editor*

SPENCER B. LANE, *Assoc. Editor, Assoc. M. Am. Soc. C. E.*

VOL. 15

SAN FRANCISCO, CALIF., JULY 1, 1932

No. 12

Editorial Comment

OUR POLICIES

At a time when there exists considerable uncertainty in regard to the future of construction, and with construction being seized upon by the politician and the demagogue as a means of curing every economic ill to which we are now subject, we believe it only proper that an announcement be made of the broad general principles upon which is founded the Associated General Contractors of America.

At a time, therefore, when political platform builders are busy, we dedicate our efforts to the following principles:

NATIONALLY

To the furtherance of "Forward America" as a national platform.

To the conduct of business through the usual business channels to the end that the construction dollar shall give the greatest value received.

To the furtherance of the principle that guaranteed contract performance occupies a vital and necessary place in the economic structure.

LOCALLY

The local problems of construction are many and complex. In the solution of these problems, however, there is unfortunately a lack of coordinated effort. Irrespective of this, however, the Northern California Chapter announces that its policy shall be one of aggressive furtherance of the following platform:

Promotion of the principle of contract construction as opposed to day labor performance of public work, believing that in this manner a worth while service is being rendered to the tax payer.

The flow of business through the usual business channels as against wasteful and unsound relief expediency which in the end are much more costly and less helpful than they might be if expenditures are handled in a proper business manner.

Preservation of the principle that public levies collected for a special purpose should be applied solely for that purpose.

The repeal of adverse and discriminatory legislation which has been found to hamper construction operations and which serves no useful purpose to either business or society.

Through the columns of PACIFIC CONSTRUCTOR further and more detailed announcements of our program in regard to these policies will be made from time to time.

FLOYD O. BOOE,

Secretary-Manager, Northern Calif. Chapter.

"My office will relentlessly endeavor to strictly and fearlessly enforce laws requiring contractors to obtain licenses and conduct their business on a regular and ethical basis as a means of protecting the public, and particularly the small wage earner who invests his life savings in a home, only to be defrauded by a fly-by-night contractor."

So says Col. Carlos W. Huntington, registrar of contractors.

And the Colonel means everything he says. He displayed his fighting ability during the world war and he has developed it since his appointment as director of the Department of Professional and Vocational Standards, which body is charged with enforcement of the contractors' license law.

Draft of a license law for contractors in the state of Iowa is being drawn up by a committee of the Central Branch of the Associated General Contractors of America. When the draft of the law is completed it will be sent to all members of the branch for their criticism and suggestions. It will also be submitted to other contractors and organizations, to material and other interests closely affiliated with construction, to architects and engineers and to experienced law makers.

Our brothers in Iowa will make no mistake in studying the California license law. It has "teeth" to protect the legitimate contractor and the means of ridding the industry of the illegitimate operator.

Someone has said that there are two periods in a man's life when he should not talk—one is before marriage, and the other after . . .

Be that as it may. Recently Clyde W. Wood, president of the Northern California Chapter, A. G. C., was talking politics. Mr. Wood is a man of few words, but when he has something to say, well, everybody and his brother listens. He was talking about the diversion of the gas tax.

"Politicians and would-be politicians," said Mr. Wood, "are beginning to make their appearance in the arena and as usual are making their voluminous promises on curing all of our ills.

"The latest to come to my attention is one who adopts as his whole program the diversion of the gasoline tax moneys from their rightful purpose of constructing and maintaining our highways, to the payment of interest and bond redemption, now taken care of from the general fund as provided by law, on the plea that it would reduce taxes and help the farmer. Just how it will help the farmer he does not state.

"God knows," continued Mr. Wood, "we need a re-

(Continued on Page 4)

Limit Stakes and Levels

By THE EDITOR

The State Industrial Accident Commission announces that committees revising the electrical safety orders have held a number of meetings in Los Angeles and in San Francisco. The work will be completed so that the public hearings can be held during the late summer. These gatherings will be called for San Francisco and Los Angeles.

A system of rotating the various division engineers is contemplated by G. H. Cutler, chief engineer of the Missouri Highway Commission. If the plan meets with the commission's approval, the first general change will be made within the next few months. In this way it is expected to make the district engineers familiar with conditions to be met throughout the entire state.

The development of a substitute for asphalt at the Prague Gas Works is reported to the U. S. Commerce Department by the trade commissioner located at Prague, Czechoslovakia. The substance is composed principally of coal tar and a special kind of crushed stone. A company has been organized to undertake the manufacture of the new material for experimental use in city streets and on country roads outside the city. Czechoslovakia has no domestic source of asphalt.

Word received by the Marine Department of the San Francisco Chamber of Commerce indicates the import duty placed on lumber by the United Kingdom, effective March 1, has not entirely accomplished its intent. The word from Consul James Barclay Young at Southampton said lumber producers in British Columbia have jumped the price almost as much as the duty and consequently United States lumber is still being sought.

The House of Representatives will make an investigation of government competition with private business through a special committee of five which will report back its findings to the House on December 15. Considerable debate ensued on the introduction of the measure to the House and the vote to establish the committee was 176 to 129. Representative Blanton of Texas expressed himself in opposition to the measure. He stated that if the special committee gets the information proposed, it will not get any more information than Congress already has.

Union of all San Mateo county road districts into one central control is urged by the board of freeholders. The freeholders would combine the present five districts into one and take the road control out of the hands of the individual supervisors and place it in the hands of the county surveyor. The board also tentatively decided to merge the office of district attorney and public administrator, and would eliminate the constabships and make these deputies of the sheriff's office.

The entire lumber industry is engulfed in what is undoubtedly its worst slump in the last twenty years. The January-to-June consumption for building exclusively

reached but 2,371,000,000 ft., against 8,375,000,000 ft. in the same period of 1931, and 17,053,000,000 ft. in the same months of 1929. Stocks at dealers' yards are nil. The dealer, in many cases, is buying from mill only after having made a sale, instead of keeping a stock in reserve.

More than 237,000 American steel workers lost a full week's pay during 1931 due to the dumping of foreign steel into the United States, according to George H. Charls, president of the National Association of Flat Rolled Steel Manufacturers, Cleveland.

A United Press dispatch from Amityville, L. I., declares that local bricklayers at work on the new high school have gone on strike because they were being paid too much! When union wages were reduced to \$12 daily by union officials last April, a construction engineer for the high school retained his bricklayers at \$13.20 a day. Union officials heard of the scheme. They ordered the men off the job until agreement is made to conform to the union scale.

Hardly more than a score of toll roads still exist in the United States, all of them being privately owned. The total length is estimated at less than 150 miles, according to the Bureau of Public Roads, United States Department of Agriculture, as contrasted to the 3,000,000 miles of the public-road system. Thirty-five States have no toll roads of any kind.

Low bids for the repair of asphalt pavement in Buffalo, N. Y., submitted by the Rock Asphalt & Construction Company for the year beginning July 7, indicate that repair work will be carried out at a cost of \$0.435 per square yard. This figure, according to Harry Glassmire, assistant city engineer, compares with 50 cents paid during the present year and the cost of \$1.92 per square yard under the plan in effect in the year 1930-31.

By progressive yearly reductions from the old rate of 50 cents, Santa Barbara County is abolishing the district road tax. The supervisors have set the rate for 1932-33 at 20 cents, a reduction of ten cents from the rate of the current year. It is hoped to dispense with the tax completely by 1933-34.

EDITORIAL COMMENT

(Continued from Page 3)

duction of taxes and we are going to get them somehow—but we also need worse than all else—payrolls—so that people can eat and buy the necessities of life. To divert this eight and one-half million dollars per bi-annum from the highway fund to the general fund, as proposed by the politicians and others, means the elimination of that many dollars from new construction and that many dollars from the payrolls of the state's industries. Building highways means buying lumber, cement, steel, oils, rock, machinery, and what not, all of which demands labor in its manufacture, labor in its transportation, as well as labor on the jobs. This eight millions of dollars, at an average wage of \$4 per day, would mean two million man days of work and at an average of 200 days per year for each year, would mean a year's work for 10,000 men. Where can you accomplish more relief than to continue our present highway program?"

Just where is the nigger in the woodpile, Mr. Wood asks.

This is a problem for everyone. Get the facts. Then vote right.

Trade Associations Urged To Solve Our Economic Distress

By LEO H. SHAPIRO, *Attorney-at-Law, San Francisco*

AMERICA is at the cross-roads. A strange paradox exists—plenty of everything—unemployment running into millions of men and women—and hence their inability to consume. Already



the depression has, as has been said by a physician, created an "epidemic demoralization." It is impossible to describe the sense of despair and uncertainty of those who, willing to work, seek employment day after day without success and eventually become public charges. The children of a father who is out of a job share the loss of security and feel it as fully and keenly as adults. A child who discovers that his father is without work, that the rent is due and that no one knows where to get the money for groceries, has lost that sense of protection that should surround him at all times.

It is impossible to measure the damage already wrought by unemployment. Like searing irons, the degradation, the sheer fear and panic which loss of jobs bring, the deprivations and the bitterness, have eaten into men's souls. Children have lost that sense of security which is the essential need of every child. Mothers have faced grim want with hungry children hanging about their skirts. Years hence, we shall pay the price in stupendous social costs of the folly and stupidity of hungry men in a land of plenty. We shall pay with charred and twisted personalities.

The right to regular employment is forcefully set forth by Justice Louis D. Brandeis. It is as follows:

"For every employee who is 'steady in his work' there shall be steady work. The right to regularity in employment is co-equal with the right to regularity in the payment of interest on bonds, in the delivery to customers of the high quality of product contracted for. No business is successfully conducted which does not perform fully the obligations incident to each of these rights. Each of these obligations is a fixed charge. No dividend shall be paid unless each of these fixed charges has been met. The reserve to ensure regularity of employment is as imperative as the reserve for depreciation, and it is equally a part of the fixed charges to make the annual contribution to that reserve. No business is socially solvent which cannot do so. It seems to me that industry has been allowed to develop chaotically, mainly because we have accepted irregularity of employment as if it were something inevitable. It is no more inevitable than insistence upon payment for a great many of the overhead charges in business, whether the business is in daily operation or not."

The condition hereinbefore set forth was brought up-

on us through our inability to control our economic balances. The world is closely watching the Russian experiment and the outcome of our difficulties. Which system is to live—Communism or Capitalism? Men are asking whether or not it is better to be guaranteed a job even at a lower wage than to run the risk of being jobless, and the small investor who has lost all of his life savings in the recent stock debacle and in real estate is wondering why he should endeavor to save when his savings are so easily wiped out as a result of overproduction, overspeculation, overbuilding and other circumstances over which he has no control. Shall we accept communism? We cannot, for we insist our system is the best under which man can attain the greatest happiness for it gives him an opportunity for expression. Although under our system competition to some degree gives rise to duplication of human effort and physical plant and equipment, more waste would be incurred if the State owned and operated all industry, assigned wage earners to their task and regulated all prices. Such a system stifles human incentive, would substitute inefficiency for efficiency, impede progress and the products of industry would be diminished and thus there would be fewer products to divide among members of society, less to wear, less to live on and fewer luxuries to enjoy. In reading a recent article upon progress in Russia one cannot help but see what waste she has suffered in planning her modernization—waste in locating factories, in their utilization, and above all waste in human talent. One wonders how much progress the Russians would have made in their development under free enterprise.

In America where men have the power to choose their own destinies, those who have the incentive still have the opportunity to forge ahead. A thrifty and industrious worker can aspire to become a salaried employee, a property owner, a small capitalist and economically independent in his declining years. And the business man cannot, if he has the incentive, stop the urge to progress.

The darkest side to capitalism is reflected in carelessness in avoiding business depression and unemployment. As yet we have done nothing to prevent the recurrence of these depressions and the distress that accompanies them. We must work out a cure for these plagues. Trade circles must be eliminated. The argument for capitalistic superiority over communism is only half convincing so long as periods of depression are tolerated.

Perhaps we can take a lesson from our Soviet competitor. We can plan. If we are to find a cure for our plagues of depression and unemployment, we first must establish research laboratories, for all great plagues have been conquered only by research.

Our present difficulties should not blind us to the fact that in America today exist many thousands of business research laboratories all groping heroically for the cure. These institutions are known as Trade Associations. Those organizations are educating their members that they make the largest profits from serving the public and their new watchword is "Public Service" rather than profits from "Public Exploitation."

The trend of our recent United States Supreme Court decisions shows that it is not unlawful for association members to disseminate pertinent information. The point

PACIFIC CONSTRUCTOR

Consolidated with
BUILDING AND ENGINEERING NEWS

J. P. FARRELL, Editor SPENCER B. LANE, Assoc. Editor
Assoc. Mem. Am. Soc. C. E.
H. BAILY BRUNS, Advertising Manager

Publication Office: 545-547 Mission St., San Francisco
Telephones: GARfield 8744-8745

PACIFIC CONSTRUCTOR is the official publication of the Associated General Contractors of America for the eleven Pacific Coast states, issued on the first and fifteenth of each month. Printed and published by the Stark-Rath Printing and Publishing Co., 545-547 Mission Street, San Francisco. Subscription Price: \$5.00 per year, payable in advance. Single copies, 25c.

was discussed in the Maple Flooring case wherein Justice Stone of the Supreme Court said:

We decide only that trade associations which openly and fairly gather and disseminate information as to the cost of their product, the volume of production, the actual price which the product has brought in past transactions, stock of merchandise on hand, approximate cost of transportation from the principal point of shipment to the points of consumption, as did these defendants, and who, as they did, meet and discuss such information and statistics, without, however, reaching or attempting to reach any agreement or any concerted action with respect to prices or production or restraining competition, do not hereby engage in unlawful restraint of commerce."

Numerous plans for the eradication of our economic distress have been advocated by many economists and business leaders. Plans, however, mean nothing unless carried to an ultimate conclusion. Machinery must be set in order to work them out. It is admitted that the Trade Association offers the best media through which to commence. The first cry raised by many is that our laws prohibit competitive agencies from joining forces in a voluntary group for the purpose of working out a plan to serve the public in the public interest. It is the opinion of the writer that no court would restrain the new movement, and if our courts are so minded, it would be best to immediately test such a plan by court test. California's Anti-Trust Law in the opinion of the writer is unconstitutional.

At this point it might be well to quote from the testimony of Mr. Gerard Swope, president, General Electric Company. Mr. Swope appeared before the Sub-Committee of the Senate Committee on Manufacturers. Senator Robert M. LaFollette, Jr., was chairman. It was proposed before the hearing that a National Economic Council be formed with the support of the government to seek a plan to maintain prosperity. Mr. Swope testified as follows:

"Trade Associations in America are the natural organizations to study the economic elements of each particular industry. Each trade association should hold itself responsible for the coordination of production and consumption to stabilize its industry, with the consequent benefits to the employees and to society. The organization and furtherance of the work of trade associations should be encouraged.

"The trade associations working out their problems in the stabilization of industry, would then be the foundation stones upon which to erect the superstructure of a National Economic Council. This might be created by bringing together the officers or duly elected representatives of those various trade associations to select from their members or

from the outside a National Economic Council, to study the needs of industry as a whole. Such a council would consist of men who have come up through the various industries, know those industries and their needs, who would work with others to find a solution to their common problems and be able to deal with them not only more intelligently but in a more practical and expeditious manner so that definite, concrete and constructive results might be obtained."

What has been suggested in Mr. Swope's testimony can be worked out in California.

First, The State Chamber of Commerce should immediately establish a Department of Trade Association advertising to all California industries that it stands ready to organize and assist in the organization of such industries.

Second: The Chamber should immediately call a meeting of all executives of Trade Associations within the State and from such executives should immediately form a State Economic Council. In this connection labor and farmer organizations as organized should be classified as Trade Associations and their executives invited to attend and become parties to the organization.

Third: Immediately form an advisory council to the economic council as hereinbefore outlined. The advisory council should consist of one or two of the leading member business men of each trade association. Care should be taken in appointing this committee in that not only the larger but likewise the smaller operator should be on the committee.

Fourth: The Council should immediately commence the study of all plans submitted by leading economists and others towards the stabilization of industry and agriculture.

Fifth: The members of the economic council should have power by written agreement to bind their respective associations to carry out such plans as might be determined upon by said council.

Sixth: That immediately upon adoption of a plan, in order to satisfy those doubting its legality, the same should be submitted to the courts for test.

Seventh: Establish a general department for continuous publishing of activities of each association through the medium of a publication.

One can visualize what can be accomplished by such undertaking. It is safe to say that should California make the start, others will follow.

Such organization as herein contemplated could work out

- A. Cost accounting (uniform) for each industry.
- B. Statistics.
- C. Industrial and Commercial Research.
- D. Simplified Practice.
- E. Industrial Standardization.
- F. Public Relations.
- G. Cooperative Advertising.
- H. Trade Relations.
- I. Commercial Arbitrations.
- J. Credit and Insurance Departments.
- K. Employer-Employee Relationship.
- L. Traffic and Transportation Bureau.

Space forbids setting forth the enormous benefits to be conferred upon industry as well as the public from the foregoing activities. The foregoing council should be operated in the public interest. Its activities should be open and above board so as to allay any suspicion.

Such a council could work out a program of education for the workers who are employed by the members of the Trade Association. Workers must learn that the welfare of industry is their welfare. Justice Louis D. Brandeis stated in 1914:

(Continued on Page 14)

A. G. C. Fights For Contract Method On Coast Range Tunnel Project

The clear thinking taxpayer will agree with Floyd O. Booe, secretary-manager of Northern California Chapter, A.G.C., in his views on the bids received by the Public Utilities Commission of the City and County of San Francisco to complete construction of the Hetch Hetchy Water Project, involving the Coast Range Tunnel, estimated to cost in excess of five million dollars.

Usually, when A.G.C. speaks, the world listens. Today the taxpayers of San Francisco are favorable to the bid of the private contractor rather than acceptance of the "estimate" offered by the Hetch Hetchy construction forces. Acceptance of the bid of the private contractor is also urged in a resolution adopted by the San Francisco Chamber of Commerce, which body "assumes that estimates of the City and County might prove a costly experiment, inasmuch as they carry no guarantee of fulfillment within the figures submitted."

The private contractor accompanied his bid with a certified check for \$325,000, pledging himself to accept the contract and, if awarded the work, would provide a bond of 50 per cent of the contract price to assure completion on time and at a fixed sum. Suppose the private contractor fails to complete the work on time—he must, according to the specifications, pay a forfeit for each day the project is delayed. Suppose he fails to construct the project for the price stipulated in his contract. His bond will take care of that. Briefly, no matter what happens, the taxpayer is protected.

Apply the same questions to a contract awarded to the city construction forces and what have you?

The Public Utilities Commission has been granted a 15-day extension of time by the Board of Supervisors to determine whether the contract will be awarded on the basis of the bids received or whether the bids will be rejected and new bids asked. City Controller Leavy is investigating the bid of the city construction department, and will submit his report shortly. It is expected that definite action on the bid will be taken about July 11.—EDITOR.

**LUMP-SUM BIDS FOR COAST RANGE TUNNEL,
HETCH HETCHY PROJECT
H. H. Project (City Bid)**

| | |
|---|-------------|
| A, B and C | \$5,257,665 |
| A | 2,205,590 |
| B | 1,984,575 |
| C | 1,152,525 |
| A and B | 4,190,165 |
| A and C | 3,358,115 |
| B and C | 3,137,100 |
| Lindgren & Swinerton and Barrett & Hilp | |
| A, B and C | \$5,815,335 |
| McDonald & Kahn and J. F. Shea Co. | |
| A, B and Co | \$6,023,491 |
| Youdall Construction Co. and George Pollock | |
| A | \$2,327,433 |
| B | 2,110,046 |
| C | 1,373,761 |
| A and C | 3,664,188 |
| B and C | 3,448,974 |
| Bechtel Bros. | |
| C | \$1,258,835 |

By FLOYD O. BOOE, *Secretary-Manager, Northern California Chapter, A. G. C.*

(Communication addressed to Public Utilities Com.)

In connection with your consideration of the bids received for the completion of the Hetch Hetchy water project, we respectfully request that you give consideration to the following facts:

The bid or estimate of the construction department, and which was lower than the bids submitted by the general contractors, both on a basis of single sections or a combination of all three sections, is assumed to contain all the incidental costs made mandatory under the specifications of the Commission, and which it was necessary for all contractors to include in their respective bids. We have been assured, for example, that the official bid includes under these incidentals the following specific items:

- (1) Material to be purchased, \$176,500.
- (2) Purchase of power from the city.
- (3) Fire insurance on buildings.
- (4) Mandatory public liability coverage.

The official bid did not, however, include the cost of the surety bond guaranteeing completion of the work, which was a considerable item of cost and which was of necessity included in the bid of the general contractors. It is probable, also, that the official bid did not include the following:

- (1) Accounting supervision.
- (2) Pension and retirement costs.
- (3) Employees' annual vacations.
- (4) That all employees must be taken from the civil service list.

Whether or not, however, the official bid of the city includes all or only a part of these incidentals and indirect costs, does not to us seem of such great importance as the question of whether or not, on the basis of the decision reached by your Honorable Commission, the people of the City and County of San Francisco are going to secure the completion of the Hetch Hetchy project for a definite and fixed sum of money.

As you know, the bids which have been submitted by general contractors are accompanied by a certified check guaranteeing that if award of any portion or all of the work is made to such general contractor, he will sign and enter into the contract, and in addition submit to the city a faithful performance bond in the amount of 50 per cent the total contract price, absolutely guaranteeing that the work will be completed at the contract price.

Compared to this, the bid of the city is merely an estimate, since it is accompanied by no guarantee that the work will be done at the figure submitted, or that the city will not have to assume any over-run of cost, should the work cost in excess of the figure submitted. Assuming that the engineers have used their very best judgment, and that the estimates they have submitted in this proposal are genuinely based upon the experience on the work heretofore, nevertheless, should the Commission proceed with the work on this basis, there is nothing whatever to prevent a great increase in cost, and this additional cost would have to be borne by the taxpayer through additional bond issues or other means provided for meeting the same. Further than this, the charter of the city provides no penalty for the mistakes in judgment of the engineers of the Commission, should a material over-run occur. On the other hand, the taxpayer would simply have to foot the bill.

We point out to you that under an award of this work to a general contractor, the bond which he furnishes, guaranteeing performance, has a very definite and very real value to the taxpayers of this city. To definitely fix this value is, of course, very difficult, but we would estimate that it has a maximum value to the taxpayers of not less than \$500,000. It might easily run far in excess of this amount.

Should an over-run occur under the jurisdiction of the Commission, this difference in cost might be explained away, but in the case of the contractor there would be no excuse, and he would have to pay the loss. That is the purpose of the bond guaranteeing completion at a definite figure.

It is the duty of the Public Utilities Commission to complete the Hetch Hetchy work at the earliest possible date, and at the lowest possible cost, in the best interests of the city. The Commission, therefore, must give due consideration to the advantages which would be secured through an award of the contracts which would secure

such completion within the time limit, and at a definite predetermined cost, with no chance whatever of an overrun in such cost.

In connection with these bids which you now have before you, may we suggest that you give very careful consideration not only to the foregoing facts, but that in addition you carefully analyze the possible division of the work which might secure very advantageous performance for the city.

The bid of the Commission on all three sections combined totals the sum of \$5,257,665. The next general contractor's bid on all sections combined totals \$5,815,335. This is approximately 11 per cent higher than the Commission's bid.

Consideration should be given, however, to a possibility of a combination of the separate sections under the separate bids, even to the extent of considering the award of a contract to private firms for one or two sections of the work, and the Commission performing the other section. This would have the advantage of a direct comparison of completion costs, and would certainly be an incentive to the construction forces of the Commission to at least equal or better the performance of the contractors alongside.

A combination of the Youdall and Pollock bid on Section A, Bechtel Brothers on Section C, and the Commission on Section B, would give a total of \$5,570,843, or approximately 6 per cent in excess of the Commission's combination bid.

A combination of the Commission bid on Sections A and B, and of Bechtel Brothers on Section C, would give a total of \$5,449,000, or a difference of only 3.6 per cent.

A combination of the bid of Youdall and Pollock on Section A, and of the Commission's on Sections B and C, would give a total of \$5,464,573, or a difference of only 3.9 per cent.

It is our understanding that the award of contract must be within the funds available. Undoubtedly a proper deduction of the cost of materials and the cost of the performance bond from some one of these suggested combinations would have the effect of bringing the total cost within the funds available.

We further understand that there may be a question in the minds of the Commission in regard to the wage scale which might be paid by the contractor on this work. I think we can assure the Commission that there is very small likelihood of a reduction in the wage scale, in fact, it is more than possible the wages in certain brackets would be increased over that now being paid by the city.

We offer the further suggestion that if the Commission finds itself in the position of being compelled to let the contract on the basis of its own bid, that before such decisions are made, they require an independent investigation and report through an outside group, of the estimates submitted by the Commissioner's own engineers. Such an investigation could be promptly made, for example, by a group of three men, consisting of an independent engineer, a general contractor, and a third person selected by these two. This would secure for the Commission an unbiased and unprejudiced report on its own estimate of cost.

INCREASED BUILDING MATERIAL PRICES CITED IN BAY REGION

A survey of building commodity prices, recently made by Alameda County Chapter of the Associated General Contractors of America, shows an upward trend in prices has taken place in the San Francisco Bay area in the last few weeks.

It is claimed that prices have been below cost in many cases and the manufacturers and wholesalers have realized that a continuation of such a condition would presently bring them all to ruin. The increases are not large, but they have been general in nearly all lines of materials.

Among other lines the survey shows that roofing materials have advanced from 5 per cent to 10 per cent, while in the plumbing business the wholesale price of vitreous enamel ware and fittings has advanced 10 per cent. In the electrical business, while prices on many stock items remain unchanged from the low levels now reached, yet the fundamental item of electric wire has recently advanced 5 per cent in wholesale price. Three weeks ago cement in barrels advanced 22 per cent, while the rock, sand and gravel used in making concrete has advanced 15 per cent. The price of concrete reinforcing steel bars has been much demoralized during the spring months, but has recently advanced over 15 per cent. In the lumber trade an increase in freight rates recently brought about an advance of 50c a thousand feet. Many of the lumber mills north are reported shut down, and in others the output has been greatly reduced. Consumption is now said to equal production for the first time in two years or more and some increased prices seem likely. The survey also indicates some increased prices in several other lines.

It was not reasonable to expect prices would remain so low as in the past few months for it is a known fact they have been below cost in many cases. All through the spring months, from February to May there were continual cuts in prices. During May the situation steadied and these last few weeks we now find a healthy strengthening of the situation.

At the same time labor has been reduced 20 per cent in practically all trades and it is estimated that the present cost of building is at least 30 per cent lower than in 1929. Indications are that the building business has hit bottom with prices thoroughly liquidated and now on the up-trend. It therefore appears this is an ideal time for the owner to build and further delay will be likely to cost him money.

The banks and other loan agencies have been visited and a favorable reaction secured. The tendency seems to be towards a loosening of credit and substantial loans are now available. Some life insurance companies are making exceedingly substantial loan offers to responsible parties.

ROAD TAX CUT—Reductions of expenditures already adopted for the new fiscal year by Riverside county and city officials include a cut in the road tax from 60 cents to 40 cents on the part of the county, and a five-day week with salary reductions of 10 per cent by the city.

Contractors Machinery Exchange

Rentals a Specialty

1135 · 57th Avenue

OAKLAND, CALIF.

Fruitvale 0715

Where Does the Burden of Proof Fall in Federal Taxation?

By ROSS L. PERKINS, C. P. A., of the Firm of Ross L. Perkins & Co., Certified Public Accountants, San Francisco

THE office of the Commissioner of Internal Revenue has the task of verifying the accuracy of the income tax returns filed by the taxpayers. This verification is done by having the taxpayer bring certain records to the office of an examining agent or the examining agent calls at the office of the taxpayer. As the examining agent proceeds with his examination of the records of the taxpayer, questions are asked regarding certain items that appear on the tax return concerning which there is not a clear explanation from the books or records from which the tax return was prepared. In other words, the examining agent desires to establish the accuracy of



ROSS L. PERKINS

the items contained on the tax return from information in the possession of the taxpayer, therefore, the Proof or Burden of Proof falls on the taxpayer.

RECORDS MUST BE KEPT

Article 411 of Regulation 74, of the Revenue Act of 1928, sets forth the following requirements with reference to the keeping of records for the inspection of the Office of the Commissioner of Internal Revenue:

"Aids to collection of tax. In assessing and collecting income taxes, the commissioner has the benefit of all existing internal revenue laws, in so far as such laws are applicable. The commissioner may require any person to keep specific records, render under oath such statements and returns, and comply with such rules and regulations as the commissioner, with the approval of the secretary, may prescribe in order that he may determine whether such person is liable for the tax or for the collection thereof. In accordance with this provision, every person subject to tax carrying on the business of producing, manufacturing, purchasing, or selling any commodities or merchandise, except the business of growing and selling products of the soil, shall for the purpose of determining the amount of income which may be subject to the tax, keep such permanent books of account or records, including inventories, as are necessary to establish the amount of his gross income and the deductions, credits, and other information required to be shown in an income tax return."

It is to be observed that the regulations do not prescribe any particular form or method of accounting except that the records must be permanent and that they must set forth certain specific information. For this reason the examining agent, especially with reference to the smaller

taxpayer, is confronted with almost as many different methods of keeping records as there are individual taxpayers. Some of the methods of keeping records furnish the desired information for the examining agent, while others do not, with the result there are numerous controversies brought about through the lack of sufficient proof regarding the items reported on the tax return, with a resultant loss in the time consumed in making the examination, and at times the taxpayer pays more tax than is required.

REQUIREMENTS SIMPLE

The requirements of the office of the commissioner are not difficult to meet, provided the taxpayer will but take the time throughout the year to record in permanent form the essential information needed to prepare the tax return at the end of the year. Many taxpayers keep memoranda on slips of paper and then, about ten days before the date for filing the tax return, attempt to assemble the information by gathering the slips together. Some of the slips usually are mislaid or lost, or the details regarding the transaction cannot be recalled, with the result the taxpayer does not know whether or not his tax return is a true statement of his business transactions. To say the least, such a method of keeping records sometimes proves quite embarrassing when the examining agent either asks that your records be brought to his office or calls at your office to examine them. Such a procedure in keeping records usually results in a controversy between the examining agent and the taxpayer. In some instances, there is but one course for the examining agent to follow, and that is to disallow the items that cannot be properly substantiated.

SATISFACTION IN INFORMATION

Contrast to the slipshod method of keeping records just described, think of the peace of mind and satisfaction one has from knowing that he has recorded the essential information required at the time the transaction occurred in a permanent record to be used in preparing the tax return. In most cases, all that is needed is a simple method or system of bookkeeping to bring about the habit of recording such information at the time of the transaction.

Most everyone will be affected by the new tax law just signed by the President of the United States. In fact, more people will prepare tax returns due to the reduction in the personal exemptions. It is felt that the new tax law will also bring about a more rigid examination of tax returns due to tax evasion prompted by the higher tax rates.

A proper system of accounting should not be looked upon just as a necessity to meet the requirements of the Commissioner of Internal Revenue, but rather as a business investment, the same as you would buy a concrete mixer or any other piece of equipment. It is an investment well made, and if the system is properly installed and maintained, will furnish a fund of knowledge regarding your business that will be a basis for business management which is so badly needed during the present depression.

SMITH BROS. TRUCK CO.

"TRANSPORTATION SPECIALISTS"

Portable Crane Service—Rigging

1704 E. 16th St. Los Angeles WEstmore 3271

such completion within the time limit, and at a definite predetermined cost, with no chance whatever of an overrun in such cost.

In connection with these bids which you now have before you, may we suggest that you give very careful consideration not only to the foregoing facts, but that in addition you carefully analyze the possible division of the work which might secure very advantageous performance for the city.

The bid of the Commission on all three sections combined totals the sum of \$5,257,665. The next general contractor's bid on all sections combined totals \$5,815,335. This is approximately 11 per cent higher than the Commission' bid.

Consideration should be given, however, to a possibility of a combination of the separate sections under the separate bids, even to the extent of considering the award of a contract to private firms for one or two sections of the work, and the Commission performing the other section. This would have the advantage of a direct comparison of completion costs, and would certainly be an incentive to the construction forces of the Commission to at least equal or better the performance of the contractors alongside.

A combination of the Youdall and Pollock bid on Section A, Bechtel Brothers on Section C, and the Commission on Section B, would give a total of \$5,570,843, or approximately 6 per cent in excess of the Commission's combination bid.

A combination of the Commission bid on Sections A and B, and of Bechtel Brothers on Section C, would give a total of \$5,449,000, or a difference of only 3.6 per cent.

A combination of the bid of Youdall and Pollock on Section A, and of the Commission's on Sections B and C, would give a total of \$5,464,573, or a difference of only 3.9 per cent.

It is our understanding that the award of contract must be within the funds available. Undoubtedly a proper deduction of the cost of materials and the cost of the performance bond from some one of these suggested combinations would have the effect of bringing the total cost within the funds available.

We further understand that there may be a question in the minds of the Commission in regard to the wage scale which might be paid by the contractor on this work. I think we can assure the Commission that there is very small likelihood of a reduction in the wage scale, in fact, it is more than possible the wages in certain brackets would be increased over that now being paid by the city.

We offer the further suggestion that if the Commission finds itself in the position of being compelled to award the contract on the basis of its own bid, that before such decisions are made, they require an independent investigation and report through an outside group, of the estimates submitted by the Commissioner's own engineers. Such an investigation could be promptly made, for example, by a group of three men, consisting of an independent engineer, a general contractor, and a third person selected by these two. This would secure for the Commission an unbiased and unprejudiced report on its own estimate of cost.

INCREASED BUILDING MATERIAL PRICES CITED IN BAY REGION

A survey of building commodity prices, recently made by Alameda County Chapter of the Associated General Contractors of America, shows an upward trend in prices has taken place in the San Francisco Bay area in the last few weeks.

It is claimed that prices have been below cost in many cases and the manufacturers and wholesalers have realized that a continuation of such a condition would presently bring them all to ruin. The increases are not large, but they have been general in nearly all lines of materials.

Among other lines the survey shows that roofing materials have advanced from 5 per cent to 10 per cent, while in the plumbing business the wholesale price of vitreous enamel ware and fittings has advanced 10 per cent. In the electrical business, while prices on many stock items remain unchanged from the low levels now reached, yet the fundamental item of electric wire has recently advanced 5 per cent in wholesale price. Three weeks ago cement in barrels advanced 22 per cent, while the rock, sand and gravel used in making concrete has advanced 15 per cent. The price of concrete reinforcing steel bars has been much demoralized during the spring months, but has recently advanced over 15 per cent. In the lumber trade an increase in freight rates recently brought about an advance of 50c a thousand feet. Many of the lumber mills north are reported shut down, and in others the output has been greatly reduced. Consumption is now said to equal production for the first time in two years or more and some increased prices seem likely. The survey also indicates some increased prices in several other lines.

It was not reasonable to expect prices would remain so low as in the past few months for it is a known fact they have been below cost in many cases. All through the spring months, from February to May there were continual cuts in prices. During May the situation steadied and these last few weeks we now find a healthy strengthening of the situation.

At the same time labor has been reduced 20 per cent in practically all trades and it is estimated that the present cost of building is at least 30 per cent lower than in 1929. Indications are that the building business has hit bottom with prices thoroughly liquidated and now on the up-trend. It therefore appears this is an ideal time for the owner to build and further delay will be likely to cost him money.

The banks and other loan agencies have been visited and a favorable reaction secured. The tendency seems to be towards a loosening of credit and substantial loans are now available. Some life insurance companies are making exceedingly substantial loan offers to responsible parties.

ROAD TAX CUT—Reductions of expenditures already adopted for the new fiscal year by Riverside county and city officials include a cut in the road tax from 60 cents to 40 cents on the part of the county, and a five-day week with salary reductions of 10 per cent by the city.

Contractors Machinery Exchange

Rentals a Specialty

1135 · 57th Avenue

OAKLAND, CALIF.

FRUITVALE 0715

Where Does the Burden of Proof Fall in Federal Taxation?

By ROSS L. PERKINS, C. P. A., of the Firm of Ross L. Perkins & Co., Certified Public Accountants, San Francisco

THE office of the Commissioner of Internal Revenue has the task of verifying the accuracy of the income tax returns filed by the taxpayers. This verification is done



ROSS L. PERKINS

by having the taxpayer bring certain records to the office of an examining agent or the examining agent calls at the office of the taxpayer. As the examining agent proceeds with his examination of the records of the taxpayer, questions are asked regarding certain items that appear on the tax return concerning which there is not a clear explanation from the books or records from which the tax return was prepared. In other words, the examining agent desires to establish the accuracy of

the items contained on the tax return from information in the possession of the taxpayer, therefore, the Burden of Proof falls on the taxpayer.

RECORDS MUST BE KEPT

Article 411 of Regulation 74, of the Revenue Act of 1928, sets forth the following requirements with reference to the keeping of records for the inspection of the Office of the Commissioner of Internal Revenue:

"Aids to collection of tax. In assessing and collecting income taxes, the commissioner has the benefit of all existing internal revenue laws, in so far as such laws are applicable. The commissioner may require any person to keep specific records, render under oath such statements and returns, and comply with such rules and regulations as the commissioner, with the approval of the secretary, may prescribe in order that he may determine whether such person is liable for the tax or for the collection thereof. In accordance with this provision, every person subject to tax carrying on the business of producing, manufacturing, purchasing, or selling any commodities or merchandise, except the business of growing and selling products of the soil, shall for the purpose of determining the amount of income which may be subject to the tax, keep such permanent books of account or records, including inventories, as are necessary to establish the amount of his gross income and the deductions, credits, and other information required to be shown in an income tax return."

It is to be observed that the regulations do not prescribe any particular form or method of accounting except that the records must be permanent and that they must set forth certain specific information. For this reason the examining agent, especially with reference to the smaller

taxpayer, is confronted with almost as many different methods of keeping records as there are individual taxpayers. Some of the methods of keeping records furnish the desired information for the examining agent, while others do not, with the result there are numerous controversies brought about through the lack of sufficient proof regarding the items reported on the tax return, with a resultant loss in the time consumed in making the examination, and at times the taxpayer pays more tax than is required.

REQUIREMENTS SIMPLE

The requirements of the office of the commissioner are not difficult to meet, provided the taxpayer will but take the time throughout the year to record in permanent form the essential information needed to prepare the tax return at the end of the year. Many taxpayers keep memoranda on slips of paper and then, about ten days before the date for filing the tax return, attempt to assemble the information by gathering the slips together. Some of the slips usually are mislaid or lost, or the details regarding the transaction cannot be recalled, with the result the taxpayer does not know whether or not his tax return is a true statement of his business transactions. To say the least, such a method of keeping records sometimes proves quite embarrassing when the examining agent either asks that your records be brought to his office or calls at your office to examine them. Such a procedure in keeping records usually results in a controversy between the examining agent and the taxpayer. In some instances, there is but one course for the examining agent to follow, and that is to disallow the items that cannot be properly substantiated.

SATISFACTION IN INFORMATION

Contrast to the slipshod method of keeping records just described, think of the peace of mind and satisfaction one has from knowing that he has recorded the essential information required at the time the transaction occurred in a permanent record to be used in preparing the tax return. In most cases, all that is needed is a simple method or system of bookkeeping to bring about the habit of recording such information at the time of the transaction.

Most everyone will be affected by the new tax law just signed by the President of the United States. In fact, more people will prepare tax returns due to the reduction in the personal exemptions. It is felt that the new tax law will also bring about a more rigid examination of tax returns due to tax evasion prompted by the higher tax rates.

A proper system of accounting should not be looked upon just as a necessity to meet the requirements of the Commissioner of Internal Revenue, but rather as a business investment, the same as you would buy a concrete mixer or any other piece of equipment. It is an investment well made, and if the system is properly installed and maintained, will furnish a fund of knowledge regarding your business that will be a basis for business management which is so badly needed during the present depression.

SMITH BROS. TRUCK CO.

"TRANSPORTATION SPECIALISTS"

Portable Crane Service—Rigging

1704 E. 16th St.

Los Angeles

WEStmore 3271

PROTEST \$1.50 DAY WAGE ON OREGON STATE HIGHWAYS

Emergency relief work will be provided by the Oregon State Highway Department, but it will be on a far different basis and plan than has obtained in the past. The emergency relief plan decided upon by the highway commission after conference with R. H. Baldock, its engineer, is to be based upon federal aid and will carry a wage scale of \$1.50 a day. This new wage scale, it is felt by the highway department, will more nearly approach the point where full value is obtained for the taxpayers' dollar than was approached by the old plan, which carried a wage scale of \$3 a day.

A strong protest against the \$1.50 scale has been filed with Governor Meier by the Oregon State Federation of Labor.

The proposal to pay men only \$1.50 a day was characterized as "the most heartless suggestion ever made by a public body."

"It almost passes belief," the letter said, "that any public body would have the audacity to propose that the state exploit the misery of the hungry, jobless workers by offering them employment at such outrageous rate of pay.

"How men who are reputed to be rational can suggest such a suicidal step is beyond comprehension.

"Those who understand the masses can understand the workers will not starve in herds. They want the privilege of performing useful labor and they want to be paid a just wage. If denied the privilege of work they will not starve.

"We appeal to your fair sense as chief executive in asking the highway commission to rescind its order establishing this miserable serf wage for the workers of Oregon."

MUNY BOND MARKET IMPROVES. — Interest rates during May on municipal bonds backed by good credit conditions continued along the improved favorable lines of April sales, according to Engineering News-Record. Resales by first buyers showed some yield rates well below the coupon rates, such as 3 to 4.15 for 4½'s of Albany, N. Y. Contrariwise, Paterson, N. J., on nearly \$2,000,000 of 1934-72 bonds is to pay 6 per cent and the resale yield price is 5.6. Philadelphia in the financial doldrums for months past, had offers on June 3 for only \$107,500 of a proposed \$20,000,000 issue at 5 per cent.

For the entire month of May, "The Daily Bond Buyer" summary shows, municipal and state bond sales totalled \$84,885,584, or well under the previous low record of \$102,380,755 in May, 1923, and only half the sales for May, 1931. For the first five months of 1932 the sales were \$410,875,349, compared with \$729,489,543 in 1929, and with \$445,046,932 in 1923.

New bond issues were voted on in 49 communities during May, with 36 adoptions and 13 defeats. The adoptions totaled \$10,169,389, but four issues provided all but \$919,389 of this total. The 13 defeats applied to a total of \$1,862,000, most of which were in three communities.

United Commercial Co., Inc.

*All Our Used Machinery, Second-hand
Shovels at Less Than Cost*

234 Steuart Street

San Francisco

LABOR CHIEF DEFINES THE TERM "PREVAILING WAGE LAW"

Something of the perils of the prevailing rate of wage law may be seen in the statement of the Kansas State Commissioner of Labor as to what he believes the law to mean. He said: "I am convinced that the current wage in any community will be the wage prevailing at the time the work actually starts, and should there be a difference in the wage scale between the time of letting the contract and the actual starting of the work, I would interpret the law as meaning that the wage prevailing at the time of starting of the work would be the one to be considered."

In other words you can be awarded a million dollar job in January upon which work is to start April 1, and for which you have figured labor at 50 cents an hour, the prevailing scale at that time, and because someone in the same community decides to pay a dollar an hour on a filling station upon which work starts March 31, the Kansas commissioner of labor will hold that you must pay one dollar an hour on your job.—Central Constructor.

S. F. UTILITY BOARD NAMED—M. M. O'Shaughnessy has been officially appointed consulting engineer for the Public Utilities Commission of the City and County of San Francisco. Others on the commission are: Chief engineer and manager of the Hetch Hetchy system, Lloyd T. McAfee; manager of the San Francisco water department, Nelson A. Eckart; manager of the Municipal Railway, Fred C. Boeken; manager of streets and public buildings lighting and manager and chief electrical engineer of the Hetch Hetchy power operating department, Paul J. Ost.

Cypress Lawn Memorial Park

COLMA, SAN MATEO CO., CALIFORNIA

Executive Office—995 Market St., San Francisco



VIEW OF NEW MEMORIAL COLUMBARIUM
(Largest and most beautiful Columbarium ever erected)

WE HAVE FACILITIES FOR:
Earth Interment Cremation
Mauseleum Entombment Columbarium Inurnment

Cypress Lawn is adequately protected by a
PERPETUAL CARE FUND.

"VISIT CYPRESS LAWN MEMORIAL PARK"

THE LEGAL PAGE FOR CONTRACTORS

By GEORGE N. CROCKER, Counsel for Associated General Contractors of America, California Branch

Member of the legal firm of Travers, Landels, Weigel and Crocker
Russ Bldg., San Francisco—Central Bank Bldg., Oakland, Calif.

MODIFICATIONS OF CONTRACTS AS AFFECTING THE SURETY COMPANY'S LIABILITY

EVERY contractor is thoroughly familiar with the vital importance of surety bonds in connection with the letting and performance of construction contracts. Not only is the contractor obliged to post a surety bond to cover public contracts awarded



GEORGE N. CROCKER

to him, and often private contracts as well, but, in addition, the contractor himself has frequent occasion to demand surety bonds from sub-contractors for the purpose of guaranteeing faithful performance of sub-contracts.

In respect to the latter type of surety bonds, the contractor is necessarily, especially in these time of widespread financial irresponsibility, bound to consider the obligation of the surety company as being an extremely vital part of the transaction. He is frequently unaware, however, of the fact that the obligation of the surety company is a legal matter which is complicated by numerous rules of law, and that by his own unweariness he may commit

some act which will have the legal effect of releasing the surety company from its obligation. It can be said in genuine tribute to many surety and indemnity companies that they not infrequently waive technicalities which they could legally seize upon in order to claim a release from their obligations. However, it is also not infrequent for them to stand firmly upon all of the legal rights which the facts of a situation may afford them.

One of the cardinal principles in the law of suretyship and one which should be known and at all times remembered by every contractor, especially by those who may have occasion to deal with sub-contractors, is that an alteration or modification of the contract, the performance of which a surety bond guarantees, if made without the consent of the surety has the effect of releasing the surety from any obligation under its bond. To put this very plainly, if A, a contractor, makes a contract with B, a sub-contractor, and the latter posts a survey bond guaranteeing performance of that sub-contract, and A and B subsequently, without the consent of the surety, modify or alter the sub-contract, the performance of which the surety bond guarantees, the legal result is that the surety is discharged from further responsibility under its bond. In such a case, A, the contractor, by reason of his unwitting act, done without the consent of the surety, would be deprived of the protection which the surety bond was to have afforded him.

Alteration or modification of the contract may be of numerous types. Sometimes it involves a substantial departure from the original specifications, either in the mat-

ter of structure or materials; sometimes it involves an overpayment or an early payment or an extension of time for performance. In all of these situations, it is dangerous to proceed without the consent of the surety.

There are, of course, certain exceptions and qualifications to the general rule which has been here stated, and it is impossible in this short article to touch upon them. The rule itself, however, is a very broad one, and its exact limits have not been entirely determined for the reason that there are numerous points in connection with it which have not yet been decided by the courts. It is well for the contractor to keep the general rule in mind and act upon it wherever feasible, consulting his attorney in cases of doubt.

Where the surety bond refers to a particular contract and that contract provides for the making of certain changes or extras or omissions as the work proceeds, and if such changes are in fact made and are not of such a substantial nature as to materially affect the risk of the surety company, the failure of the parties to obtain the consent of the surety company in each instance will not necessarily have the effect of releasing the latter. It has been held thus in several cases which have proceeded upon the theory that the surety company in such instances has consented in advance to the making of minor changes or extras or omissions in the course of carrying out the contract. However, this liberal exception to the general rule, in order to be applicable, requires a certain type of surety bond as well as a certain type of contract. The most advisable practice for the contractor to follow in all cases is to proceed in thorough collaboration with the surety company, and consult the latter, and to obtain its consent to any mode of performance which deviates in any way from the specifications or the terms of the contract.

PROGRESS REPORT IS ISSUED ON SANTA CLARA VALLEY WATER

Edward Hyatt, state engineer, announces release by the Division of Water Resources, Department of Public Works, of the second progress report on Santa Clara investigation covering the period Oct. 1, 1930, to Sept. 30, 1931. It is a mimeographed report of 47 pages and four plates, dealing with precipitation, stream flow, percolation and ground water storage in Santa Clara Valley, Santa Clara County, for the period above mentioned, and contains no reference to present conditions following last winter's precipitation.

It has as its object a general survey of the water resources of Santa Clara Valley and was prompted by local apprehension arising out of the continued retreat of ground water throughout the valley from 38.4 feet in 1913 to 63.4 feet in 1921, and to 97.9 feet in the spring of 1930.

The report indicates a further recession of 12.1 feet between the spring of 1930 and the spring of 1931, which would mean a depletion of ground water storage during that year amounting to 112,000 acre feet, bringing the total depletion since 1915 up to 712,000 acre feet.

NAPA COUNTY SUPERVISORS ARE COMMENDED ON ROAD WAGE SCALE

With the exception of the clause that time and a half be paid for overtime, and double time for Sundays and holidays, Clyde W. Wood, president of Northern California Chapter, A.G.C., commends the Napa County Board of Supervisors for the wage rates set in connection with a highway project for which the county will open bids on June 29.

The time and one-half and double time provisions, Mr. Wood points out, in a letter to the Supervisors, "never existed, and was embodied therein after the enactment of the Prevailing Wage Law."

Mr. Wood's letter is published herewith.—EDITOR.

Mr. Thomas Maxwell, Chairman,
Board of Supervisors, Napa County,
Napa, California.

Dear Mr. Maxwell:

While in Napa last Wednesday, I obtained from Mr. Ball, a set of plans and specifications of the work that you propose doing in this county, bids for which are to be opened on the 29th of June, and I want to congratulate you and your Board upon the wage scale that you have set for this work and other work in your county, which is far more in keeping with the prevailing wage existing over the country than that set by most other governing bodies. However, it still contains one objectionable clause in time and a half for overtime, and double time for Sundays and holidays, which in my twenty years experience of construction work in central California, never existed and was embodied therein after the enactment of the prevailing wage law.

My purpose in writing you this letter is to encourage you and other public officials in setting a wage scale that is in keeping with the actual prevailing wages paid by farmers and industries that must necessarily meet the tax bill rather than the union or political scales that have been set up in many portions of our State by the governing bodies.

Theoretically it should not make any difference what a contractor has to pay for labor as long as his competitor has to pay the same, but in practice you cannot beat the old law of supply and demand, and the unscrupulous find ways and means of beating the law in times like these; also too high a wage forces our industry to use more and more machinery to the further embarrassment of labor.

I do not believe it is wise to set up an aristocracy of labor on public works, and to protect them to the detriment of all others, though no one wants to see other than decent wages prevail. The farmer, the merchant, the manufacturer, and all other industries, have had to take their licking in this period of readjustment, and we cannot expect to maintain the goodwill of the public in the support of the gas tax for highway development and other moneys for needed public improvement, unless we can convince the public they are getting value received. It is going to be hard to show a farmer paying his tractor driver \$3 for ten hours, why similar employees of the public works contractors, just across the fence, are worth \$7 and \$8 per day for eight hours.

I believe the continuation of needed highway development and other necessary public improvements in times

like these, will not only insure to the public the maximum amount of improvements for their dollar, but construction work, if properly handled by the competitive contract method, will play a big part in the readjustment necessary to the return of normal business. It is estimated that 85 per cent of every dollar spent in construction work goes for labor in some form. Lumber, steel, oils, iron, cement, sand, gravel, brick, tile, glass, hardware, and what not, are the basic commodities entering into new construction, and if we are to use construction work to expedite the return of normal times, I also believe that we must see to it that these construction dollars are efficiently and economically expended, so that as large part of that dollar as possible can find its way back into construction material, and thus into the hands of those producers, so as to stimulate a general recovery of all business, instead of just the construction business.

This means the setting of a fair wage scale so that your workers are not exploited and that you will have the larger part of that construction dollar left to expend for the materials needed, and thus encourage your industries.

Again congratulating you on your courage in setting a real prevailing wage, I am,

Yours very truly,

Clyde W. Wood.

RAYMOND

EVERY RAYMOND CONCRETE PILE is poured into a spirally reinforced steel shell, and each shell is left in the ground in order to preserve the "green" concrete pile column from ground pressure, foreign materials, or pressure of closely adjacent pile driving.

Raymond Concrete Pile Co.

New York: 140 Cedar St. Chicago: 111 W. Monroe St.
1008 Washington Bldg., Los Angeles
2024 Hunter-Dulin Bldg., San Francisco

RAYMOND CONCRETE PILE CO., LTD.
Montreal, Canada

BRANCH OFFICES IN ALL PRINCIPAL CITIES

"A Form for Every Pile—A Pile for Every Purpose"

Phone TRinity 0241 for —

Rock-Sand-Gravel-Plaster

Cement-Mixed Mortar-Stucco

Lath-Lime Putty-Reinforcing Steel

Consolidated Rock Products Co.

656 S. Los Angeles St.

Los Angeles, Calif.

**CONSTRUCTION CENSUS REPORT
FOR OREGON STATE AVAILABLE**

Census of construction figures, compiled from data gathered in the census of distribution for the year 1929, show that construction business of Oregon contractors amounted to \$30,870,000. This business was reported by 249 establishments comprised of 8 operative builders, 162 general contractors and 79 subcontractors, each of whom reported business of \$25,000 or more.

Construction business handled under contract or directly for owner amounted to \$25,526,000, and that under subcontract \$5,343,000.

Principal expenditures reported totaled \$23,405,000, of which \$4,555,000 was for subcontract work let, \$7,935,000 for wages, and \$10,915,000 for materials.

Distribution by class of ownership shows \$28,241,936 of the total construction business reported, as follows:

| | |
|---------------------------------|--------------|
| Private construction | \$14,867,781 |
| Quasi-public construction | 516,423 |
| Public construction | 12,857,732 |

A total of 1,167 construction establishments in Oregon reported business of less than \$25,000, the minimum amount for inclusion in the census. Of this number 377 stated they were general contractors, while 484 reported themselves as subcontractors, leaving 306 whose type of work is unknown.

Further details regarding the construction business in Oregon are contained in the bulletin "Construction Industry—1929—Oregon," just issued by the Bureau of the Census. This report is obtainable from the Superintendent of Documents, Government Printing Office, Washington, D. C., for 10 cents. Remittance should be made by postal money order, express money order, check made payable to the Superintendent of Documents, or by currency sent at the sender's risk. Postage stamps will not be accepted.

Construction Statistics of Oregon Contractors—1929

Includes only establishments reporting a business of \$25,000 or more.

| AREA | No. of Establishments | Total Value of Construction Business | Wages Paid | Total Cost of Materials |
|----------------------|-----------------------|--------------------------------------|-------------|-------------------------|
| OREGON | 249 | \$30,870,000 | \$7,935,000 | \$10,915,000 |
| City of Portland .. | 176 | 24,520,000 | 6,135,000 | 8,800,000 |
| Counties: | | | | |
| Clackamas | 5 | 327,000 | 78,000 | 118,000 |
| Clatsop | 8 | 517,000 | 179,000 | 147,000 |
| Coos | 4 | 309,000 | 83,000 | 150,000 |
| Jackson | 5 | 275,000 | 92,000 | 96,000 |
| Klamath | 7 | 1,139,000 | 291,000 | 370,000 |
| Lane | 5 | 664,000 | 215,000 | 244,000 |
| Marion | 12 | 621,000 | 147,000 | 245,000 |
| Multnomah | 176 | 24,520,000 | 6,137,000 | 8,803,000 |
| Yamhill | 3 | 271,000 | 71,000 | 82,000 |
| Other counties | 24 | 2,228,000 | 644,000 | 661,000 |

**WAGE SURVEY COMPLETED BY
INDUSTRIAL CONFERENCE BODY**

The study of wage and salary cuts made by 1718 concerns since 1929 recently completed by the National Industrial Conference Board provides the first comprehensive picture of how employers have used personnel changes to meet depression conditions, says The Business Week. The concerns surveyed had 3,259,000 employees in 1929, 16 per cent of the total gainfully employed in 6 major fields of industry. Employment in 1932 in these concerns was 2,391,000, 26.6 per cent lower.

Executive salaries have been reduced by 80.5 per cent of these plants, routine salaries of 81 per cent, wages by 75.4 per cent. The decline in employment since 1929 for all companies which have not cut wages has been only 14.7 per cent compared with 26.6 per cent for all companies. Either especially difficult conditions force some plants to make drastic cuts in both wages or personnel or the other plants have superior managements. Further study of the detail data to determine the exact reason for this correlation might be very useful to managements everywhere.

To determine the real effect or reductions the board has compiled weighted averages in which the percentage reduction of each company is multiplied by the number of employees affected. On this basis, the simple average reduction in executive salaries is 20.4 per cent, the weighted average 14.9 per cent; for routine salaries the simple average is 15.9 per cent, the weighted average 13.1 per cent; for wages the simple average is 13.9 per cent; the weighted average 11.1 per cent. The fact that the weighted average reduction is lower in each of these groups than the simple average indicates that, generally, smaller companies have cut wages and salaries more severely than large ones.

Reports from 88 unionized plants indicate that wage policies there differ little from those in open-shop concerns.

GAS TAX WORRIES—Declining revenues from the gasoline tax is causing concern among state officials viewing a board of equalization report which showed a 16 per cent loss in May.

"If this decline should continue," commented John C. Corbett of San Francisco, member of the board, "the effect on the revenues available for highway construction would be serious."

The May gas tax assessment was \$3,348,566 against a \$4,049,275 revenue for the same month of the preceding year. However, for the first quarter of 1932, the tax was only a half million dollars below a similar period in 1931.

COLTON CEMENT

Uniform Quality : Service : Satisfaction



Manufactured by

CALIFORNIA PORTLAND CEMENT COMPANY

1228 PACIFIC MUTUAL BUILDING

Mills at Colton, California

TR. 1271

Los Angeles

PACIFIC NORTHWEST ORGANIZES TO PROTECT HIGHWAY PAYROLLS

Membership of the Northwest Construction Association, constituted of road builders and allied interests in the highway field in Washington, all intent on protecting the payroll afforded by highway construction and maintenance work, is growing steadily.

Appreciation is spreading of the need for constructive effort to defeat diversion of gasoline tax revenues to other purposes than road work and to prevent other steps designed to effect either tax curtailment or so-called relief of unemployment by hand-labor, day-labor or direct dole methods.

The association, which maintains headquarters in the New Washington Hotel in Seattle, holds weekly luncheon sessions each Friday, at which speakers of prominence outline their views on Washington's highway program and the urgent necessity for its continuance without curtailment.

Recent speakers have included Samuel J. Humes, director of the Washington Department of Highways; Edmund B. Riley of Yakima, chairman of the Board of County Commissioners of Yakima County and president of the Washington State Association of County Commissioners; State Senator Fred W. Hastings of Seattle, veteran member of the roads and bridges committee and the Washington State Senate and president of the Washington Good Roads Association, and Asahel Curtis of the Seattle Chamber of Commerce, long a foremost advocate of good roads.

In a campaign of education conducted in the press throughout Washington, the association is showing the importance of the highway industry and correcting erroneous ideas as to the magnitude of the state's revenues for road work from automobile license fees and gasoline taxes, on which covetous eyes are cast by politicians and other interests who would use the money for almost any purpose under the sun except that for which paid by the motorists.

A recent news release through the association shows that public highway construction and allied industries in Washington afforded a payroll of \$16,188,409 in the fifteen months ending March 31, 1932, according to official figures. This payroll did not include bridge work, structural steel for bridges, and transportation of materials, supplies and equipment. Nor did it include clerical and office assistance.

In the fifteen-month period this payroll provided 3,404,128 days' work. It is estimated that more than 13,300 persons were employed. The importance of the payroll or employment element is appreciated when it is realized that the state's gross income from automobile license fees, gasoline taxes and federal aid allotments is but about \$15,500,000 yearly at present.

EMPLOYMENT FOR ENGINEERS—Temporary work outside of the engineering profession during the present depression is urged upon engineers now out of employment by the executive committee of the Detroit Section, American Society of Civil Engineers. The committee is confident that the services of these men will be required in the future when business conditions improve and it believes that their standing in the profession will not be jeopardized by their accepting any kind of gainful employment in order to support themselves and conserve their resources until new openings in the profession develop. We believe, the committee states, that such gainful work during this period should in the future be looked upon as a credit to the man and that it should not and will not in any way reflect against his professional standing, now or in the future.

TRADE ASSOCIATIONS URGED

(Continued from Page 6)

To my mind before we can really solve the problem of industrial unrest, the worker must have a part in the responsibility and management of the business. That means that the problem of a trade should no longer be problems of the employer alone. The problems of his business, and it is not the employer's business alone, are the problems of all in it."

Workers must be taught that every effort to injure industry which is being operated in the public interest affects them.

Our governmental inefficiency is one of the outstanding situations of the age. Industry as a whole should take a profound interest in the political affairs of the State. Men who are qualified should be elected to our legislature. A government is only as strong as the demands of the populace require. Passive interest in our governmental affairs is the cause of our sad state of government efficiency. The business man groans about the cost of government and yet nothing is done to alleviate conditions because the old axiom "Let John do it" largely prevails today. Through the council active interest should be taken in the affairs of the State. The record of every man who aspires to office in our State, City and County governments should be carefully scrutinized to ascertain if such party is qualified. If necessary, industry itself should propose candidates. Only by continuous honest and fearless propaganda can we educate the general public that governmental inefficiency is paid for by every citizen of the State.

The council could be of great assistance in the upbuilding of our credit system. The bankers in making loans to industry should take into consideration the value of the trade association to its members in the scientific operation of their business in so far as the risk is considered. The banks of the State should become an active part of the council.

Already the call for scientific working out of our social and economic distress is spreading from one end of the country to the other. Industrialists realize that if we are to emerge from our financial chaos, it must be done from what we now have.

Perhaps our pioneering days are over with one great exception. The third economic revolution will perfect human relations. Therein lies the greatest work of this country. We shall make America truly what the Lord intended to make it—the Paradise on earth where men actuated by humanitarian methods will work for those profits which flow from service to man. No longer can we say we are not our brother's keeper. Every man and woman who, willing to work cannot find work, is in your keep whether you like or not. Everywhere community chests are groaning under the terrible load of humanity's demands upon them for sustenance.

Every citizen must contribute to save the situation, else we have a catastrophe. Such a condition is an indictment upon the American people. Do we plead guilty and say we cannot remedy the situation? No, America can and will solve the situation.

This shall be a better and happier nation because of the depression. We are in a state of war. Let us shoulder to shoulder war against the common enemy. Let us banish our enemy "Poverty" from our country. Talk alone will not do the job. Work and more work will. We have accepted the challenge. Come on, State Chamber of Commerce, over the top! Show the rest of the states the way out. If we do, we shall have the blessings of every man, woman and child in this country. Is that alone not worth while?

A. G. C. Chapter Activities

SECRETARIES OF A.G.C. CHAPTERS THROUGHOUT THE PACIFIC COAST ARE REQUESTED TO SUBMIT ITEMS FOR PUBLICATION IN THIS DEPT.

ALAMEDA COUNTY CHAPTER SEEKS FURTHER FEDERAL APPROPRIATIONS

Alameda County Chapter, A. G. C., in communications addressed to Senators Hiram W. Johnson and Samuel M. Shortridge, cite the fact that California, of all the larger states of the Union is far behind in proportion of funds actually appropriated for postoffice construction.

The Chapter seeks the support of the California senators in backing legislation now pending that will provide funds for completion of the postoffice building program and in particular for the nineteen million dollar appropriation for Federal building construction in this state.

The communication of the Alameda Chapter, signed by S. G. Johnson, president and Wm. E. Hague, secretary-manager, is published herewith:

Dear Senator,

Earlier in the year we wrote you in the matter of construction of post offices in California and urged that funds be appropriated to complete the building program already set up by the government. We have noted with appreciation the efforts now being made to provide funds for carrying forward an extensive construction program through bills to be passed before this Congress adjourns.

In this connection we again wish to call your attention to the fact that California, of all the larger states of the Union is furthest behind in proportion of funds actually appropriated for post office construction. Only in this State is the amount allocated for post offices greater than the amount so far actually appropriated. The figures compiled from Congressional document No. 788 of the 71st Congress, being the report of the Interdepartmental Committee relating to public buildings, are as follows for the leading States:

| STATE | Authorized and appropriated | Allocated to be appropriated |
|---------------------|-----------------------------|------------------------------|
| California | \$16,302,500 | \$19,815,000 |
| Connecticut | 5,235,000 | 1,515,000 |
| Florida | 7,465,000 | 960,000 |
| Illinois | 31,750,000 | 7,140,000 |
| Iowa | 5,165,000 | 1,535,000 |
| Kentucky | 5,398,000 | 980,000 |
| Massachusetts | 14,715,000 | 6,795,000 |
| Michigan | 11,155,000 | 5,500,000 |
| Missouri | 9,670,000 | 8,605,000 |
| New York | 59,453,400 | 21,275,000 |
| Ohio | 18,670,000 | 9,110,000 |
| Pennsylvania | 32,352,000 | 12,890,000 |

We trust that legislation now pending will provide funds for completion of the government post office building program and we hope to have your most forceful support in securing appropriation of the nineteen million dollars worth of post office building work already planned by the government.

Tremendous lack of employment in the building trades

is a large cause of the present depression as we all know. While ordinarily the contractors, who are large owners of real estate as a rule, and heavy tax payers, might not favor a very heavy building construction program by the government, yet all appreciate that the present great depression calls for drastic measures of relief and the fact that 90 cents of every dollar spent on construction goes into labor in one form or another, is a strong argument in favor of an extensive building program, as against any dole or cash relief system. The building trades mechanics don't want charity, but they do need work.

The construction business is also much interested in suitable additional funds being provided for aggressive continuation of the work to be done at the Marin Bombing Base, Benton Air Field, Government Island and the Naval Air Base at Sunnyvale. These are all army, navy and other governmental department undertakings which must go ahead in any event, as we understand it and by providing funds for their completion much further employment will be created.

We appreciate your efforts of the past and trust we may have your continued support of a sound government construction program that will also include additional funds for the Reconstruction Finance Corporation to be loaned to States for self-supporting projects such as the State Water Conservation program, the San Francisco Bay Bridge, etc. The outspoken support you have already given assures that this appeal will not be in vain.

Hoping such legislation can be definitely assured before this Congress adjourns, we are,


Very truly yours,

Alameda County Chapter, A. G. C. of A.
S. G. Johnson, President.
Wm. E. Hague, Sec.-Manager.

MOUNTAIN PACIFIC CHAPTER WILL FIGHT HAND LABOR WORK

The Mountain Pacific Chapter of the Associated General Contractors of America, embracing public works contractors in Washington, Idaho and Montana, is applying itself diligently to its tasks and problems under the leadership of President John W. Rumsey of Seattle.

From its headquarters in the New Washington Hotel,



SUONEM

Super Concrete Emulsions

Limited

—for Better Concrete

46th Ave. and
Clement St.
Oakland, Calif.

3710 S. ALAMEDA ST., Los Angeles
District Offices
308 Stock Ex. Bldg.,
Portland, Ore.

216 Walker Bldg.,
Seattle, Wash.

NOrmandie 4303
NOrmandie 7715

LEO HONEK

EXCAVATING CONTRACTOR
CONCRETE PAVEMENT BREAKING
Compressed Air Equipment

2941 Denby Avenue
Los Angeles, Calif.

Pacific Clay Products

General Offices: 650 Chamber of Commerce Bldg.,
1151 SOUTH BROADWAY
Los Angeles, Calif.

Seattle, the chapter has fostered the Northwest Construction Association, engaged in defending the Washington highway program.

Major objectives of the chapter at this time are the creation of more work, bidding at prices that permit proper performance at a fair profit, and performance by efficient and economical methods instead of by hand labor.

Problems of the industry, aside from ruinous bidding and misguided efforts to create employment by insistence on performance by hand labor, include the absence of a market for municipal bonds for public works.

One of the chief problems is the fact that machinery and supply houses do not seem to be aware of the danger they face from the efforts of diversified interests to require performance of all work solely by hand labor. The Washington State Grange went on record at its recent convention in favor of hand labor on all highway work. Similar action was taken recently at a meeting in Tacoma of 500 members of Masonic bodies. County commissioners are being besieged at every hand to specify only hand labor. The commissioners of Cowlitz County recently yielded and obtained permission of the State Department of Highways to specify only hand labor on a road project (Lateral Road No. 4) between Kalama and the China Gardens District.

The Mountain Pacific Chapter requested some of its members in the Cowlitz County region to submit bids on performance of the work on Lateral Road No. 4 by hand labor, under the specifications, and also on performance by the usual method, with clear stipulation that the latter bids do not contemplate performance solely by hand labor. The chapter's purpose is to give wide publicity, in the effort to demonstrate to the taxpayers the costly and wasteful method entailed by the hand-labor specification.

Much educational work of this nature is necessary to prevent dissipation of highway funds on futile efforts at employment relief, a revulsion of feeling toward Washington's well conceived highway program and irreparable injury to the cause of state development.

By WM. E. HAGUE, *Secretary-Manager,*
Alameda County Chapter

The California Building Congress has seriously undertaken to amend the lien law. This has grown to be an important body, for the building business of the state, and is under the auspices of the State Chamber of Commerce.

W. E. Lyons, a Past President of this Chapter, has been appointed chairman of the Lien Law Amendment Committee of the north section of the Congress, and has requested that all interested parties give him the benefit of their suggestions. His office is at 354 Hobart Street, Oakland, and communications should be so addressed.

It looks as though whatever is done with the lien law this winter will be done through the Congress and drastic changes are contemplated.

The Board of Directors of Alameda County Chapter feel that the question of day work by political units vs. the contract system is at stake on the completion of Hetch Hetchy and resolutions to that effect have been adopted.

The prevalence of day work continues as a menace to the business. In Alameda County the only day work being carried forward at this time has been carefully checked by the "Promotion of Construction" Committee, headed by W. E. Lyons, and it has been found that all such work is of a purely relief character. Work on the Skyline Boulevard and the lower tunnel to Contra Costa County is being done entirely by men who are first approved by

the Relief of Unemployment Committee. Each case is carefully checked as to eligibility for relief.

The East Bay Glass Co., with offices and showrooms at 621 Sixth Street, has been elected to membership in the Chapter. This firm is doing a large glass business, and is favored with the business of many of the members of the Chapter. Guy W. Sanders, a partner of the firm, will be the active representative in the Chapter. He is associated with Jos. L. Baiocchi, and the firm is doing a large business in "structural glass." Watch this business grow. They talk of building glass houses soon, and Guy and Joe are eligible to live in one, as they never throw stones. This is the fourth new membership in the Chapter during the last two months.

During the month the Chapter has addressed strong letters to Senators Johnson and Shortridge, urging appropriation of the nineteen million dollars required to complete the state's post office building program. Should either the Garner or Wagner bills go through and be signed by the President, it is hoped the funds for this purpose will be available. Over twenty-four jobs within a radius of about one hundred miles of San Francisco Bay are at present on the "allocated" list, and the trick is to get them into the "appropriated" column.

Plans for various buildings on Government Island and Benton Air Field are being delayed, and the Chapter is taking up this question with Congressman Carter, and expects to have his hearty support, as he has been active in getting through the appropriations already made. Too much red tape and unnecessary delays seem to be the cause of the trouble. NOW is the time to get such work started, as the jobs will carry through into the winter, in any event.

A movement is under way between the plastering contractors and the California Material Dealers' Association to support a plan for the filing of bids before award of contracts. The Stabilization Committee is prepared to give favorable consideration to any practical plan that may be worked up. A set-up of this character must be nearly bullet-proof to be of value to any of the parties of interest.

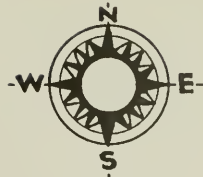
A recent survey made by the East Bay Industrial Association shows that there is about 15 per cent more home building under way this year than last year, despite the fact that there is a falling off in other lines of construction.

W. G. Thornally has started construction of the addition to the Alameda post office. This is a \$68,000 job, which will give employment to quite a few idle mechanics.

HIGHWAY RESEARCH BOARD — The Eleventh Proceedings of the Highway Research Board of the Division of Engineering and Industrial Research, 2101 Constitution Avenue, Washington, D. C., will be ready for distribution the latter part of this month. The proceedings are being printed this year in two volumes. Part I contains the general reports and papers, and Part II is the final report of the special investigation on the "Use of Rail Steel Reinforcing Bars in Highway Construction." The regular subscription price is \$2.00, which will cover both volumes on orders received at or before time of publication.



Here To There And Back Again



INDEPENDENCE

Seven hundred and seventeen years ago the first Modern Declaration of Independence was signed.

It was in the year 1215 that the Barons were in convention. Things were not going so well. The farmers were hollerinlikehel for Relief. Contractors were scrapping with the Civil Service crowd over the division of the tax money—and things began to look like the Party would have to put on a Fiesta and Rodeo—or the Democrats would be elected.

King John decided the thing to do was to give the Citizenry something to fight over among themselves, instead of fighting with their Sovering King.

John signed the MAGNA CHARTA. The Great Charter, or Bill of Personal Rights.

IT WORKED! Ever since then the people have been scrapping among themselves over their "personal liberty"—without thinking to look in the bag and see just how much personal liberty they have.

Five hundred and sixty-one years later, the American Edition of the Magna Charta was signed. July 4th, 1776, (156 years ago, if we must figure it out for you) The Declaration of Independence was signed.

We still have the Declaration. We also have boll-wevils, war debts, income tax, prohibition, the Philippines, a surplus of food stores and starving people!

A Fourth of July isn't complete without mentioning Augustine Washington's boy, George. We mention him now, and have it over with. George figured prominently in the early history and late school-books of this country.

There is considerable legend surrounding George. For instance—cutting down a cherry tree in order to prove he could not tell a lie. Don't know that it belongs in this story, but the cherry tree was not imported into this country from Japan until many years after the death of Washington.

George grew up and inherited the Mount Vernon Estate from his half-brother Lawrence. He studied, became a surveyor and got a job with his half-brother's father-in-law.

Now, about these boys who are marching and demonstrating for their Soldiers' Bonus—George is their Patron Saint—he started this Bonus racket. He was given 40,000 acres of land as a Bonus for his Military Services.

Being a Surveyor, if George was living today, he could join the A. S. C. E. and wear a blue and gold lodge pin that looks something like the shield on a Byllesby-operated street car.

After all, the surveying job may not have amounted to so much. Between neighbors, an error of a quarter-mile in a line fence meant nothing when the neighbors lived twenty miles apart!

Washington operated a Distillery, and it is to be assumed that he turned out a "tolerable fair grade of cawn likker."

Today, we have a President who insists the Country is Dry. We have another man who wants to be President, and who also thinks the people want the country to be wet.

George had no children of his own, so was given the Honorary Title of "Father of His Country"—something like the Brevet Rank of "Colonel" given to a man because he happened to be born in Kentucky.

He married a wealthy widow and died a rich man as money was measured in those days. He left an estate valued at \$5,300,000. He never lived to learn about "Steel, common," Transamerica, Goldman-Sachs, International Match!

After eight years as President, Washington's Farewell Address was long, impressive and well worth preserving. Coolidge, in saying farewell, merely said much oblige, but he "didn't choose" any more.

Just the difference between the two men. One manufactured and consumed good "drinking likker," and the other gives the impression of being weaned on a dill pickle.

Well, there you are, gents. Step right up, pick your number and place your money: We start out with Magna Charta and wind up with Prohibition!



IMPROVED HIGHWAYS DECLARED A "SELF-LIQUIDATING" INVESTMENT

Profits from improved highways based on savings in transportation costs, time savings, and increased comfort and convenience in daily life more than equal the cost of such road building and are truly "self-liquidating" investments, declared T. H. Cutler, president of the American Road Builders' Association, recently.

"The profits from the 700,000 miles of improved roads in the United States have been estimated as high as \$2,000,000,000 annually," stated Mr. Cutler. "These profits represent the savings over what travel would have cost had these country roads remained in an unimproved state. The losses that result in cities where streets are unimproved are beyond estimation."

"Motor vehicles traveled last year around 180 billion miles based on gasoline consumption of 15 billion gallons at 12 miles per gallon for each vehicle. It is estimated that at least half this traffic is on the 700,000 miles of improved roads out of the 3,000,000 miles of highways in the United States. Improved roads lead to savings of from two to four cents per mile traveled."

Mr. Cutler believes that these travel savings are but a small part of the profits of improved roads. The balance sheet of improved roads shows also on the credit side social advantages of inestimable value, police protection and increased safety to the traveler, improved postal facilities, increased property values due to better transportation, improved business facilities that benefit the individual merchant, manufacturer and farmer, savings in school administration, and the development of recreational facilities that have resulted in a business with a turnover of several billion dollars annually.

"The benefits of good roads may easily amount to several times the cost computed in dollars and, in addition, an amount beyond estimation in health, happiness, convenience, safety and higher standards of living that improve the business of every manufacturer and merchant in the country," continued Mr. Cutler. "Highway investments are "self-liquidating" in more ways than one. Also, they are a capital investment in better business, the profits of the investment being enjoyed for many years."

HYDRAULIC BODY HOIST—A new hydraulic body hoist is being introduced by Fitz Gibbon & Crisp, Inc., Trenton, N. J. The new hoist has a high angle lift and quick action. The maker claims that an abundance of power is provided without subjecting either chassis or hoist to undue strain and that the load is evenly distributed over a large chassis area. It is built in two single-cylinder and two twin-cylinder models. All models are complete units, including cylinders, pump, lifting arms, hinges, pump-drive, power take-off with control, clamps and wood sills. Mounting requires no drilling of holes or other fitting, the hoist being clamped to the chassis.

LIGHTWEIGHT WHEELBARROW

A lightweight wheelbarrow constructed entirely of aluminum with the exception of the axle and weighing but 37 lbs. is a product of the Cleveland Wheelbarrow & Mfg. Co., Bedford, Ohio. The wheelbarrow has a sheet metal tray blanked out of 14-gage aluminum sheet, formed and beaded in the usual manner. The handles are tubing and the braces are aluminum channel sections. Heavy plate is used for the wheel disk, while the tire is fabricated from 3/4-inch bar. The wheel is equipped with roller bearings. It has a capacity of 3 cu. ft. of wet concrete, or 4 to 5 cu. ft. of sand. High strength aluminum alloys are used throughout.

GUBERNATORIAL CANDIDATES ARE QUESTIONED ON ROAD POLICIES

A Bulletin issued recently by the Carolinas Branch of the A. G. C. accords the fact that all of the candidates for governorship of North Carolina have stated that they favor doing all of the state's construction work by contract and that convict labor will be used only for maintenance. Also that such will be their policy if elected.

This accomplishment indicates that Carolina constructors are attacking the day labor evil at the source. Constructors, under the method favored by their most thoughtful leaders, since the advent of effective cooperative work in their industry some thirteen years ago, have made a consistent effort to keep out of politics and to win their battles through logical presentation of economic truths. It is becoming more and more apparent, however, that our present day politicians have in many cases a minimum of regard for logic or economics and a maximum of respect for votes. If the tremendous spread of day labor construction and the consequent wastage of public funds thereby, throughout the country today, may be taken as a criterion, it would appear that those political forces, whose vote-itching palms yearn lovingly towards the use of day labor, as a vote producing medium, are determined to drive the constructors into politics in order that the latter may save their business and investments from complete confiscation.

More power to our Carolina brethren. Our only hope is that they may pursue their interrogation a step further and also interview their legislators and all other candidates for public office as to their positions upon the question of the government in business.—(Highway Builder.)

CONVENTION COMMITTEE NAMED—Committees have been named by the board of directors of the Stockton Builders' Exchange to make arrangements for the two-day State convention of builders to open in Stockton September 30.

President John Pengelly announced the board and committees will meet each Wednesday hereafter until that date to complete convention plans.

Elmer Bruce and Charles G. Bird were appointed to direct the raising of finances needed to entertain the delegates. Other committees will be: Entertainment Rolland Gould and William J. Gibson; reception, R. A. Forbes, William T. O'Keefe and J. F. Ecker; publicity, William J. Scott and Earl Lewis; program, Louis S. Peletz and J. C. McIntosh; registration, E. Lewis, William Sandberg and Lon Stone, and membership, Peletz, Scott, Gould, Bruce, Forbes and Gibson.

ELECTRIC HAND SAW—A new electric hand saw, featuring compact design, is offered for sale by Skilsaw, Inc., Chicago, Ill. The new saw is 20 in. long overall, carrying a 9-inch saw blade. It is powered with a 7-8-hp. Universal motor. It has a cutting capacity 3 in. deep and is equipped with a tilting base that permits beveling of 2-in. lumber at 45 deg. On the base is a metal segment with degrees marked on it. The saw blade has a free speed of 3,600 r. p. m. and is protected by a positive automatic spring-operated telescopic guard rotating on roller bearings. The frame is constructed of die-cast aluminum.

A new power mower, suitable for shoulder maintenance and designed to operate with their Fifteen or Twenty tractors has been announced by the Caterpillar Tractor Co., Peoria, Ill. The new mower has a width of 7 ft. Numerous features have been incorporated in the design of the new machine, making toward improved safety and dependability of operation.

**NORTHERN CALIFORNIA CHAPTER
ENDORSES "GOOD TIMES" MOVE**

In an expression commending Bank of America for its leadership in the state-wide move to bring about a return to good times, the Northern California Chapter of the Associated Contractors announces plans for participation in the campaign.

Whatever highways are being built or structures erected by members of the Associated General Contractors in this section of the state, they will be asked to display prominently a banner or placard reading:

"MEN AT WORK; BACK TO GOOD TIMES"

"The members of our organization believe that Bank of America has sounded a clarion call to business as well as individual citizens to join the forces having faith in California," said Clyde W. Wood of Stockton, president of the Northern California Chapter of the Associated General Contractors of America.

"We believe that the recently announced plan of the Bank to extend loans to small home builders is an entering wedge in freeing credit," he continued.

"The freeing of credit for legitimate and sound enterprise means the open door to good times. Increased money in circulation means increased employment.

"Our organization is glad to take part in this movement. Through group effort business and the public in general can greatly stimulate the improvement in our economic condition.

"We are bringing this matter to other allied trade organizations in order to do our part in mobilizing California's strength in Bank of America's "Back to Good Times" movement."

**BUILDING PERMITS DECLINE
DURING MAY, SURVEY REVEALS**

Building permits in 577 cities and towns of the United States during the month of May, 1932, amounted to \$42,994,477. This figure represents a 19.3% decline from April, 1932, when the volume for these cities was \$53,268,724, as compared with a normal seasonal decline of 11.8%. Permits issued during May, 1932, fell 69.6% below the same month of 1931.

California holds second place among states for building during May with sixty cities reporting a total expenditure of \$4,999,253. New York state topped the list with forty-five cities reporting an expenditure of \$8,121,566.

The twelve leading states, together with the number of cities reporting and the money expenditure involved, follow:

| | No. Places | Vol. Permits |
|------------------------|------------|--------------|
| 1. New York | 45 | \$8,121,566 |
| 2. California | 60 | 4,999,253 |
| 3. Pennsylvania | 31 | 4,334,552 |
| 4. Massachusetts | 29 | 2,163,809 |
| 5. Maryland | 5 | 2,110,873 |
| 6. Ohio | 40 | 1,997,095 |
| 7. Michigan | 20 | 1,582,852 |
| 8. Minnesota | 7 | 1,420,476 |
| 9. New Jersey | 34 | 1,410,051 |
| 10. Texas | 22 | 1,188,188 |
| 11. Iowa | 12 | 1,167,122 |
| 12. Illinois | 41 | 1,166,216 |

**ILLEGAL DIVERSION OF FUNDS
PROMPTS SUSPENSION OF LICENSE**

Charged with the illegal diversion of \$5,407, allegedly due a sub-contractor on a state highway construction project, the state contractor's license of the Contoules Construction Company, San Francisco, was ordered indefinitely suspended by Col. Carlos W. Huntington, state registrar of contractors.

Suspension of the license followed a hearing conducted before Orman Lutz examiner for the bureau of contractors registration, at which C. D. Contoules and J. Cavas, San Francisco, operators of the firm, failed to appear and testify, upon advice of counsel.

The complaint was filed by Karstedt, Karstedt, McDonald and Failing, San Francisco engineering contractors, who claim the Contoules firm failed to pay \$5,407 allegedly due them on an \$85,000 sub-contract for work on a unit of the Pacheco Pass lateral highway project.

"I am suspending the license of the firm indefinitely on the charge of diversion of funds. Furthermore, six months must elapse from the time Contoules and Cavas settle the claim of the sub-contractors before they will be allowed to seek reinstatement or a new license," said Colonel Huntington.

"Evidence introduced at the hearing, coupled with the failure of the pair to appear at the hearing amply convicts them of gross unethical practices. It is operations of this type which are injuring the construction industry by robbing it of public confidence and at a time when confidence is so badly needed to start business on the upgrade again," Huntington said.

**ELECTRICAL RESEARCH NOT HIT
BY BUSINESS DEPRESSION**

"Scientific research on the part of electrical manufacturers has taken no furlough in spite of general business curtailment," according to R. A. Neal, central station executive of the Westinghouse Electric & Manufacturing Company who attended the 55th Annual Convention of the National Electric Light Association in Atlantic City.

"New engineering developments, increased efficiencies and new operating economies are made possible by new standards of accuracy, new inventions, new products and new methods," stated Mr. Neal, "and these together with new duties for electric power to perform should enable the utilities to continue operations along the same or even a higher level of production service."

Mr. Neal expressed great confidence in the business leadership and managerial skill of the executives of the power companies and congratulated the leaders on their ability in meeting the current recession so successfully.

"The burden of making profits on reduced power consumption can be materially lightened," continued Mr. Neal, "if advantage is taken of the cost reducing equipment developed by the electrical manufacturers and now available to the industry."

In conclusion Mr. Neal said "Service calls—many of which heretofore were unavoidable—cost the power companies many millions of dollars annually. Newly developed protective devices promise definite relief from this drain on Company's resources and guarantee greater reliability for continuous electric service.

NORTHERN CALIFORNIA CHAPTER OPPOSED TO GAS TAX REDUCTION

Many organizations and associations and business and industrial units have been studying the initiative amendment to the Constitution of the state which it is proposed to place on the ballot November 8th for a decision of the voters of the state. This study has resulted in some of the associations taking a decided stand against the proposed amendment. Resolutions have been passed in which the amendment's provisions have been dissected and the unsoundness of their provisions has been passed upon and pointed out. This also holds true of several of the Boards of Supervisors of different counties of the state, who feel that any reduction in the gas tax would result in decreasing the income for highway maintenance, if not entirely obliterating it. At the present moment, of every 3 cents collected for highway maintenance the counties receive one cent and the state two cents. If the amendment were to become a law the state would probably retain the two cents provided for and the counties receive nothing.

At the last meeting of the Northern California Chapter of the Associated General Contractors the initiative amendment sponsored by the Automobile Taxpayers League was read and considered paragraph by paragraph, after which it was decided that the Chapter go on records in the passage of the following resolution:

"BE IT RESOLVED, That we go on record against this proposed initiative measure as being economically unsound and undesirable from every standpoint, and specifically that it is contrary to public interest for the following reasons:

(a) The reduction of the gasoline tax from 3c to 2c per gallon would throw out of balance the ten-year plan for the improvement of the state highway system, which is now well under way and which has met with universal approval among the people of the state;

(b) The anticipated revenue to come from the privilege tax assessed on commercial vehicles, which is to offset the deficit in revenue brought about by the reduction in the gasoline tax, will not be available for the reason that the additional taxation and the drastic reduction in gross weight and length of vehicle, are such that not more than 25 per cent of the commercial vehicles now used on the highways would or could continue in business as economical carriers;

(c) The proposed limitation in gross weight of vehicles is such that it would greatly increase the cost of transportation of all products and commodities from the point of production to rail head, or any other point of delivery, and it is, therefore, contrary to public interest, and would add directly to the cost of all business.

(d) Studies of motor vehicle taxation, have revealed that commercial motor vehicles are now bearing their fair share of taxation in comparison to other carriers and lines of industry, therefore the levying of such a drastic tax represents unfair and discriminatory taxation of one particular industry.

STEEL OPERATIONS MERGED—Further efforts at consolidation of manufacturing facilities is seen in the announcement that the United States Steel Corporation is now operating the Minnesota Steel Company, a subsidiary, at Duluth, Minn., under lease by the American Steel and Wire Co., a Cleveland subsidiary of the corporation. According to the new arrangement, it is said, the Minnesota Steel Company is to retain its corporate entity, but only as a holding company. In connection with the economy plans of the Steel Corporation, the Gary plant of the National Tube Company has been closed temporarily, and orders are being filled at the tube company's Lorraine, Ohio, plant.

NEW YORK BUILDING ACCIDENTS CITED IN RECENT PUBLICATION

The Building Trades Employers' Association of the city of New York has issued Bulletin No. 13 for 1932, entitled "Industrial Accident Facts." There are 27 trade organizations included in the survey, and a live Committee on Accident Prevention guides the work of safeguarding. The statistical information in the document, and general knowledge on the part of those who are interested in the main subject, lead to a conclusion that our friends in the large city are to be congratulated on their efforts.

There was a drop in building permits for the Metropolitan District (New York) of over 65 per cent in 1931 over 1929. Attention is called in the Bulletin to the extra values of preventing injuries even though employment goes down and payrolls and insurance premiums are adversely affected.

The Association states that in 1931 there were 300 firms in the 27 different groups, with 14,136 employees, and that the frequency rate was 40.99, as against 42.50 for 1930. The severity rate was 3.03, as compared to 3.82 in 1930. More important than all else is the news that 163 firms in 26 branches, with 2237 employees, completed the year without a lost-time accident. There were 47 employers in 18 trades, with 2176 men, who had no injuries to report for the three years 1929 to 1931.

CONTRACTOR SUES CITY—R. E. Campbell, Long Beach contractor, who built the Municipal Auditorium for that city on the Ocean front, has filed suit against the city to collect \$123,771 claimed to be due on his contract. This amount includes a payment for \$6790.75 which he says has been due him since October 23, 1930; \$41,981.84 for extra work and materials not provided for in the original specifications and \$75,000 for loss claimed to have been sustained by delays for which the city alone was responsible, caused by orders holding up the work while construction was in progress. The extra work is described as cribbing, concreting, reinforcing and other work required in constructing the foundation for the building.

U. S. TO STUDY CONTRACTS—An investigation of contracts let in federal aid highway construction work in Colorado will be undertaken by inspectors of the U. S. Department of Agriculture.

Thomas H. MacDonald, chief of the public roads bureau, announces the inquiry is the result of charges made in a letter to the justice department. He declined to reveal who made them or the names of those involved.

The charges allege a conspiracy among Colorado contractors to raise the prices of road work on which they are bidding.

"Charges of this character are not unusual," MacDonald said. "We do not believe there is a considerable amount of money involved."

The investigation will be started as soon as qualified personnel is obtained to make it, the bureau chief said.

ELIMINATE ROAD TAX—Proposal to eliminate the 20 cent road tax in Madera County for the year 1932-1933 has been submitted to the supervisors by a committee of taxpayers. Request also was made that appropriations for new roads be deferred. A movement has been started to form an association of the country's school district trustees to establish uniform standards of teachers' salaries, transportation costs and purchasing, in all the districts. Preliminary figures indicate a saving of \$63,000 in school costs for the coming year with other economies under consideration. Reduction of the tax rate for school purposes is expected.

CO-OPERATIVE CONSTRUCTION CREDIT

CONSTRUCTION INDUSTRIES' CREDIT BUREAU

(A non-profit, membership owned and operated association affiliated with the National Association of Credit Men)
333 MONTGOMERY STREET, SAN FRANCISCO

F. H. Eichler, Chairman

A. J. McGarry, Mgr.

"Hello, George."

"Hello, Jim; how's tricks?"

"Only fair, George; only fair."

"I notice you look worried, Jim. What's on your mind?"

"Well, I'll tell you, George, it's this way: remember that Bellamy Apartment job?"

"Of course I do, Jim, that's the one on which you showed all of us contractors how to bid. You should consider yourself lucky to get a \$163,500 job in these quiet times."

"I'm not so sure I am lucky to get that job, George."

"Why not, Jim? I know your bid won't permit you to make the kind of money we used to, but you ought to add a few thousands to your bank roll. What's wrong with the job?"

"Well, I've been hearing all kinds of rumors. Some say the owners, the City Development Company, are not so hot financially. It's rumored that they are on the brink of bankruptcy. Why, I even heard there's some cloud on the title to the property in this deal. Bad news travels fast, and I'm almost afraid to go near my bank for fear that they have heard these stories and will decline to finance me. And, as if that weren't enough, there's even talk of junior financing, and it's intimated that at least a portion of my payments will have to be in paper. If all I've heard is true, what can I do with such paper? I'd give almost anything I know to run down these rumors and really know what the actual conditions are, but I don't seem to be able to get to the real facts of the case."

"Is that all that's worrying you, Jim?"

"Ye Gods! George; isn't that enough?"

"Why that's no problem at all. If all that's worrying you is the actual facts about the job, I know where you can get them, completely, accurately and within a few minutes."

"Where, George? For heaven's sake, where?"

"By merely phoning the Construction Industries' Credit Bureau. They have complete files, kept right up to the minute, on all jobs within a radius of 150 miles of San Francisco."

"Construction Industries Credit Bureau? It seems to me I've heard of that organization. Who, and what are they, George?"

"In the first instance, the idea of the Construction Industries' Credit Bureau originated locally about two years ago, among a group of contractors and material suppliers. They diagnosed the troubles of the building industry as being due to an utter lack of definite and accurate information. To develop such essential facts, a specialized organization of the highest caliber, thoroughly detached from any individual business, was required. They selected the Credit Managers' Association of Northern and Central California, formerly the San Francisco Association of Credit Men, organized in San Francisco in 1897. Its membership is made up of approximately 1000 local wholesalers, manufacturers, jobbers, contractors, banks, material men, insurance companies, mortgage companies, etc., etc. It is the local affiliated unit of the National Association of Credit Men, with headquarters in

New York, and having 142 branches throughout the country and a membership in excess of 25,000."

"That sure is quite a spiel, George; you ought to go in for public speaking. Seriously, though, I never realized there was such a large credit organization in the country."

"Apparently, there are a lot of things about credit and credit investigations that you never realized, Jim."

"But, George, how can all this elaborate set-up help me, an individual?"

"I'm telling you, Jim; that organization is operating the Construction Industries' Credit Bureau as a department especially equipped to serve the construction industry. That's you and me, and all other contractors and material men."

"But, George, I'm just a small contractor. I still can't see what good this Construction Industries' Credit Bureau can do me."

"I'm just about to lose patience with you, Jim. You are just like so many other contractors and material men--you cry when your fingers get burned, but won't stop playing with fire. Now to convince you, I'm going to be very frank and tell you what I learned about this Bellamy Apartment job, which kept me from bidding on it. In these dull times, I thought I wanted that job the worst way. I phoned the Construction Industries' Credit Bureau, and this is what they told me:

"The City Development Company was organized January 4, 1926. It was well capitalized, and the previous performance was satisfactory. I was told what jobs they had constructed. However, the principals speculated heavily in the stock market. When the crash came, they strained their bank credit to cover up. You know what happened there. There is a suit pending against the property for an unpaid street work assessment, which precludes any first mortgage money. Their alleged present program is to finance this building themselves. Without money of their own, and no mortgage money available, junior financing seems inevitable. The Bureau contacted Harry Jackson, of the City Development Company, who said, 'When the building is completed, we will make all the arrangements about the financing. In the meantime, you can tell your people not to worry.'"

"Oh! They're counting on angels among the material men and contractors?"

"Apparently; but they sure are barking up the wrong tree if they believe that any members of the Construction Industries' Credit Bureau are going to play Santa Claus."

"You sure are a crepe hanger, George, but now that you have confirmed my worst fears, tell me how to protect myself."

"That's easy; get in touch with the office of the Construction Industries' Credit Bureau, and I'll wager they'll show you a way."

"Do you really think so?"

"Absolutely."

"Well, I'm convinced, and I'll do it right now. I am sure glad I saw you, and many thanks for the information. Good-bye, George."

"Good-bye, Jim; good luck."

(The above hypothetical case may seem somewhat far-fetched, but be assured that in most particulars it is being enacted in San Francisco almost daily.)

MR. CONTRACTOR: In the next issue we will explain how your name is discussed by Credit Control Groups.

Bid Peddling Doomed in Capital City

By L. S. PATTERSON, *Secretary, Sacramento Builders' Exchange*

DEVELOPMENT of any system or plan designed to eliminate the peddling or shopping of subcontractors' bids must recognize certain fundamentals that have become a part of the building industry.

1st—That peddling of bids by general contractors of "backing in" by subcontractors does nothing constructive, nothing of any permanent benefit to the industry. Disclosing confidential bids by general contractors to other subcontractors is a breach of business ethics that cannot be excused. Subcontractors who cut their own figures in order to meet a lower bid after the general contract has been let are equally guilty of unethical practices.

2nd—That peddling of bids establishes a price level that is not representative of legitimate competitive conditions. No group of material dealers or subcontractors can permanently survive under a condition that encourages bid peddling. Individuals within the industry sell and work at prices that are not only unprofitable but that also preclude the possibility of progress in any trade.

3rd—That as a result of having to operate on a starvation price level a class of work is being done by all branches of the industry under competitive conditions that places the owner in a situation that is unbelievable. It becomes necessary for him to assume that rigid inspection is to be expected in order that his job may not suffer. The contractor, to prevent loss, must cut every corner and many times inferior work is the result. Subcontractors are dissatisfied, rush their work through in order to get their money or conversely delay their work in order to put off the evil day of reckoning. There is no pride of accomplishment in their work and no hope that the owner will welcome them on another job in the future.

4th—Labor is between the upper and nether milstone on the average competitive job on which peddling has occurred. Wages are held to a minimum, every advantage is taken of their necessity for work and in many instances the "boss" or his family, or both, work on the job and eliminate journeymen who should be working.

5th—Responsible general contractors and subcontractors who do not peddle and who avoid contact with those who do, find that it is impossible to compete in the open market. While they do not peddle, they know that their competitors do and they are under a serious price disadvantage that is impossible to overcome. These unfair conditions persist on every competitive job and the non-peddling general contractor finds it necessary to enter the realm of promotion and financing in order to secure work. His reputation for fair dealing, superior workmanship and the turning over to the owner of a finished job of which they may both be proud mean little when he goes out into the competitive field.

The result of present conditions is that all entities in the building business have slipped into a rut that is carrying them to the end of a trail that ends in disaster. It is an endless procedure that is given impetus by the contractors who deliberately encourage peddling. These contractors do not want any corrective system and it is they who are back of the entire bid peddling system, and it is this type of operator on whom the corrective guns of legitimate contractors must be trained.

The Sacramento Builders' Exchange believes that the great majority of Sacramento contractors and subcontractors are inherently honest. That they do not want to accept peddling conditions; that if they peddle, it is because they have been forced to in order to survive. The Ex-

change believes therefore that it is necessary to strike at those irresponsible in the industry who deliberately break down ethical conditions. It is obvious that any system designed to whip the illegitimate operator must ignore the responsible man. If there is any disadvantage to a system designed to eliminate peddling, the responsible contractor in all lines must accept these disadvantages as a penalty that may only be temporary and that will ultimately serve to place his business on a more secure and profitable basis.

The Sacramento Builders' Exchange has designed what might be called the "Sacramento Plan." The Exchange believes that peddling will not only be eliminated, but the legitimate contractor in every line will be benefited. It is certain that some opposition will develop from even legitimate contractors to any plan that even remotely tends to interfere with practices built up in their offices through many years of experience. However, those who have gone into the "Sacramento Plan" as thoroughly as its merit warrants have proven to themselves that the advantages of the plan far overshadow its apparent disadvantages. The "Sacramento Plan" will very quickly classify those who want good conditions and those who do not.

Before outlining the salient features of the plan that is now in operation in Sacramento, it may be well to state that the Sacramento Exchange does not offer its plan as a cure-all under all conditions. It does not assume that it will work in every city under conditions different from those existing in Sacramento. That it has merit is evidenced by the success it has met on these jobs in Sacramento on which it has been operative.

Mainly, the "Sacramento Plan" is designed for Sacramento; it is, in fact, designed for the Sacramento Builders' Exchange; it is designed to benefit Exchange members; it is planned so that no consideration is given to non-members, and their reaction to the plan has been ignored, except in so far as their actions influence Exchange members. No attempt has been made to force the plan on any individual or group. Participation has been purely voluntary. It may again be said that the success of the plan is its best advertisement, and many opposed to it originally have swung into line and are for it actively now.

In a word, the "Sacramento Plan" involves the use of a "Combination Figure" by the subcrafts participating in the plan.

To date, nine crafts have approved the plan and are submitting bids under it on specific jobs. The crafts are:

Plumbing, heating, electrical, sheet metal, roofing, planing mills, tile, masonry, and painting.

In order to attain brevity in this explanation, the procedure followed will be outlined.

1. A complete detailed explanation of the system has been mailed to every subcontractor and general contractor bidding on competitive work in Sacramento.

2. A meeting of each of the above crafts was held, and members invited to break down the proposed plan. It is understood, of course, that these meetings were attended only by Exchange members.

3. A general meeting of all of the above crafts was held, and further suggestions of the perfection of the plan invited.

4. An executive committee of five was appointed and given full authority to administer the plan.

5. A meeting of general contractors was held, at which

the plan was explained, and at which time the cooperation of the generals was solicited.

6. The plan was then presented to the Sacramento Builders' Exchange directors for approval. Because of the controversial nature of any plan involving both general and subcontractors, the directors individually approved the plan but could not accept it at present as an Exchange authorized activity. They did, however, offer the services of the secretary in making it effective, and authorized the appointment of the executive committee.

Assuming bids are to be taken on a school, church, or other building on which the plan can be logically operated, the secretary, as soon as plans are issued by the architect, immediately notifies all crafts that the plan will be used. The procedure is then as follows:

1. A locked box is placed in the office of the secretary.

2. Any time up to a predetermined hour (usually six hours before the general opening) subcontractors in the participating crafts may bring in their bids and place them in the sealed box.

3. At the predetermined time the secretary alone opens the bids, tabulates them and prepares a combination figure that represents the sum total of the low bid in the crafts participating. This sum of the low bids represents the fundamental figure on the job involved. Variations from it are provided for.

4. Within an hour of opening the sub bids, general contractors may come into the Exchange and secure a combination figure from the secretary. The procedure in giving out this figure is the same on every job. The general states what crafts he is interested in. He must take at least a majority of the crafts involved. The secretary then lists on a prepared form the names only of the low bidders in each of the crafts requested by the general contractor. If the bidders are acceptable to the general, the secretary then places the combination figure of those particular crafts on the form and secures the signature of the general contractor to this form.

5. The form signed by the general is an agreement that if he is the low general bidder he will award the sub-work to the firms whose names appear on the form.

6. In the event that some bidder is not acceptable to the general, the secretary substitutes the name of the next low bidder, and in making up a combination figure for the general, the figure of the second low bidder is used instead of the low bidder.

7. The general may, in asking for a combination, specify what sub-contractors he wants on the list. In other words, he need not accept the low bidders. Naturally, this general accepts a bidding disadvantage of an amount equal to the difference between the low bidders and those desired by him.

8. The general contractor is notified by the secretary that he need not use the Exchange combination figure. He must, however, notify the secretary any time before the general opening that he is not using the Exchange figure. Otherwise, it is assumed that he used the figure, and he will be expected to adhere to his agreement.

9. Subcontractors may eliminate certain general contractors by so stating on their bid. They may give a preference to certain generals by placing separate bids in the box for those securing the preference.

10. If a general contractor notifies the secretary that he is not using the Exchange combination, no subcontractor in any craft submitting bids through the Exchange may work on that job.

(The Exchange takes the stand that if bid peddling is to be eliminated, the general must award the work to the sub whose figure was used in making up his general figure. Thus, we require the general to award the work to our members if he uses the Exchange combination, and

in order to be consistent, our members are not permitted on the job if the general uses the figure of some outsider. This tends also to hold the general in line, as he knows that he cannot use an outside figure and get one of our members to do the work later at any price.)

It is obvious that under this system the general will go out and secure all the sub figures he can outside of the Exchange. We claim, however, that he will do this anyway, and that we are not in any way upsetting bidding procedure that has existed in the past. Our whole plan is founded on one thought: That, if the Exchange has a representative group of bidders within its membership in the participating crafts, it is obvious that nine times out of ten the Exchange combination will be low. Canvassing work done over a period of several years we find that our members do the bulk of the work. If that is true of past work, it should be true of future work, and the statement that our combination should be low will prove true. The statement should be made here that price fixing by crafts is not countenanced, and, in fact, if it happens, the Exchange combination will not be low and the craft fixing prices will not secure the work nor will any of the other crafts riding along in the combination.

11. After the general contractor has signed the contract with the owner he is then furnished with a list of the amounts of the bids of the firms making up the combination used by him. This is the first time under the plan that any individual figures have been disclosed.

The records are sealed up and no figures given out. The Exchange takes the viewpoint that all sub bids are confidential, and that unless there is a dispute the bids should not be published.

12. Out-of-town general contractors will be expected to secure their sub bids through the Exchange, the same as local bidders.

13. Subcontractors participating in the system must be members of the Exchange in good standing. At a later date the plan may be revised to include the requirement that general contractors must also be members to participate.

14. In the event of a very low bid in any craft, the secretary immediately notifies the sub-bidder. He is told that he is unreasonably low. No figures or percentages are given him, and he must have confidence in the ability of the secretary to judge when a bid is out of line. He is then given an opportunity to withdraw his bid or let it stand without change. The generals are acquainted with this fact and no harm is done if no one has this low bid.

15. Every sub-bidder understands that his bid must be according to plans and specifications.

16. If a sub-bidder, after being low, refuses to proceed with the work, he is penalized by the committee by elimination from future bidding for a period of not less than six months.

17. If a general contractor who agrees to use the figures later does not award the work as agreed, he is also penalized by the committee for a period of not less than six months.

18. Ties shall be broken by any means agreed on by the interested sub-bidders.

19. Bids on equals will not be permitted unless accompanied by a permissive letter from the architect.

Various other minor provisions are included in the system to make it operatively air-tight. All bidders use the same forms, the same bid blanks, same data on their bids, etc.

To summarize briefly, the Sacramento Exchange believes that this system will protect the bid of every subcontractor. They go into competition with one price, and they come out with it. If they are low, they get the job

at their bid price. The general has no individual figures that he can peddle, and the sub cannot find out his competitor's figures for the purpose of "cutting."

A word relative to the general contractor not taking or not using the Exchange combination may not be out of place here. If he does not take the figure in the first place, it is because he is opposed to the system on principle or because he has a group of subs that he wants to "play" with. He is immediately at a disadvantage, because experience has proven, at least in this city, that Exchange members consistently secure the bulk of the sub-work.

If the general takes a figure, but notifies the Exchange that he is not using it, he is in the same position as if he did not take it. He has built up a competitive combination from subs who no doubt are not as responsible as they might be and, surely on the average, cannot be as responsible nor as dependable as Exchange members. He also is outside the fold if any political angle enters the job. A low general contractor will have the support of a responsible group of subs if he used their figure. Otherwise, he fights his own battles.

An interesting angle has cropped out on the jobs let under the "Sacramento Plan." After the general work is let the secretary lists all bids and notes after each name whether each man took an Exchange bid, and if he did, whether he used it or not. The records show that those who did not use the Exchange figure were far enough out of the running to prove that any difference between the Exchange combination and an outside combination was far overshadowed by the portion of the job figured in the contractor's own office. For instance, on a recent job totalling \$16,000, the Exchange combination was \$9,600, leaving \$6,400 worth of the work to be figured by the general contractor. Of 15 contractors figuring the job, every one used the Exchange combination except one, and he was top man by \$1,600. We are reasonably sure that on a \$9,600 combination that this man did not have us beaten by more than \$25. That being the case, it is obvious that he was high by reason of figuring the other branches of the work in his own office. We agree that a general must use the low combination to compete, but he should consider the branches figured by himself as the reason for losing more jobs than any difference in a group of sub-figures.

On another job the low bidder did not take a brick figure in his combination. Later it was learned that he thought he had a cheap outside brick price but his figure proved to be \$400 higher than the low Exchange brick figure, and, in fact, three Exchange brick figures were lower than the one he used. It is certain that in the future he will take a complete Exchange combination.

In conclusion, it should be stated again that the Sacramento Builders' Exchange is looking at this question of bid peddling from a purely local angle. If this system works in Sacramento it should work elsewhere but it is not offered to meet conditions with which Sacramento does not have to contend. In designing it every possible angle was scrutinized. Everyone was invited to "throw rocks at it." The proof of the pudding has been in the eating.

A new machine-made concrete pipe for underdrains is announced by the Union Concrete Pipe Co., Huntington, W. Va. The pipe is provided with seepage holes located in valley-like depressions. It is designed for use in draining roads, side ditches, bridge abutments, basement walls, airport fields, tennis courts and swampy grounds. The maker claims that it has ample strength and durability and that the smooth inside surface insures a high carrying capacity.

TRIBUTE TO A. G. C.—A prominent association in the Middle West has inscribed on its letterhead: "An association that does not work for the direct good of its members cannot live!"

That statement is not true. Someone has put down one word after another, and the membership has unthinkingly adopted a selfish slogan.

There is in this country a great surplus of associations. We are associated to the breaking point in many lines of business. Few of the officers of the innumerable associations have any other thought in mind than that their organizations must work for the direct good of their members.

The Associated General Contractors of America, on the other hand, have a policy worthy of emulation. The association is founded on a secure foundation. Often it works against a member or a group of members if those members are attempting to do something for their own direct benefit at the expense of the future best interests of the construction industry.

The Associated General Contractors of America have a broad policy in that immediate and direct benefits are not the object sought. The officers feel that their best efforts can be exerted doing those things which are more beneficial through their indirect results that are attained in the more or less distant future. The industry rather than the member is the thing most deserving of the work of the contractors, the by-laws of the association set forth.

Most business men have come in contact with associations whose purely selfish aims preclude effort other than that of direct and immediate benefit to members. Watch the career of such organizations. They almost invariably "flash in the pan" and flutter out of existence.—(Seattle Journal of Commerce.)

STANDARDIZATION OF LIME—Lack of standardization and the existence of vague specifications are two factors militating greatly against the effective use of lime in the construction field. This fact was stressed at the fourteenth annual convention of the National Lime Association, held in Cleveland last month. Discussion of industry problems, with the accent on selling methods, occupied three of the four sessions.

Though his subject was "Is The Lime Industry Suffering from Overproduction?" Donal O'Connor, general sales manager, Rockland & Rockport Lime Corp., deviated some from the subject to emphasize the need for proper standards which would go far toward establishing a reputation for lime which the industry believes it deserves. He recited a number of specifications he had met which indicated that many architects had but a vague notion of the extent to which lime could be used in building construction.

ELECTRICAL PORTABLE EQUIPMENT—The Electrical World (New York) has published an illustrated study of the use of portable equipment by the central station industry. It is estimated that some power companies spend more than \$100,000 annually for equipment mounted on or powered by trucks or tractors. The electrical construction field, telephone, telegraph and electrical departments of railroads also contribute to this market. Fourteen types of portable equipment are listed, including such items as air compressors, back fillers, clam shell buckets, conveyors, trailers, power saws, trenchers, etc. The study also includes a list of the departments interested in the purchasing of such equipment in the above named fields.

UNIT BID SUMMARY

Compiled from the Daily News Service of Pacific Constructor

GRADE, SURFACE—SAN BERNARDINO COUNTY—STATE

SAN BERNARDINO COUNTY, Cal.—Basich Bros., 20550 Normandie Ave., Torrance, at \$218,690 submitted low bid to State Highway Commission to grade and surface with oil treated crushed gravel or stone about 16.5 miles between Harlan Summit and Mountain Pass involving:

- (1) 197,000 cu. yds. rdwy excav. without class.
- (2) 332,000 sta. yds. overhaul.
- (3) 31,000 cu. yds. ditch and channel excav.
- (4) 36,200 cu. yds. gravel base.
- (5) 9,650 cu. yds. struc. excav.
- (6) 45,500 bbls. fuel oil (surf.).
- (7) 13,400 bbls. fuel oil (surf.).
- (8) 530 bbls. fuel oil (detours).
- (9) 140 tons cut-back asphalt (seal coat).
- (10) 50 tons cut-back asphalt (bit. treated surf.).

- (11) 352 lin. ft. 24-in. corr. metal pipe.
- (12) 3,504 lin. ft. 36-in. do.
- (13) 2,450 M. gal. water applied to sub-grade and base.
- (14) 19,635 lin. ft. furnish. treated piles.
- (15) 753 drive piles.
- (16) 42,000 lbs. struc. metal.
- (17) 336 M. ft. b. m. redwood timber, dense sel. all-heart struc. grade.
- (18) 258 M. ft. b. m. redwood timber, sel. all-heart struc. grade.
- (19) 2.5 mi. new property fence.
- (20) 40 galv. iron guide posts.
- (21) 863 sta. finish. roadway.
- (22) 250 monuments, complete, in place.

State will furnish corrugated metal pipe.

Complete bids follow:

- (A) Basich Bros., Torrance, \$218,690.
- (B) R. E. Hazzard Const. Co., San Diego, \$213,746.80.
- (C) Dodge Bros. & A. Teichert, Sacramento, \$227,648.75.
- (D) Griffith Co., Los Angeles, \$230,252.15.
- (E) F. W. Nighbert, Bakersfield, \$230,622.35.
- (F) Peninsula Paving Co. and J. P. Holland, San Francisco, \$231,412.
- (G) V. R. Dennis Const. Co., San Diego, \$231,439.00.
- (H) Von der Hellen & Pierson, Castate, \$246,890.50.
- (I) Gibbons & Reed, Burbank, \$246,980.80.
- (J) Isbell Const. Co., Carson City, Nevada, \$273,554.40.

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|
| (1) | \$.25 | \$.20 | \$.19 | \$.20 | \$.175 | \$.22 | \$.23 | \$.19 | \$.26 | \$.2875 |
| (2) | .01 | .01 | .01 | .01 | .01 | .0075 | .01 | .01 | .01 | .01 |
| (3) | .18 | .15 | .13 | .12 | .14 | .14 | .15 | .14 | .15 | .12 |
| (4) | .50 | .50 | .45 | .57 | .55 | .55 | .52 | .50 | .50 | .65 |
| (5) | .45 | .50 | .50 | .50 | .70 | .50 | .40 | .55 | .50 | .50 |
| (6) | .95 | .87 | 1.13 | 1.25 | 1.10 | 1.18 | 1.10 | 1.20 | 1.10 | 1.50 |
| (7) | 1.55 | 1.55 | 1.44 | 1.50 | 1.50 | 1.40 | 1.50 | 2.20 | 1.75 | 1.50 |
| (8) | 3.00 | 3.00 | 3.20 | 2.60 | 2.50 | 1.90 | 2.00 | 2.75 | 3.00 | 3.45 |
| (9) | 15.50 | 18.00 | 20.00 | 15.00 | 15.40 | 15.50 | 20.00 | 16.00 | 16.00 | 30.00 |
| (10) | 14.00 | 15.00 | 20.78 | 15.00 | 14.00 | 13.50 | 16.00 | 16.00 | 19.00 | 30.00 |
| (11) | .60 | .39 | .50 | .50 | .70 | .25 | .50 | .60 | .50 | .50 |
| (12) | .70 | .30 | .75 | .60 | .70 | .50 | .75 | .70 | .70 | .60 |
| (13) | 1.50 | 1.50 | 2.00 | 1.45 | 2.00 | 2.75 | 1.50 | 2.75 | 2.00 | 2.80 |
| (14) | .50 | .60 | .65 | .55 | .69 | .60 | .60 | .60 | .80 | .60 |
| (15) | 11.00 | 10.00 | 8.00 | 10.00 | 12.00 | 9.00 | 12.00 | 12.00 | 9.00 | 13.00 |
| (16) | .06 | .05 | .065 | .05 | .0825 | .07 | .03 | .085 | .05 | .06 |
| (17) | 70.00 | 90.00 | 87.50 | 80.00 | 82.00 | 81.00 | 85.00 | 88.00 | 88.50 | 90.00 |
| (18) | 65.00 | 90.00 | 82.50 | 75.00 | 77.00 | 75.00 | 75.00 | 83.00 | 80.00 | 85.00 |
| (19) | 350.00 | 400.00 | 400.00 | 400.00 | 400.00 | 299.00 | 300.00 | 390.00 | 500.00 | 425.00 |
| (20) | 5.00 | 3.00 | 5.00 | 5.00 | 7.50 | 5.00 | 5.00 | 8.00 | 7.50 | 7.00 |
| (21) | 1.00 | 3.00 | 4.00 | 5.00 | 5.00 | 2.00 | 3.00 | 5.00 | 2.00 | 5.00 |
| (22) | 1.00 | 2.50 | 3.00 | 2.50 | 2.50 | 3.00 | 2.00 | 1.85 | 2.50 | 3.00 |

BIDS OPENED

SAN RAFAEL, Marin Co., Calif.—Following bids received by Constructing Quartermaster, for rolled gravel roads, curbs, gutters and paving in connection with Hamilton Field (Marin Meadows) Bombing Base.

- (A) Leibert & Trobeck, San Francisco
- (B) Pacific Pavements Const. Co., San Francisco.
- (C) A. G. Raisch, San Francisco.
- (D) P. F. Harless, San Rafael.
- (E) Fredrickson & Watson, Oakland.

- (1) construct all roads in Post with overhead bridge over spur railroad;
- (2) If 2½-in. of bit. mac. surf. is used in lieu of asph. conc. pave. deduct from Item 1;
- (3) If all curbs and gutters are omitted deduct from Item 1;
- (4) If asph. conc. pave. is omitted deduct from Item 1;
- (5) If entrance road from intersection of Redwood Highway to overpass bridge over railroad spur is paved with 2½-in. asph. conc. pave. with gravel shoulders on either side (the gravel base having been built by another contractor) add to Item 1;
- (6) If entrance road from intersection of Redwood Highway to overpass bridge over railroad spur is paved with 2½-in. bit. mac. surf. with gravel shoulders on either side, add to Item 1;

- (7) If driveways leading from roadway to garage entrances in 3 officers' quarters and 3 double noncommissioned officers' quarters are constructed, including an 8-in. gravel base and ½-in. of bit. mac. surf., add to Item 1;
- (8) If 8-in. gravel base only is constructed for driveways to officers' quarters and noncommissioned officers' quarters add to Item 1;
- (9) If concrete sidewalks are constructed in residential area, add;
- (10) If oil treatment is applied to gravel base of all roads within the Post, the entrance road and driveways, add to Item 1;
- (11) excavation (earth) per cu. yd.;
- (12) excavation (rock) per cu. yd.;
- (13) overhaul beyond free haul, per 100 ft.;
- (14) concrete (including forms);
- (15) reinforcing steel;
- (16) corr. galv. iron drain pipe 8-in.;
- (17) 10-in. do.;
- (18) 12-in. do.;
- (19) 18-in. do.;
- (20) crushed rock or gravel;
- (21) catchbasin castings;
- (22) asph. conc. pave.;
- (23) bitum. mac., 2½-in. thick;
- (24) do 1½-in.;
- (25) oil treatment for gravel base;
- (26) concrete sidewalks;
- (27) concrete curb;

- (28) concrete gutter;
- (29) addenda;
- (30) addenda;
- (31) addenda.

| | (A) | (B) | (C) | (D) | (E) |
|------|----------|----------|----------|----------|----------|
| (1) | \$33,865 | \$45,973 | \$51,200 | \$53,980 | \$64,400 |
| (2) | 3,000 | 10,542 | 3,500 | 4,275 | 10,500 |
| (3) | 5,000 | 7,625 | 6,000 | 6,500 | 8,300 |
| (4) | 12,000 | 14,677 | 13,000 | 13,750 | 18,000 |
| (5) | 8,500 | 5,451 | 7,600 | 6,875 | 4,600 |
| (6) | 7,000 | 4,264 | 6,600 | 6,000 | 2,600 |
| (7) | 2,200 | 1,462 | 2,000 | 2,000 | 1,250 |
| (8) | 1,800 | 1,125 | 1,500 | 1,650 | 850 |
| (9) | 3,500 | 2,616 | 3,400 | 3,000 | 3,000 |
| (10) | 1,000 | 616 | 1,000 | 875 | 1,800 |
| (11) | .40 | .17 | .37 | .35 | .20 |
| (12) | .60 | .45 | .60 | .50 | 1.00 |
| (13) | .02 | .01 | .01 | .01 | .02 |
| (14) | 20.00 | 12.00 | 20.00 | 22.00 | 16.00 |
| (15) | .05 | .04 | .05 | .04 | .04 |
| (16) | 1.15 | .90 | 1.25 | 1.25 | 1.25 |
| (17) | 1.30 | 1.00 | 1.50 | 1.40 | 1.40 |
| (18) | 1.65 | 1.10 | 1.75 | 1.85 | 1.75 |
| (19) | 2.00 | 1.55 | 2.25 | 2.25 | 2.25 |
| (20) | 2.50 | 2.20 | 2.50 | 2.35 | 1.90 |
| (21) | .03 | .04 | .05 | .06 | .05 |
| (22) | .40 | .45 | .62 | .55 | .55 |
| (23) | .40 | .32 | .38 | .45 | .45 |
| (24) | .35 | .29 | .36 | .40 | .45 |
| (25) | .03 | .016 | .03 | .03 | .11 |
| (26) | ..... | 1.13 | 1.40 | 1.45 | 1.10 |
| (27) | ..... | .41 | .60 | .55 | .45 |
| (28) | ..... | .48 | .60 | .45 | .45 |
| (29) | 55,685 | 46,850 | 54,000 | 56,000 | ..... |
| (30) | 3,000 | 5,602 | 8,400 | 7,500 | ..... |
| (31) | 1.50 | .475 | .72 | .75 | ..... |

STEEL STRINGER BRIDGES—SAN LUIS OBISPO COUNTY

SAN LUIS OBISPO COUNTY, Cal.—Granite Construction Co., B'n No. 9, Watsonville, at \$144,687.30, submitted low bid to State Highway Commission, Sacramento, to grade and surface with bituminous treated crushed gravel or stone about 9.7 miles between Cambria and one mile north of San Simeon, involving:

- (1) 212,500 cu. yds. rdwy. excav. without class;
- (2) 795,000 sta. yds. overhaul;
- (3) 7600 cu. yds. struc. excav.;
- (4) 26,300 tons crusher run base;
- (5) 20,250 tons cru. gravel or stone (bit. treated surf.);
- (6) 625 bbls. heavy fuel oil;
- (7) 955 tons cut-back asphalt;
- (8) 1780 M. gals. water applied to subgrade;
- (9) 900 cu. yds. Class "A" Port. cem conc. (struc.);

- (10) 87,000 lbs. bar reinf. steel (struc)
- (11) 810 lin. ft. 8-in. corr. metal pipe;
- (12) 186 lin. ft. 12-in. do;
- (13) 1555 lin. ft. 18-in. do;
- (14) 706 lin. ft. 24-in. do;
- (15) 246 lin. ft. 30-in. do;
- (16) 240 "in. ft. 36-in. do;
- (17) 198 timber culvert markers;
- (18) 330 timber guideposts;
- (19) 6950 lin. ft. lum. timber guard rail;
- (20) 0.3 mi. move and reset property fences;
- (21) 15 mi. new property fence;
- (22) 54 gates complete in place;
- (23) 4 mi. harrow present road;
- (24) 514 sta. finish roadway;
- (25) 112 monuments complete in place.

State will furnish corrugated metal pipe, spillway assemblies and cast

steel frames and covers for drop inlets.

- Complete bids follow:
- (A) Granite Con. Co., Watsonville\$144,687.50
 - (B) A. Teichert, Sacramento158,225.30
 - (C) Hanrahan Co., S. F.155,619.09
 - (D) M e m s t r e e t & Bell, Marysville 162,117.55
 - (E) Peninsula Pav. Co. and J. P. Holland, S. F. 164,723.30
 - (F) Fredrickson & Watson, Oakland 170,933.40
 - (G) C. W. Wood, Stockton.173,005.50
 - (H) Hartman Con. Co., Bakersfield 177,179.70
 - (I) M. J. Bevanda, Stockton177,912.65
 - (J) C. T. Malcolm and Ties-lau Bros., Berkeley 201,306.75
 - (K) Eaton & Smith, S. F. 205,301.90
 - (L) Western Motor Transfer Co., Santa Barbara 208,681.28

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| (1) | .185 | .17 | .165 | .21 | .215 | .21 | .20 | .23 | .23 | .34 | .30 | .22 |
| (2) | .005 | .01 | .005 | .005 | .01 | .005 | .005 | .005 | .015 | .0075 | .01 | .005 |
| (3) | .55 | .75 | .75 | .75 | .70 | .70 | .50 | .50 | .75 | .90 | .60 | .93 |
| (4) | 1.11 | 1.12 | 1.39 | 1.12 | 1.20 | 1.30 | 1.35 | 1.40 | 1.30 | 1.20 | 1.53 | 1.50 |
| (5) | 1.27 | 1.53 | 1.50 | 1.38 | 1.30 | 1.84 | 1.70 | 1.50 | 1.50 | 1.65 | 1.73 | 2.50 |
| (6) | 1.90 | 2.00 | 1.40 | 1.75 | 2.00 | 2.20 | 1.00 | 1.60 | 2.25 | 1.65 | 2.60 | 1.80 |
| (7) | 10.00 | 10.00 | 12.00 | 10.50 | 10.50 | 10.50 | 11.00 | 14.00 | 12.50 | 11.00 | 10.00 | 17.00 |
| (8) | 1.25 | 1.25 | 1.00 | 1.50 | 2.00 | 1.25 | 1.50 | 2.00 | 1.50 | 1.50 | 2.00 | 2.00 |
| (9) | 13.00 | 15.00 | 16.00 | 17.00 | 15.00 | 16.30 | 18.00 | 14.00 | 16.00 | 17.00 | 17.00 | 15.00 |
| (10) | .035 | .04 | .04 | .04 | .04 | .04 | .04 | .04 | .04 | .045 | .04 | .05 |
| (11) | .20 | .25 | .30 | .20 | .25 | .20 | .25 | .30 | .25 | .25 | .30 | .22 |
| (12) | .25 | .30 | .30 | .20 | .25 | .20 | .25 | .30 | .30 | .30 | .30 | .30 |
| (13) | .30 | .35 | .40 | .30 | .25 | .25 | .25 | .50 | .40 | .40 | .40 | .45 |
| (14) | .40 | .40 | .40 | .40 | .30 | .35 | .50 | .50 | .50 | .50 | .50 | .53 |
| (15) | .50 | .45 | .50 | .50 | .50 | .40 | .50 | .70 | .60 | .50 | .60 | .65 |
| (16) | .50 | .50 | .50 | .80 | .75 | .50 | .75 | .80 | .75 | .65 | .75 | .80 |
| (17) | 2.00 | 2.00 | 1.50 | 1.80 | 2.00 | 2.50 | 2.50 | 2.25 | 2.25 | 1.75 | 2.00 | 1.80 |
| (18) | 2.65 | 2.75 | 2.50 | 2.60 | 2.50 | 2.50 | 3.00 | 3.00 | 3.00 | 2.60 | 3.00 | 2.30 |
| (19) | .65 | .80 | .80 | .75 | .70 | .75 | 1.00 | .75 | .80 | .90 | 1.00 | 1.00 |
| (20) | 250.00 | 300.00 | 250.00 | 300.00 | 250.00 | 150.00 | 200.00 | 250.00 | 150.00 | 300.00 | 400.00 | 400.00 |
| (21) | 300.00 | 325.00 | 250.00 | 400.00 | 350.00 | 280.00 | 350.00 | 325.00 | 400.00 | 350.00 | 400.00 | 480.00 |
| (22) | 15.00 | 12.50 | 14.00 | 15.00 | 12.00 | 10.00 | 14.00 | 18.00 | 17.00 | 15.00 | 15.00 | 14.00 |
| (23) | 100.00 | 125.00 | 50.00 | 60.00 | 100.00 | 75.00 | 50.00 | 120.00 | 150.00 | 100.00 | 100.00 | 300.00 |
| (24) | 3.00 | 6.50 | 4.00 | 5.00 | 4.00 | 3.00 | 5.00 | 4.00 | 5.00 | 4.00 | 5.00 | 5.00 |
| (25) | 2.00 | 2.50 | 2.50 | 3.00 | 3.00 | 2.50 | 3.00 | 3.00 | 2.50 | 2.50 | 3.00 | 3.00 |

GRADE—BITUM. TREATED SURFACE—S. L. O. COUNTY—STATE

SAN LUIS OBISPO COUNTY, Cal.—J. W. Terrell, 2765 Donner Way, Sacramento, at \$63,613.80, submitted low bid to State Highway Commission to construct two steel stringer bridges with concrete decks; one across San Simeon Creek, about 6 mi. south of San Simeon, consisting of eight 42-ft. spans and three 20-ft. spans, and the other at Station 140+45, about 6.4 miles south of San Simeon, consisting of six 33-ft. spans and two 20-ft. spans, involving:

- (1) 2200 cu. yds. struc. excav.;
- (2) 4140 lin. ft. furnish untreated Doug. fir piles, includ. test piles;
- (3) 6450 lin. ft. furnish creo. Doug. fir piles, includ. test piles;
- (4) 375 drive creo. and untre. Doug. fir piles, includ. test piles;

- (5) 235 cu. yds. Class "A" Port. cem. conc. (tremle);
 - (6) 3055 cu. yds. Class "A" Port. cem. conc. (struc.);
 - (7) 82 cu. yds. Class "B" Port. cem. conc.;
 - (8) 135,000 lbs. reinf. steel;
 - (9) 367,000 lbs. struc. steel;
 - (10) 5000 lbs. cast steel;
 - (11) 98 M. ft. b. m. crec. Doug. fir timber;
 - (12) 1430 lin. ft. solid timber railing;
 - (13) 1 lot misc. items of work.
- Complete bids follow:
- (A) J. W. Terrell, Sacramento\$63,613.80
 - (B) Carl Swenson Co., San Jose 66,207.80
 - (C) M. J. Bevanda, Stockton66,261.90
 - (D) M. J. Jenkins and J. W. Hoopes, Sacramento66,942.80

- (E) M. E. McGowan, S. F. 67,453.82
 - (F) Gist & Bell, Arcadia 67,720.00
 - (G) Fredrickson & Watson, Oakland 67,845.95
 - (H) Hartman Con. Co., Bakersfield 69,005.00
 - (I) Lord & Bishop, Sacramento 69,087.40
 - (J) R. R. Bishop, Long Beach70,993.05
 - (K) Geo. J. Ullrich Con. Co., Modesto 72,000.40
 - (L) Smith Bros. Co., Eureka74,077.15
 - (M) Barrett & Hill, S. F. 74,342.50
 - (N) Dodge Bros., Inc., Fallon, Nev. 76,847.00
 - (O) Rocca & Caletti, San Rafael 77,033.30
 - (P) Oberg Bros., Los Angeles77,781.63
 - (Q) Everts & Dunn, Los Angeles 97,233.50
- Unit bids follow:

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) |
|-----|-------|------|-----|-------|-------|-------|-------|-------|--------|------|-------|------|---------|
| (A) | 1.75 | .32 | .70 | 12.00 | 14.00 | 14.00 | 12.00 | .0425 | .04 | .10 | 70.00 | 1.00 | 450.00 |
| (B) | 3.70 | .25 | .63 | 13.00 | 10.00 | 14.50 | 14.00 | .0344 | .0404 | .18 | 70.00 | .50 | 650.00 |
| (C) | 3.60 | .26 | .64 | 12.50 | 11.20 | 14.40 | 11.00 | .04 | .041 | .093 | 67.00 | .90 | 250.00 |
| (D) | 4.00 | .27 | .62 | 8.00 | 10.00 | 17.00 | 13.00 | .035 | .042 | .11 | 60.00 | .80 | 200.00 |
| (E) | 2.65 | .223 | .68 | 12.10 | 10.00 | 14.70 | 12.20 | .0425 | .0483 | .12 | 70.50 | .77 | 347.00 |
| (F) | 3.00 | .25 | .70 | 12.00 | 10.00 | 16.00 | 10.00 | .04 | .04 | .15 | 80.00 | 1.00 | 350.00 |
| (G) | 1.35 | .30 | .70 | 8.25 | 18.60 | 16.10 | 15.60 | .04 | .05 | .12 | 72.00 | .90 | 450.00 |
| (H) | 2.25 | .28 | .65 | 15.00 | 13.00 | 16.00 | 13.50 | .04 | .045 | .15 | 85.00 | 1.00 | 500.00 |
| (I) | 3.75 | .26 | .60 | 8.00 | 15.00 | 16.00 | 15.00 | .042 | .045 | .19 | 85.00 | 1.00 | 500.00 |
| (J) | 3.50 | .25 | .70 | 12.00 | 10.00 | 17.25 | 17.25 | .041 | .0397 | .17 | 80.00 | 1.00 | 500.00 |
| (K) | 3.00 | .25 | .67 | 10.00 | 11.00 | 18.50 | 16.60 | .045 | .046 | .18 | 70.00 | .90 | 250.00 |
| (L) | 2.00 | .30 | .77 | 14.00 | 13.00 | 20.23 | 16.00 | .046 | .046 | .12 | 68.00 | 1.10 | 200.00 |
| (M) | 3.50 | .30 | .60 | 22.75 | 15.00 | 14.65 | 19.75 | .04 | .0465 | .11 | 70.00 | .95 | 500.00 |
| (N) | 2.50 | .30 | .75 | 12.00 | 20.00 | 20.00 | 15.00 | .0425 | .045 | .15 | 85.00 | 1.00 | 500.00 |
| (O) | 2.80 | .25 | .68 | 10.00 | 10.20 | 17.90 | 17.90 | .04 | .0457 | .12 | 71.70 | 1.35 | 662.00 |
| (P) | 3.85 | .28 | .68 | 14.50 | 11.45 | 21.35 | 16.35 | .0368 | .04577 | .12 | 66.50 | 1.00 | 680.00 |
| (Q) | 10.00 | .30 | .75 | 15.00 | 20.00 | 20.00 | 12.00 | .035 | .05 | .10 | 80.00 | 1.00 | 2000.00 |

GRADING, ETC.—ARIZONA STATE—BIDS OPENED

ARIZONA STATE—H. L. Royden, 14 North 12th Avenue, Phoenix, submitted low bid to State Highway Commission, June 10, at \$53,389.30 for highway improvement between Flagstaff and Williams, F. A. 24, 1st Reo., Unit A, beginning 15 mi. west of Flagstaff and extend easterly 8.2 mi. toward Riordan, involving.

- (1) 130 sq. clearing and grubbing.
- (2) 10,802 cu. yds. road excav. (unclass.).
- (3) 1791 cu. yds. drainage excav. (unclass.).
- (4) 25 cu. yds. slides and overbreakages.
- (5) 750 cu. yds. struc. excav. (unclass.).
- (6) 64,447 cu. yds. borrow excav. (unclass.).
- (7) 63,077 st. yds. earthwork overhaul.
- (8) 28,939 cu. yds. sub-grade stabilizer.
- (9) 65,074 cu. m. sub-grade stabilizer, haul.
- (10) 123 cu. yds. class "A" concr. (inc. cem.).

- (11) 107 cu. yds. class "B" concr. (inc. cem.).
- (12) 11,109 lbs. reinf. steel (C.I.P.).
- (13) 228 lin. ft. 24-in. C. M. P. (C.I.P.).
- (14) 192 lin. ft. 30-in. C. M. P. (C.I.P.).
- (15) 238 lin. ft. 36-in. C. M. P. (C.I.P.).
- (16) 55 cu. yds. plain rip-rap (C.I.P.).
- (17) 1230 lin. ft. cable road guard (C.I.P.).
- (18) 63,453 lin. ft. std. line fence (C.I.P.).
- (19) 510 cu. yds. drainage excav. (unclass.).
- (20) 275 cu. yds. struc. excav. (unclass.).
- (21) 258 cu. yds. class "A" concr. (inc. cem.).
- (22) 22,890 lbs. reinf. steel (C.I.P.).

The total bids were:

- (A) H. L. Royden, Phoenix, \$53,389.30.
- (B) Hodgman & MacVicar, Winslow, Ariz., \$54,153.11.
- (C) Lewis Bros., Winslow, Ariz., \$60,481.32.
- (D) O. F. Fisher, Phoenix, \$60,752.87.
- (E) Ralph Pleasant, Phoenix, \$61,971.43.
- (F) Skousen Bros., Mesa, Ariz., \$62,336.53.

- (G) Martin Bros. Trucking Co., Long Beach, \$66,446.76.
- (H) Everts & Allison, Albuquerque, N. M., \$67,361.29.
- (I) Skeyl & Graham Co., Tucson, Ariz., \$72,217.09.
- (J) Phoenix-Tempe Stone Co., Phoenix, \$81,967.51.

The unit bids were:

| (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) |
|-------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| (1) \$ 5.00 | \$20.00 | \$15.00 | \$10.00 | \$20.00 | \$20.00 | \$15.00 | \$30.00 | \$25.00 | \$25.00 |
| (2) .25 | .35 | .40 | .50 | .28 | .44 | .55 | .40 | .55 | .70 |
| (3) .75 | .18 | .30 | .30 | .28 | .44 | .50 | .40 | .30 | .40 |
| (4) .1875 | .2625 | .30 | .375 | .21 | .33 | .4125 | .30 | .4125 | .525 |
| (5) 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | .44 | .90 | .75 | .90 | 1.00 |
| (6) .23 | .18 | .23 | .18 | .28 | .22 | .245 | .24 | .32 | .35 |
| (7) .015 | .02 | .02 | .02 | .015 | .025 | .02 | .03 | .02 | .01 |
| (8) .33 | .35 | .40 | .45 | .40 | .45 | .45 | .55 | .48 | .60 |
| (9) .09 | .08 | .09 | .11 | .09 | .10 | .09 | .10 | .11 | .12 |
| (10) 20.00 | 20.00 | 21.00 | 20.00 | 21.50 | 20.50 | 22.00 | 20.00 | 20.50 | 22.00 |
| (11) 20.00 | 20.00 | 21.00 | 20.00 | 21.50 | 20.00 | 22.00 | 20.00 | 20.50 | 22.00 |
| (12) .04 | .045 | .04 | .045 | .04 | .04 | .045 | .045 | .04 | .05 |
| (13) 2.25 | 2.50 | 3.00 | 2.25 | 2.50 | 1.80 | 2.00 | 2.00 | 2.25 | 2.25 |
| (14) 3.00 | 3.00 | 4.00 | 2.65 | 2.50 | 2.50 | 2.25 | 3.00 | 2.75 | 2.50 |
| (15) 4.00 | 5.00 | 6.00 | 3.70 | 4.00 | 3.80 | 4.00 | 3.60 | 4.25 | 4.00 |
| (16) 1.75 | 2.00 | 5.00 | 3.50 | 3.00 | 3.00 | 2.50 | 2.00 | 3.50 | 4.00 |
| (17) .50 | .75 | .55 | .70 | .50 | .75 | .80 | .80 | .65 | .75 |
| (18) .05 | .05 | .05 | .08 | .055 | .06 | .08 | .05 | .06 | .08 |
| (19) .20 | .18 | .30 | .30 | .28 | .44 | .50 | .40 | .30 | .40 |
| (20) 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | .44 | .90 | .75 | .90 | 1.00 |
| (21) 20.00 | 20.00 | 21.00 | 19.00 | 21.50 | 20.50 | 22.00 | 20.00 | 20.50 | 22.00 |
| (22) .04 | .045 | .04 | .045 | .04 | .04 | .045 | .045 | .04 | .05 |

BIDS OPENED

TULARE COUNTY, Calif.—Western Motor Transfer, Inc., 118 State Street, Santa Barbara, at \$77,290 submitted low bid to U. S. Bureau of Public Roads, San Francisco, to improve 10.585 miles of Section B of Route 1, The Generals Highway, Sequoia National Park, involving:

- (1) 14,000 cu. yds. unclass. excav.
- (2) 880 cu. yds. unclass. excavation (struc.);
- (3) 9,100 sta. yds. overhaul;
- (4) 450 M. gals. watering;
- (5) 10,500 cu. yds. crushed rock for subgrade reinf.;
- (6) 500 cu. yds. supplement crushed rock;
- (7) 585 cu. yds. masonry;
- (8) 222 lin. ft. 18-in. corr. metal pipe
- (9) 92 lin. ft. 24-in. do;
- (10) 128 lin. ft. 36-in. do;
- (11) 114 lin. ft. remove, clean and relay corr. metal pipe;
- (12) 118 lin. ft. remove, clean and stockpile corr. metal pipe;
- (13) 175 cu. yds. hand laid rock embankment;
- (14) 1,250 lin. ft. stone guard rail;
- (15) 6,400 lin. ft. cable guard rail;
- (16) 145,000 gals. apply Govt. furnish-
- (17) 10.585 miles process oil treated crushed rock subgrade reinf.;
- (18) minimum wage scale;
- (19) deduct for board.

Complete bids follow:

- (A) Western Motor Transfer, Inc., Santa Barbara, \$77,290.
- (B) Thompson Bros., Fresno, \$88,595.
- (C) A. G. Raich, San Francisco, \$104,626.

Unit bids follow:

| (A) | (B) | (C) | (D) |
|-----------|--------|--------|---------|
| (1)..... | \$.86 | \$.95 | \$ 1.55 |
| (2)..... | 2.00 | 1.50 | 2.00 |
| (3)..... | .03 | .02 | .02 |
| (4)..... | 3.00 | 6.15 | 3.00 |
| (5)..... | 3.14 | 1.95 | 4.40 |
| (6)..... | 3.07 | 1.95 | 3.40 |
| (7)..... | 20.00 | 37.00 | 20.00 |
| (8)..... | 1.50 | 1.70 | 1.50 |
| (9)..... | 2.25 | 2.60 | 2.50 |
| (10)..... | 4.05 | 5.50 | 4.50 |
| (11)..... | 1.50 | 1.25 | 1.00 |
| (12)..... | 1.20 | 1.25 | 1.00 |
| (13)..... | 5.00 | 6.00 | 5.00 |
| (14)..... | .75 | 1.50 | 2.00 |
| (15)..... | .90 | 1.25 | 1.00 |
| (16)..... | .0175 | .035 | .0175 |
| (17)..... | 395.00 | 975.00 | 600.00 |
| (18)..... | 4.00 | 4.00 | 5.00 |
| (19)..... | 1.50 | 1.50 | 1.25 |

AWARD

SAN DIEGO, Cal.—R. E. Hazard Contracting Co., 2548 Kettner Blvd., San Diego, awarded contract at \$39,178.81 (Proposal No. 3) by county supervisors June 20 to improve County Highway Commission Route 3, Division 3, Murphy Canyon Road; Road Survey No. 510, Ward Street Canyon; the relocation of Road Survey 323, Fairmount Ave., and Road No. 514, Camino Del Rio. Bids were taken on the following Proposals:

- (1) 2-in. emulsified asphalt (penetration method);
- (2) 2½-in. emulsified asphalt (plant mix);
- (3) 3-in. cut-back asphalt (plant mix).

The bids follow:

- R. E. Hazard Constr. Co., (1) \$37,809.56; (2) \$41,999.35; (3) \$39,178.81.
- V. R. Dennis, (1) \$50,946.87; (2) \$47,082.45; (3) \$42,811.27.

- Griffith Co., (1) no bid; (2) no bid; (3) \$44,728.
- Daley Corp., (1) no bid, (2) \$45,494.74; (3) \$46,210.18.

- O. U. Miracle Constr. Co., (1) \$62,958.18; (2) \$51,849.33; (3) \$47,822.18.
- Knigh-ton-Paula Co., (1) \$47,650.10; (2) no bid; (3) no bid.

BITUMINOUS TREAT. SURF.—AMADOR CO.—STATE

AMADOR COUNTY, Calif.—Willard, Blasotti & Lovatti, 40 W Clay Street, Stockton, at \$12,609.20 submitted low bid to State Highway Commission to surface with bituminous treated crushed gravel or stone about 4.8 mi. between Amador City and Martell involving:

- (1) 246 sta. prepare exist. base.
- (2) 1,200 cu. yds. cru. gravel or stone (base, place).
- (3) 6,500 cu. yds. cru. gravel or stone (bit. treated surf., place).
- (4) 378 tons cut-back asphalt (bit. binder).
- (5) 325 bbls. light fuel oil.
- (6) 287 sta. mix. bit. binder and mineral aggregate.

- (7) 337 M. gal. water apply to base.
 - (8) 238 sta. finish. shoulders.
- State will furnish crushed gravel or stone.

Complete bids follow:

- (A) Willard, Blasotti & Lovatti, Stockton, \$12,609.20
- (B) C. W. Wood, Stockton, 13,945.00
- (C) A. Telchert & Son, Sacramento, 14,058.50
- (D) Tiffany - McReynolds and Tiffany, San Jose, 14,743.75
- (E) Pereira & Reed, Tracy, 15,073.50
- (F) Hemstreet & Bell, Marysville, 15,326.00
- (G) Granite Const. Co., Watsonville, 16,198.95

Unit bids follow:

| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|----------|--------|-------|-------|---------|--------|--------|--------|
| (A)..... | \$1.90 | \$.75 | \$.40 | \$12.10 | \$1.88 | \$7.00 | \$2.00 |
| (B)..... | 2.00 | .50 | .55 | 14.00 | 2.00 | 8.00 | 2.00 |
| (C)..... | 6.00 | .60 | .49 | 11.25 | 1.70 | 10.00 | 1.50 |
| (D)..... | 6.00 | .60 | .42 | 11.75 | 1.75 | 12.00 | 1.50 |
| (E)..... | 3.50 | 1.00 | .50 | 12.40 | 2.50 | 10.40 | 2.50 |
| (F)..... | 5.00 | .45 | .40 | 14.00 | 2.00 | 13.50 | 1.50 |
| (G)..... | 7.85 | .50 | .56 | 14.00 | 2.85 | 7.85 | 1.95 |

BIDS OPENED

LANDING FIELD & DRAINAGE SYS.—HAMILTON FIELD

SAN RAFAEL, Marin Co., Cal.—Earl W. Heple, 494 Delmas Ave., San Jose, at \$55,844 submitted low bid to Constructing Quartermaster, Hamilton Field, San Rafael, to prepare landing field and filed drainage system, involving:

- (I) Construct tile and corr. metal drain lines, manholes, slide gates, open ditches and embankment in Section A (lump sum);
- (II) Same, in Section B (lump sum);
- (III) Same, in Section C (lump sum);
- (IV) Same, total for I and II (lump sum);
- (V) Same, total for I, II, and III (lump sum);
- (VI) If slide gates and corr. metal pipe thru embankment are omitted deduct from I, IV & V (lump sum)
- (VII) Unit Prices
 - (1) excavation;
 - (2) concrete, incl. forms;
 - (3) reinforcing steel;
 - (4) manholes, complete;
 - (5) ½-in. to ¾-in. crushed stone;
 - (6) 1½-in. to 2½-in. crushed stone;
 - (7) sta. yd. haul;

- (8) Trench with 4-in. clay tile and rock backfill;
 - (9) do, with 6-in. clay tile and rock backfill;
 - (10) do, with 8-in. di;
 - (11) do, with 10-in. do;
 - (12) do, with 12-in. do;
 - (13) do, with 12-in. corr. metal pipe
 - (14) 12-in. corr. metal pipe;
 - (15) 12-in. corr. metal pipe;
 - (16) 12-in. clay tile;
 - (17) Sheathing left in place.
- Complete bids follow:
- (A) Earl W. Heple, San Jose.
 - (B) Bundesen & Lauritzen, Pittsburg.
 - (C) Oakland Sewer Con. Co., Oakland.
 - (D) Jacobs & Pattiani, Oakland
 - (E) W. J. Tobin, Oakland.
 - (F) Meyer Rosenberg, San Francisco.
 - (G) Scott Co., Inc., San Francisco.
 - (H) Leibert & Trobeck, San Francisco
 - (I) O. G. Ritchie, San Jose.
 - (J) Eaton & Smith, San Francisco.
 - (K) MacDonald & Kahn, S. F.
 - (L) Fredrickson & Watson, Oakland.
 - (M) I. M. Sommer, San Francisco.
 - (N) Ches. L. Harney, San Francisco.
 - (O) James Currie, Burlingame.
 - (P) Barrett & Hilp, San Francisco.

| | (I) | (II) | (III) | (IV) | (V) | (VI) |
|-----------|----------|----------|----------|----------|----------|--------|
| (A) | \$19,448 | \$16,748 | \$19,648 | \$36,196 | \$55,844 | \$ 700 |
| (B) | 21,230 | 18,150 | 18,964 | 39,280 | 58,000 | 800 |
| (C) | 21,400 | 19,500 | 20,500 | 40,800 | 61,200 | 61 |
| (D) | 22,740 | 19,470 | 22,000 | 41,762 | 63,140 | 200 |
| (E) | 22,858 | 19,447 | 21,762 | 42,000 | 63,500 | 1100 |
| (F) | 24,900 | 26,900 | 20,310 | 14,900 | 64,910 | 850 |
| (G) | 23,412 | 20,743 | 22,089 | 43,334 | 65,956 | 1414 |
| (H) | 24,500 | 20,870 | 21,250 | 43,370 | 66,620 | 400 |
| (I) | | | | | 68,193 | 1200 |
| (J) | 26,577 | 21,372 | 22,192 | 47,949 | 70,241 | 900 |
| (K) | 25,432 | 22,808 | 22,743 | 47,740 | 70,432 | 850 |
| (L) | 26,700 | 22,000 | 23,000 | 48,700 | 71,700 | 875 |
| (M) | 25,640 | 22,350 | 23,380 | 48,390 | 72,300 | 590 |
| (N) | | | | | 84,900 | 500 |
| (O) | 31,145 | 27,461 | 27,680 | 58,607 | 86,287 | 1056 |
| (P) | 31,944 | 29,247 | 30,973 | 60,691 | 91,414 | 825 |

Complete list of the units bids received on this project will be published in tomorrow's issue.

9.02 MILES HIGHWAY—WHITE PINE COUNTY, NEV.

WHITE PINE CO., Nev.—As previously reported, Wheelwright Const. Co., Ogden, Utah, and Ely, Nevada, at \$16,502.50 awarded contract by the State Highway Commission to reconstruct 9.02 miles of highway between West Foot and East Foot of Conner's Pass. Project involves:

- (1) 3050 cu. yds. roadway excav.
- (2) 300 cu. yds. structure excav.;
- (3) 9.02 miles shaping roadway;
- (4) 7 demolish head-walls;
- (5) furnishing water equipment;
- (6) 1454 M. gals. apply water;
- (7) 18,500 cu. yds. crushed rock or gravel surface in place;
- (8) 50 cu. yds. rip-rap;
- (9) 12 cu. yds. Class "B" concrete;

- (10) 124 lin. ft. 24-in. corr. metal pipe in place;
 - (11) 308 lin. ft. 20-in. do;
 - (12) 38 lin. ft. 36-in. do;
 - (13) 230 lin. ft. remove pipe culverts;
 - (14) 225 lbs. reinf. steel;
 - (15) 9.02 miles finish roadway.
- Complete bids follow:
- (A) Wheelwright Const. Co., Ely, Nevada, \$16,502.50.
 - (B) A. D. Drumm, Jr., Fallon, Nev., \$17,133.00.
 - (C) J. N. Tedford, Fallon, Nev., \$18,125.00.
 - (D) Utah Const. Co., Ogden, Utah, \$19,778.30.
 - (E) Nevada Rock & Sand Co., Reno, \$25,546.00.
 - (F) Engineer's estimate, \$20,546.25.

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) |
|------------|--------|---------|--------|--------|---------|---------|
| (1) | \$.25 | \$.20 | \$.25 | \$.28 | \$.50 | \$.35 |
| (2) | 1.00 | .50 | .75 | .55 | 1.00 | 1.00 |
| (3) | 50.00 | 50.00 | 100.00 | 110.00 | 100.00 | 100.00 |
| (4) | 5.00 | 5.00 | 5.00 | 6.00 | 3.00 | 10.00 |
| (5) | 500.00 | 1000.00 | 500.00 | 600.00 | 1000.00 | 1000.00 |
| (6) | 1.25 | .50 | 1.00 | 1.75 | 1.50 | 2.00 |
| (7) | .56 | .64 | .60 | .65 | .90 | .65 |
| (8) | 5.00 | 3.00 | 5.00 | 1.50 | 4.00 | 4.00 |
| (9) | 28.00 | 25.00 | 40.00 | 30.00 | 30.00 | 28.00 |
| (10) | 1.75 | 2.00 | 2.50 | 2.25 | 2.50 | 2.00 |
| (11) | 2.50 | 3.00 | 3.00 | 2.50 | 3.00 | 2.50 |
| (12) | 3.75 | 3.00 | 4.00 | 4.50 | 3.75 | 3.75 |
| (13) | .40 | .50 | .50 | .70 | .50 | .50 |
| (14) | .08 | .08 | .06 | .08 | .06 | .05 |
| (15) | 50.00 | 50.00 | 100.00 | 80.00 | 100.00 | 50.00 |

SAN FRANCISCO—Meyer Rosenberg, 1755 San Bruno Ave., at \$204, submitted low bid to Public Utilities Commission for grading and filling at the Municipal Airport, involving:

- (1) Furnish and operate 60 h. p. Caterpillar tractor with blader, giving 10-ft. finish, 40 hours.
- (2) Furnish and operate 60 h. p. Caterpillar tractor, 12-ft. wide, 4 cu. yd. capacity McMillan scraper with Bull-Dozer, 210 hours.
- (3) Furnish and operate 60 h. p. Caterpillar tractor with heavy type scarifier, 50 hours.
- (4) Furnish and operate 30 h. p. Caterpillar tractor with blader, 100 hours.
- (5) Furnish and operate 30 h. p. Caterpillar tractor with McMillan scraper and Bull-dozer, 120 hours.
- (6) Relocating five boundary lights, lump sum.
- (7) Furnish and place dirt fill where directed, 100 cu. yds.

Complete list of lump sum bids follow:

| | |
|---------------------------|-----------|
| (A) Meyer Rosenberg | \$2404.00 |
| (B) R. A. Parish | 2486.50 |
| (C) C. L. Harney | 2670.00 |
| (D) H. E. Casey | 3800.32 |

Unit bids follow:

| | (A) | (B) | (C) | (D) |
|-----------|--------|--------|--------|--------|
| (1) | 4.20 | 4.75 | 5.50 | 8.00 |
| (2) | 4.20 | 4.75 | 5.50 | 7.50 |
| (3) | 4.20 | 4.75 | 5.50 | 7.50 |
| (4) | 3.20 | 3.00 | 3.00 | 5.00 |
| (5) | 3.20 | 3.00 | 3.00 | 4.35 |
| (6) | 300.00 | 321.50 | 300.00 | 358.52 |

AWARD

CLARK COUNTY, Nevada—As previously reported, Dodge Bros., Fallon, Nev., at \$22,877 awarded contract by State Highway Commission on June 15 for furnishing asphaltic road oil and placing a bituminous wearing surface between Las Vegas and Boulder City, 22.71 miles, involving:

- (1) 643 tons furnish and apply asphalt road oil;
- (2) 1.52 miles bit. surf. treatment, 30-ft. width;
- (3) 21.19 miles bit. surf. treatment 22-ft. width;
- (4) 0.40 mile bit. surf. treatment 10-ft. width.

Complete bids follow:

- (A) Dodge Bros., Fallon.....\$22,877.00
- (B) A. D. Drumm, Jr., Fallon 22,927.80
- (C) Engineer's estimate 24,619.00

Unit bids follow:

| | (1) | (2) | (3) | (4) |
|-----------|---------|---------|----------|----------|
| (A) | \$21.00 | \$25.00 | \$400.00 | \$250.00 |
| (B) | 22.00 | 380.00 | 380.00 | 380.00 |
| (C) | 20.00 | 700.00 | 500.00 | 250.00 |

BIDS OPENED

SACRAMENTO, Cal.—A. Teichert & Sons, P. O. Box 1118, Sacramento, at \$14,298.33 submitted low bid to county supervisors to re-surface Freeport Blvd. from the city limits to the Municipal Airport, involving:

- (1) 2,933 gals. bitumuls;
- (2) 21,120 lin. ft. header-board;
- (3) 1,495 tons sq. asphalt leveling course;
- (4) 211,200 sq. ft. asphalt conc. surface course.

Complete bids follow:

- (A) A. Teichert & Sons, Sacramento, \$14,298.33.
- (B) J. R. Reeves, Sacto., \$19,927.88.
- (C) Clark & Henery, S. F., \$24,768.06.
- (D) McMillivray Const. Co., Sacramento, \$27,364.48.

Unit bids follow:

| | (1) | (2) | (3) | (4) |
|-----------|-------|-------|--------|--------|
| (A) | \$.11 | \$.02 | \$3.88 | \$0.06 |
| (B) | .11 | .08 | 3.79 | .058 |
| (C) | .12 | .08 | 3.90 | .08 |
| (D) | .11 | .14 | 4.95 | .079 |

Bids held under advisement.

GRADING AND STRUCTURES—SAN GABRIEL NATIONAL FOREST HIGHWAY—LOS ANGELES COUNTY—GOVERNMENT

| | | | | | | | | | | | | | | | | | | |
|---------------------------------|---|---|---------------------------------|---------------------------------------|---------------------------------------|---|---|---|--|---|---|--|--|-------------------------------|---------------------------------------|--------------------------------|------------|---------|
| (10) 710 cu. yds. class B conc. | (11) 930 cu. yds. class A conc. Imbrg. circular tunnel. | (12) 980 (alt.) cu. yds. class A conc. Imbrg. horseshoe tunnel. | (13) 450,000 lbs. reinf. steel. | (14) 2300 lbs. bronze bearing plates. | (15) 252 lin. ft. 3-in. dia. girders. | (16) 536 lin. ft. 24-in. dia. 12-gauge. | (17) 100 lin. ft. 30-in. dia. 12-gauge. | (18) 112 lin. ft. 30-in. dia. 12-gauge. | (19) 51 lin. ft. 38-in. dia. 10-gauge. | (20) 232 lin. ft. 38-in. dia. 10-gauge. | (21) 14,000 lbs. wire mesh for rip-rap. | (22) 400 cu. yds. wire mesh for rip-rap. | (23) 2130 lin. ft. 6-in. porous tile tunnel section. | (24) 200 lin. ft. guard rail. | (25) 200 lin. ft. concrete hand-rail. | (26) 4 type A spillway inlets. | | |
| (A) 40.00 | (B) 60.00 | (C) 100.00 | (D) 50.00 | (E) 30.00 | (F) 125.00 | (G) 100.00 | (H) 60.00 | (I) 100.00 | (J) 125.00 | (K) 60.00 | (L) 75.00 | (M) 100.00 | (N) 130.00 | (O) 60.00 | (P) 70.00 | (Q) 10.00 | (R) 125.00 | |
| 335 | .33 | .33 | .41 | .46 | .445 | .46 | .47 | .47 | .46 | .46 | .43 | .47 | .47 | .54 | .537 | .63 | .35 | .55 |
| 1.10 | 1.00 | 1.50 | .50 | 1.00 | 1.00 | 1.00 | 1.50 | 1.25 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.75 | 4.36 | 2.01 | 1.25 | 1.60 |
| .005 | .005 | .0125 | .005 | .005 | .006 | .005 | .005 | .005 | .01 | .01 | .0001 | .0005 | .0075 | .01 | .0075 | .004 | .004 | .007 |
| 500.00 | 500.00 | 400.00 | 250.00 | 250.00 | 300.00 | 200.00 | 500.00 | 500.00 | 300.00 | 800.00 | 300.00 | 500.00 | 300.00 | 300.00 | 500.00 | 350.00 | 230.00 | 200.00 |
| 7.00 | 7.30 | 8.00 | 8.00 | 4.50 | 7.50 | 5.00 | 7.00 | 4.00 | 7.30 | 7.00 | 4.50 | 4.50 | 4.50 | 4.50 | 5.00 | 6.00 | 4.50 | 5.00 |
| 16.00 | 14.80 | 17.10 | 7.00 | 16.00 | 7.00 | 17.00 | 16.50 | 18.00 | 16.00 | 22.00 | 21.00 | 21.55 | 21.55 | 21.55 | 20.50 | 13.25 | 17.00 | 17.50 |
| 15.00 | 14.50 | 15.00 | 22.00 | 16.00 | 16.25 | 15.00 | 13.50 | 17.00 | 15.00 | 12.00 | 18.00 | 17.00 | 18.50 | 18.00 | 18.50 | 10.60 | 17.00 | 17.00 |
| 20.00 | 19.00 | 20.00 | 32.00 | 17.00 | 17.55 | 17.50 | 19.00 | 20.00 | 25.00 | 24.00 | 30.00 | 28.20 | 31.15 | 28.00 | 26.00 | 20.50 | 20.50 | 21.00 |
| 18.00 | 17.50 | 17.50 | 17.50 | 28.00 | 28.00 | 16.00 | 18.00 | 18.00 | 27.50 | 18.00 | 30.00 | 28.20 | 24.65 | 25.00 | 23.00 | 15.50 | 17.80 | 18.00 |
| 17.50 | 16.50 | 14.50 | 21.00 | 26.00 | 25.00 | 17.00 | 17.00 | 18.00 | 27.00 | 16.00 | 30.00 | 28.20 | 24.65 | 25.00 | 23.00 | 15.50 | 17.80 | 18.00 |
| 3.50 | .25 | .037 | .05 | .035 | .034 | .0425 | .035 | .035 | .034 | .05 | .037 | .0485 | .037 | .034 | .034 | .04 | .04 | .04 |
| .75 | .80 | 1.00 | .90 | 1.00 | 1.70 | .80 | .70 | .80 | .70 | .33 | .33 | .287 | .287 | .35 | .27 | .30 | .30 | .30 |
| 1.50 | 1.60 | 2.25 | 2.00 | 1.75 | 1.70 | 1.45 | 1.50 | 2.00 | 1.70 | 1.50 | 1.50 | 1.66 | 1.66 | 1.80 | 1.50 | 1.25 | 1.00 | 1.00 |
| 1.80 | 2.10 | 2.75 | 2.55 | 2.25 | 2.20 | 2.00 | 2.00 | 2.50 | 2.50 | 2.50 | 2.50 | 2.50 | 2.50 | 2.50 | 2.50 | 2.50 | 2.50 | 2.50 |
| 2.50 | 2.60 | 3.25 | 3.00 | 2.75 | 2.75 | 2.50 | 2.50 | 3.00 | 2.85 | 3.30 | 3.25 | 3.25 | 3.25 | 3.25 | 3.25 | 3.25 | 3.25 | 3.25 |
| 4.00 | 3.50 | 4.50 | 4.50 | 3.50 | 3.30 | 3.20 | 2.60 | 3.00 | 2.85 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| 4.00 | 3.75 | 4.50 | 5.00 | 4.50 | 3.90 | 3.40 | 3.55 | 5.00 | 4.30 | 4.75 | 4.50 | 4.50 | 4.10 | 4.50 | 4.55 | 4.65 | 4.50 | 4.50 |
| .06 | .07 | .08 | .05 | .10 | .085 | .10 | .06 | .08 | .08 | .065 | .06 | .06 | .082 | .08 | .07 | .07 | .065 | .07 |
| 4.00 | 3.00 | 6.50 | 4.00 | 1.00 | 2.00 | 5.00 | 4.50 | 3.00 | 4.00 | 5.00 | 7.00 | 4.00 | 4.70 | 4.00 | 4.00 | 9.00 | 5.00 | 4.00 |
| .40 | .75 | .35 | .40 | .85 | .25 | .40 | .30 | .40 | .25 | .40 | .75 | .77 | .55 | .20 | .125 | .55 | .20 | .20 |
| .60 | 3.50 | .80 | 5.50 | 2.00 | 3.25 | .65 | .60 | .60 | .60 | 1.00 | .75 | 1.17 | .85 | .70 | .63 | .80 | .63 | .80 |
| 15.00 | 12.00 | 20.00 | 21.00 | 25.00 | 11.90 | 5.00 | 4.00 | 15.00 | 25.00 | 3.50 | 6.00 | 1.97 | 5.55 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 |
| 20.00 | 17.00 | 23.00 | 35.00 | 25.00 | 15.50 | 3.00 | 3.00 | 18.00 | 25.00 | 2.00 | 18.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 |
| 4.00 | 3.00 | 2.30 | 3.00 | 2.50 | 1.50 | 4.00 | 4.00 | 4.00 | 3.00 | 3.00 | 2.75 | 4.09 | 3.00 | 3.00 | 2.50 | 3.00 | 3.00 | 3.00 |
| 2000.00 | 2000.00 | 2000.00 | 2000.00 | 2000.00 | 2000.00 | 2000.00 | 2000.00 | 2000.00 | 2000.00 | 2000.00 | 2000.00 | 2000.00 | 2000.00 | 2000.00 | 2000.00 | 2000.00 | 2000.00 | 2000.00 |
| 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.35 | 1.35 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 |

| | | | | | | | | | | | | | | | | | | |
|-----------|-----------|------------|-----------|-----------|------------|------------|-----------|------------|-------------|------------|------------|-------------|-------------|------------|------------|------------|-------------|---------|
| (1) 40.00 | (2) 60.00 | (3) 100.00 | (4) 50.00 | (5) 30.00 | (6) 125.00 | (7) 100.00 | (8) 60.00 | (9) 100.00 | (10) 125.00 | (11) 60.00 | (12) 75.00 | (13) 100.00 | (14) 130.00 | (15) 60.00 | (16) 70.00 | (17) 10.00 | (18) 125.00 | |
| 335 | .33 | .33 | .41 | .46 | .445 | .46 | .47 | .47 | .46 | .46 | .43 | .47 | .47 | .54 | .537 | .63 | .35 | .55 |
| 1.10 | 1.00 | 1.50 | .50 | 1.00 | 1.00 | 1.00 | 1.50 | 1.25 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.75 | 4.36 | 2.01 | 1.25 | 1.60 |
| .005 | .005 | .0125 | .005 | .005 | .006 | .005 | .005 | .005 | .01 | .01 | .0001 | .0005 | .0075 | .01 | .0075 | .004 | .004 | .007 |
| 500.00 | 500.00 | 400.00 | 250.00 | 250.00 | 300.00 | 200.00 | 500.00 | 500.00 | 300.00 | 800.00 | 300.00 | 500.00 | 300.00 | 300.00 | 500.00 | 350.00 | 230.00 | 200.00 |
| 7.00 | 7.30 | 8.00 | 8.00 | 4.50 | 7.50 | 5.00 | 7.00 | 4.00 | 7.30 | 7.00 | 4.50 | 4.50 | 4.50 | 4.50 | 5.00 | 6.00 | 4.50 | 5.00 |
| 16.00 | 14.80 | 17.10 | 7.00 | 16.00 | 7.00 | 17.00 | 16.50 | 18.00 | 16.00 | 22.00 | 21.00 | 21.55 | 21.55 | 21.55 | 20.50 | 13.25 | 17.00 | 17.50 |
| 15.00 | 14.50 | 15.00 | 22.00 | 16.00 | 16.25 | 15.00 | 13.50 | 17.00 | 15.00 | 12.00 | 18.00 | 17.00 | 18.50 | 18.00 | 18.50 | 10.60 | 17.00 | 17.00 |
| 20.00 | 19.00 | 20.00 | 32.00 | 17.00 | 17.55 | 17.50 | 19.00 | 20.00 | 25.00 | 24.00 | 30.00 | 28.20 | 31.15 | 28.00 | 26.00 | 20.50 | 20.50 | 21.00 |
| 18.00 | 17.50 | 17.50 | 17.50 | 28.00 | 28.00 | 16.00 | 18.00 | 18.00 | 27.50 | 18.00 | 30.00 | 28.20 | 24.65 | 25.00 | 23.00 | 15.50 | 17.80 | 18.00 |
| 17.50 | 16.50 | 14.50 | 21.00 | 26.00 | 25.00 | 17.00 | 17.00 | 18.00 | 27.00 | 16.00 | 30.00 | 28.20 | 24.65 | 25.00 | 23.00 | 15.50 | 17.80 | 18.00 |
| 3.50 | .25 | .037 | .05 | .035 | .034 | .0425 | .035 | .035 | .034 | .05 | .037 | .0485 | .037 | .034 | .034 | .04 | .04 | .04 |
| .75 | .80 | 1.00 | .90 | 1.00 | 1.70 | .80 | .70 | .80 | .70 | .33 | .33 | .287 | .287 | .35 | .27 | .30 | .30 | .30 |
| 1.50 | 1.60 | 2.25 | 2.00 | 1.75 | 1.70 | 1.45 | 1.50 | 2.00 | 1.70 | 1.50 | 1.50 | 1.66 | 1.66 | 1.80 | 1.50 | 1.25 | 1.00 | 1.00 |
| 1.80 | 2.10 | 2.75 | 2.55 | 2.25 | 2.20 | 2.00 | 2.00 | 2.50 | 2.50 | 2.50 | 2.50 | 2.50 | 2.50 | 2.50 | 2.50 | 2.50 | 2.50 | 2.50 |
| 2.50 | 2.60 | 3.25 | 3.00 | 2.75 | 2.75 | 2.50 | 2.50 | 3.00 | 2.85 | 3.30 | 3.25 | 3.25 | 3.25 | 3.25 | 3.25 | 3.25 | 3.25 | 3.25 |
| 4.00 | 3.50 | 4.50 | 4.50 | 3.50 | 3.90 | 3.40 | 3.55 | 5.00 | 4.30 | 4.75 | 4.50 | 4.50 | 4.10 | 4.50 | 4.55 | 4.65 | 4.50 | 4.50 |
| .06 | .07 | .08 | .05 | .10 | .085 | .10 | .06 | .08 | .08 | .065 | .06 | .06 | .082 | .08 | .07 | .07 | .065 | .07 |
| 4.00 | 3.00 | 6.50 | 4.00 | 1.00 | 2.00 | 5.00 | 4.50 | 3.00 | 4.00 | 5.00 | 7.00 | 4.00 | 4.70 | 4.00 | 4.00 | 9.00 | 5.00 | 4.00 |
| .40 | .75 | .35 | .40 | .85 | .25 | .40 | .30 | .40 | .25 | .40 | .75 | .77 | .55 | .20 | .125 | .55 | .20 | .20 |
| .60 | 3.50 | .80 | 5.50 | 2.00 | 3.25 | .65 | .60 | .60 | .60 | 1.00 | .75 | 1.17 | .85 | .70 | .63 | .80 | .63 | .80 |
| 15.00 | 12.00 | 20.00 | 21.00 | 25.00 | 11.90 | 5.00 | 4.00 | 15.00 | 25.00 | 3.50 | 6.00 | 1.97 | 5.55 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 |
| 20.00 | 17.00 | 23.00 | 35.00 | 25.00 | 15.50 | 3.00 | 3.00 | 18.00 | 25.00 | 2.00 | 18.00 | 3.00 | 3.00 | 3.00 | 2.50 | 3.00 | 3.00 | 3.00 |
| 4.00 | 3.00 | 2.30 | 3.00 | 2.50 | 1.50 | 4.00 | 4.00 | 4.00 | 3.00 | 3.00 | 2.75 | 4.09 | 3.00 | 3.00 | 2.50 | 3.00 | 3.00 | 3.00 |
| 2000.00 | 2000.00 | 2000.00 | 2000.00 | 2000.00 | 2000.00 | 2000.00 | 2000.00 | 2000.00 | 2000.00 | 2000.00 | 2000.00 | 2000.00 | 2000.00 | 2000.00 | 2000.00 | 2000.00 | 2000.00 | 2000.00 |
| 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.35 | 1.35 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 |

LOS ANGELES COUNTY, Cal.—Guy F. Atkinson, 601 Ross Bldg., S. E., at \$86,899, submitted low bid to U. S. Bureau of Public Roads for 707 1/2 mi. of Highway Grading and Structures, Section B, of the San Gabriel National Forest Highway, Angeles National Forest in Los Angeles County, Involvement: 75 acres clearing (1) 1708,000 cu. yds. unclass. excav. (2) 10,000 cu. yds. unclass. excav. (3) 450 sta. yds. overhault. (4) 7030 mi. finish earth graded road. (5) 7030 cu. yds. tunnel excav., circular section. (6) 3310 cu. yds. tunnel excav., circular section. (7) 3430 horseshoe sec. (8) 2130 cu. yds. class A conc. (9) 220 cu. yds. class B conc. (10) 710 cu. yds. class B conc. (11) 930 cu. yds. class A conc. Imbrg. circular tunnel. (12) 980 (alt.) cu. yds. class A conc. Imbrg. horseshoe tunnel. (13) 450,000 lbs. reinf. steel. (14) 2300 lbs. bronze bearing plates. (15) 252 lin. ft. 3-in. dia. girders. (16) 536 lin. ft. 24-in. dia. 12-gauge. (17) 100 lin. ft. 30-in. dia. 12-gauge. (18) 112 lin. ft. 30-in. dia. 12-gauge. (19) 51 lin. ft. 38-in. dia. 10-gauge. (20) 232 lin. ft. 38-in. dia. 10-gauge. (21) 14,000 lbs. wire mesh for rip-rap. (22) 400 cu. yds. wire mesh for rip-rap. (23) 2130 lin. ft. 6-in. porous tile tunnel section. (24) 200 lin. ft. guard rail. (25) 200 lin. ft. concrete hand-rail. (26) 4 type A spillway inlets. (27) 3 type B do. (28) 100 light-of-way monuments. (29) E. W. moving telephone and power poles. (30) Minimum wage scale for common labor. (31) Deduct bids follow: (32) Deduct bids follow: (33) Total (Exclusive of Items 6 and 11). (34) Total (Exclusive of Items 6 and 11). (35) G. F. Atkinson, S. F. (1) \$688,899 (A) Kern & Kibbe, Port. (1) \$630,114 (B) McDonald & Kahn, San Francisco (1) 926,666 (C) Porter Bros., S. F. (1) 965,072 (2) 961,792 (D) Hilty Bros., L. A. (1) 971,322 (2) 971,322 (E) Utah Con. Co., S. F. (1) 988,917 (2) 988,917 (F) Geo. Pollock, Sac. Ent. (1) 988,917 (2) 988,917 (G) Lanvier Woodward Co. & Meyers & Gombler, Seattle (1) 997,451 (2) 996,496 (H) T. M. Morgan Payne Co., Los Angeles (1) 1,012,904 (2) 1,012,904 (I) L. E. Dixon, L. A. (1) 1,034,450 (2) 1,034,450 (J) Elliot & Stroud Bros. & Seabrook, Pas. (1) 1,056,095 (2) 1,054,100 (K) Hall-Johnson Co., Alhambra (1) 1,07

PREPARATION OF SURFACE—HAMILTON FIELD

SAN RAFAEL, Marin Co., Cal.—leveling surface of flying field, removal of existing road, all in Section C, and excavating 1750 cu. yds. of borrow material from borrow pits, and hauling same 4000 feet for additional fill in ditches in Section C.
 (1) Filling ditches, plowing and leveling surface of flying field, removal of existing road, all in Section A, and excavating 6000 cu. yds. borrow material from borrow pits, and hauling same 2500 feet for additional fill in ditches in Section C.
 (2) Filling ditches, plowing and leveling surface of flying field, and removal of existing road, all in Section L.
 (3) Filling ditches, plowing and hauling 1000 ft. to building area, and leveling in place.

(9) Excavation from borrow pit and haul 2500 feet.
 (10) Excavation from borrow pit and haul 4000 ft.
 (11) For each 100 feet haul over or under 1000 and less than 1800 ft.
 (12) For each 100 ft. haul over or under 2500 ft. and less than 3200 ft.
 (13) For each 100 feet haul over or under 3200 ft.
 (14) Additional harrowing and dragging in filled-in area.
 (15) Additional plowing, harrowing and dragging.
 (16) Filling and compacting fill in drainage ditches, from ditch embankment.

(17) Excavating from borrow pit, hauling 1000 ft. to building area, and leveling in place.
 (A) Schuler & McDonald, Oakland.
 (B) Meyer Rosenberg, San Francisco.
 (C) Smith Bros., San Rafael.
 (D) MacDonald & Kahn, S. F.
 (E) J. V. Galbraith Co., Petaluma.
 (F) Deitz Dredging Co., Stockton.
 (G) Ralph Lewis, Oakland.
 (H) Jacobs & Pattiani, Oakland.
 (I) Neves & Harp, Santa Clara.
 (J) Earl W. Heple, San Jose.
 (K) (L) (L) Bundesen & Lauritzen, Pittsburg.
 (M) Tiffany, McKeynolds & Tiffany, San Jose.

| | | | | | | | | | | | | | |
|------|-------------|-----|-------------|-----|-------------|-----|-------------|------|-------------|------|-------------|------|-------------|
| (1) | \$ 4,730.00 | (A) | \$ 5,325.00 | (G) | \$ 5,800.00 | (I) | \$ 5,292.00 | (K) | \$ 5,344.00 | (L) | \$ 6,143.00 | (M) | \$ 5,450.00 |
| (2) | 4,740.00 | (B) | 4,825.00 | (H) | 4,900.00 | (J) | 4,900.00 | (L) | 3,655.00 | (M) | 4,410.00 | (N) | 4,612.00 |
| (3) | 2,900.00 | (C) | 3,850.00 | (I) | 4,200.00 | (K) | 3,700.00 | (M) | 2,910.00 | (N) | 2,900.00 | (O) | 4,120.00 |
| (4) | 2,100.00 | (D) | 1,550.00 | (J) | 1,750.00 | (L) | 2,000.00 | (N) | 1,800.00 | (O) | 2,000.00 | (P) | 2,400.00 |
| (5) | 6,800.00 | (E) | 7,735.00 | (K) | 8,000.00 | (M) | 7,284.00 | (O) | 7,100.00 | (P) | 10,140.00 | (Q) | 7,800.00 |
| (6) | 11,270.00 | (F) | 12,022.00 | (L) | 12,000.00 | (N) | 10,170.00 | (P) | 10,200.00 | (Q) | 10,139.00 | (R) | 12,833.00 |
| (7) | 16,170.00 | (G) | 15,935.00 | (M) | 15,000.00 | (O) | 14,840.00 | (Q) | 12,433.17 | (R) | 13,769.00 | (S) | 16,300.00 |
| (8) | 22.22 | (H) | 23.23 | (N) | 23.23 | (P) | 18.18 | (S) | 20.20 | (T) | 30.30 | (U) | 25.25 |
| (9) | 28.28 | (I) | 29.29 | (O) | 29.29 | (Q) | 38.38 | (T) | 37.37 | (U) | 37.37 | (V) | 28.28 |
| (10) | 01.01 | (J) | 00.00 | (P) | 00.05 | (R) | 00.05 | (U) | 00.05 | (V) | 00.05 | (W) | 00.05 |
| (11) | 01.01 | (K) | 00.04 | (Q) | 00.05 | (S) | 00.05 | (V) | 00.05 | (X) | 00.05 | (Y) | 00.05 |
| (12) | 01.01 | (L) | 00.04 | (R) | 00.05 | (T) | 00.05 | (W) | 00.05 | (Z) | 00.05 | (AA) | 00.05 |
| (13) | 01.01 | (M) | 00.05 | (S) | 00.05 | (U) | 00.05 | (X) | 00.05 | (AB) | 00.05 | (AC) | 00.05 |
| (14) | 3.00 | (N) | 3.00 | (T) | 1.00 | (V) | 5.00 | (Y) | 2.50 | (AD) | 5.00 | (AE) | 2.00 |
| (15) | 5.00 | (O) | 6.00 | (U) | 7.50 | (W) | 11.00 | (Z) | 10.50 | (AF) | 5.00 | (AG) | 2.50 |
| (16) | 12.12 | (P) | 10.85 | (V) | 15.07 | (X) | 18.18 | (AA) | 17.00 | (AH) | 15.07 | (AI) | 18.18 |
| (17) | 24.24 | (Q) | 20.20 | (W) | 25.25 | (Y) | 32.32 | (AB) | 32.32 | (AJ) | 32.32 | (AK) | 25.25 |

(1) \$ 1.50 (A) \$ 1.50 (C) \$ 7.00 (D) \$ 7.75
 (2) 5.00 (B) 3.50 (D) 2.00 2.00
 (3) 21.00 (E) 28.00 (D) 29.00 30.00
 (4) 24.00 (F) 28.00 (D) 40.00 33.00
 (5)038 (G) .05 (D) .06 (D) .06
 (6) 12.00 (H) 10.00 (D) 15.00 16.00
 (7)049 (I) .065 (D) .074 (D) .08
 (8) 1.00 (J) .50 (D) 1.50 1.25
 (9)50 (K) 2.00 (D) 1.10 1.15

UNIT BID LISTING
 COCONINO COUNTY, Arizona.—As previously reported, Lewis Bros., P. O. Box 586, Winslow, Ariz., submitted low bid to U. S. Bureau of Public Roads, Phoenix, at \$22,996.00 to construct Oak Creek Bridge and grade approaches, Section F of Route 7, Oak Creek National Forest Highway, Coconino National Forest, Coconino Co., Ariz., involving:
 (1) 1800 cu. yds. unclass. excav.;
 (2) 550 cu. yds. unclass. excav. for structures;
 (3) 225 cu. yds. Class A concrete;
 (4) 165 cu. yds. Class D concrete;
 (5) 49,000 lbs. reinforcing steel;
 (6) 75 cu. yds. cement rubble masonry
 (7) 120,000 lbs. structural steel;
 (8) 104 lin. ft. wood guard rail;
 (9) 230 lin. ft. protection ditch.

The engineer has recommended that the contract by awarded to low bidder.
 The total bids were:
 (A) Lewis Bros., Winslow, \$22,996.
 (B) Phoenix-Tempe Const. Co., Phoenix, \$27,057.
 (C) Utah Const. Co., Ogden, \$23,609.
 (D) Engineer's estimate, \$28,538.

The unit bids were:
 (A) \$ 1.50 (B) \$ 1.50 (C) \$ 7.00 (D) \$ 7.75
 (E) 5.00 (F) 3.50 (D) 2.00 2.00
 (G) 21.00 (H) 28.00 (D) 29.00 30.00
 (I) 24.00 (J) 28.00 (D) 40.00 33.00
 (K) .038 (L) .05 (D) .06 (D) .06
 (M) 12.00 (N) 10.00 (D) 15.00 16.00
 (O) .049 (P) .065 (D) .074 (D) .08
 (Q) 1.00 (R) .50 (D) 1.50 1.25
 (S) .50 (T) 2.00 (D) 1.10 1.15

AWARD
 STOCKTON, San Joaquin Co., Cal.—George French, Jr., P. O. Box 675, Stockton, at \$19,000 awarded contract by county supervisors to construct 2.5 miles of the new Garwood ferry road (Peter Marengo Road) west on Charter Way from Lincoln St., involving:
 (1) 7000 tons 1 1/2-in. road gravel, base course;
 (2) 4500 tons plant mix cut-back top course.
 Complete bids follow:
 (A) Geo. French, Stockton.....\$19,000
 (B) John Jurkovich, Fresno.....20,050
 (C) Pereira & Reed, Tracy.....20,420
 (D) Williard, Biasotti & Lovatti, Stockton.....21,212
 (E) Bundesen and Lauritzen, Pittsburg.....21,688
 (F) Clark & Henry, S. F.....22,540
 (G) C. W. Wood, Stockton.....23,720
 (H) Valley Pav. Co., Fresno.....23,680

Unit bids follow:
 (A) (1) \$1.00; (2) \$2.50.
 (B) (1) \$1.15; (2) \$2.50.
 (C) (1) \$1.10; (2) \$2.65.
 (D) (1) \$1.10; (2) \$2.815.
 (E) (1) \$1.24; (2) \$2.71.
 (F) (1) \$1.30; (2) \$2.80.
 (G) (1) \$1.40; (2) \$2.90.
 (H) (1) \$1.60; (2) \$2.60.

BIDS OPENED
 NAPA, Cal.—Harold Smith, 1427 Kearney St., St. Helena, at \$21,620 submitted low bid to county supervisors to surface portions of the Conn Canyon and Howell Mountain roads with cut-back asphalt, involving:
 (1) 9 miles prepare subgrade and road mix;
 (2) 7500 cu. yds. crushed rock;
 (3) 580 tons cut back asphalt.
 Complete bids follow:
 (A) Harold Smith, St. Helena, \$21,620.
 (B) A. J. Grip, Oakland, \$21,735.
 (C) C. W. Wood, Stockton, \$23,700.

Unit bids follow:
 (1) (2) (3)
 (A)\$500.00 \$1.20 \$14.00
 (B) 600.00 1.25 12.00
 (C) 550.00 2.20 12.50
 Bids held under advisement.

SEWER SYSTEM—HAMILTON FIELD

SAN RAFAEL, Marin Co., Cal.—Jas. Currie, 1100 Peninsula Ave., Burlingame, at \$68,219 submitted low bid to Constructing Quartermaster, Hamilton Field, San Rafael, to construct sewer system, involving:

- (I) sanitary sewage collecting system, pump house, pump and outfall sewer (lump sum);
- (II) add or deduct if concrete pipe is used instead of clay pipe;
- (III) add or deduct if centrif. concrete pipe is used in outfall sewer instead of c. i. pipe;
- (IV) construct water supply system (lump sum);
- (V) construct gas supply system (lump sum);
- (VI) total, items I, IV and V (lump sum);
- (VII) unit prices:
 - (1) excav. gravel or clay;
 - (2) excav. rock;
 - (3) concrete A;
 - (4) concrete B;
 - (5) reinforcing steel;
 - (6) brick manholes;
 - (7) 6-in. vit. clay pipe;
 - (8) 8-in. do;
 - (9) 10-in. do;
 - (10) 12-in. do;
 - (11) 6-in. plain conc. pipe;
 - (12) 8-in. do;
 - (13) 10-in. do;
 - (14) 12-in. do;
 - (15) 10-in. centrif. conc. pipe;
 - (16) 1½-in. wrought iron galv. pipe;

| | (I) | (II) | (III) | (IV) | (V) |
|----------|----------|-------|-------|----------|--------|
| (A)..... | \$38,840 | ..... | 5100 | \$33,400 | \$6758 |
| (B)..... | 23,500 | 400 | ..... | 24,300 | 7300 |
| (C)..... | 39,308 | ..... | ..... | 24,546 | 7070 |
| (D)..... | 40,195 | 4000 | 3560 | 26,000 | 6639 |
| (E)..... | 37,411 | ..... | 3650 | 25,000 | 72,200 |
| (F)..... | 40,985 | 620 | 5925 | 27,590 | 6900 |
| (G)..... | 42,000 | 600 | 7000 | 26,000 | 8800 |
| (H)..... | 41,720 | 150 | 5000 | 27,000 | 8000 |
| (I)..... | 44,632 | 876 | 5578 | 28,235 | 6830 |
| (J)..... | 46,680 | ..... | ..... | 26,880 | 7390 |
| (K)..... | 44,800 | 300 | 6000 | 28,620 | 8290 |
| (L)..... | 45,540 | ..... | ..... | 28,250 | 8500 |
| (M)..... | 56,400 | 543 | 7490 | 31,300 | 10,000 |
| (N)..... | 55,888 | 2000 | 6000 | ..... | ..... |
| (O)..... | 40,605 | 281 | 7000 | ..... | ..... |
| (P)..... | 48,789 | 375 | 500 | 26,375 | ..... |
| (Q)..... | ..... | ..... | ..... | 26,686 | 8278 |
| (R)..... | ..... | ..... | ..... | 27,995 | ..... |
| (S)..... | ..... | ..... | ..... | 24,900 | ..... |
| (T)..... | ..... | ..... | ..... | 26,527 | 6604 |
| (U)..... | ..... | ..... | ..... | 27,000 | ..... |

- (17) 3-in. c. i. pipe;
 - (18) 4-in. do;
 - (19) 8-in. do;
 - (20) 10-in. do;
 - (21) 12-in. do;
 - (22) 2-in. wr. iron gas pipe wrapped
 - (23) 3-in. do;
 - (24) 6-in. do;
 - (25) fire hydrants;
 - (26) corporation cocks;
 - (27) cast iron specials;
 - (28) brick, common;
 - (29) concrete piles;
 - (30) timber piles;
 - (31) pump.
- Complete bids follow:
- (A) James Currie, Burlingame.
 - (B) Herman Lawson Co., S. F.
 - (C) Scott Co., San Francisco.
 - (D) M. B. McGowan, San Francisco.
 - (E) W. J. Tobin, Oakland.
 - (F) Fred. W. Snook, San Francisco.
 - (G) Geo. DeGolyer, Oakland.
 - (H) Herbert & Crowhar.
 - (I) J. A. Fazio, Oakland.
 - (J) I. M. Sommer, San Francisco.
 - (K) E. J. Treacy, San Francisco.
 - (L) Fredrickson & Watson, Oakland.
 - (M) R. B. McNair, Oakland.
 - (N) Oakland Sewer Const. Co.
 - (O) Barrett & Hilp, San Francisco.
 - (P) Stroud Bros. & Seabrook, Pasadena.
 - (Q) R. G. Whinery, Los Angeles.
 - (R) J. J. Ongaro, Fairfax.
 - (S) Budesen & Lauritzen, Pittsburg.
 - (T) P. L. Burr, San Francisco.
 - (U) B. R. Webber.

| | (I) | (II) | (III) | (IV) | (V) |
|----------|------------|------------|-------------|-------------|-------|
| (A)..... | \$7,786.00 | \$9,348.00 | \$10,570.00 | \$11,200.00 | ..... |
| (B)..... | 180.00 | 190.00 | 193.00 | 145.00 | ..... |
| (C)..... | 435.00 | 425.00 | 384.00 | 106.00 | ..... |
| (D)..... | 2.25 | 1.25 | 1.60 | 1.20 | ..... |
| (E)..... | 1.75 | 100.00 | 1.30 | .98 | ..... |
| (F)..... | 1.00 | .85 | 1.00 | .95 | ..... |
| (G)..... | 40.00 | 30.00 | 30.00 | 18.00 | ..... |
| (H)..... | 27.00 | 12.00 | 12.00 | 12.50 | ..... |
| (I)..... | 17.00 | 8.00 | 8.00 | 10.90 | ..... |
| (J)..... | 17.00 | 120.00 | 65.00 | 5.50 | ..... |
| (K)..... | 55.00 | 95.00 | 38.00 | 4.60 | ..... |
| (L)..... | 10.00 | 12.00 | 3.00 | 5.80 | ..... |
| (M)..... | 2.50 | 10.00 | 2.00 | 4.75 | ..... |

GASOLINE FUELING SYSTEM—HAMILTON FIELD

SAN RAFAEL, Marin Co., Cal.—Bennett & Taylor, 5824 Willoughby Ave., Los Angeles, at \$7786 submitted low bid to Constructing Quartermaster, Hamilton Field, to construct gasoline fueling system. Complete list of bids follow:

- (I) Bennett & Taylor, \$7786.
- (II) Baldwin & Butler, Berkeley, \$9,348.
- (III) Aqua System, New York City, \$10,570.
- (IV) Ferrine Co., San Pedro, \$11,200.
- (A) Construct gasoline handling system complete;
- (B) If fueling pit lights and light circuit are omitted;

- (C) If 2-in. dia. meter Granberg type with strainer of capacity of 100 to 200 gals. per minute, or other approved, is omitted;
- (D) 5-in. stand galv. steel screw joint pipe;
- (E) 3-in. extra heavy galv. steel screw joint pipe;
- (F) 2½-in. extra heavy galv. steel screw joint pipe;
- (G) 5-in. gate valves;
- (H) 3-in. do;
- (I) 2½-in. do;
- (J) 5-in. extra heavy expan. joints;
- (K) 3-in. do;
- (L) 5-in. pipe anchors;
- (M) 3-in. pipe anchors.

| | (I) | (II) | (III) | (IV) |
|----------|------------|------------|-------------|-------------|
| (A)..... | \$7,786.00 | \$9,348.00 | \$10,570.00 | \$11,200.00 |
| (B)..... | 180.00 | 190.00 | 193.00 | 145.00 |
| (C)..... | 435.00 | 425.00 | 384.00 | 106.00 |
| (D)..... | 2.25 | 1.25 | 1.60 | 1.20 |
| (E)..... | 1.75 | 100.00 | 1.30 | .98 |
| (F)..... | 1.00 | .85 | 1.00 | .95 |
| (G)..... | 40.00 | 30.00 | 30.00 | 18.00 |
| (H)..... | 27.00 | 12.00 | 12.00 | 12.50 |
| (I)..... | 17.00 | 8.00 | 8.00 | 10.90 |
| (J)..... | 17.00 | 120.00 | 65.00 | 5.50 |
| (K)..... | 55.00 | 95.00 | 38.00 | 4.60 |
| (L)..... | 10.00 | 12.00 | 3.00 | 5.80 |
| (M)..... | 2.50 | 10.00 | 2.00 | 4.75 |

BIDS OPENED

SAN FRANCISCO—Pittsburg (net total) submitted low bid to city purchasing agent to furnish water meters for water department, as follows:

- (1) 2000 ¾x¾-in. meters;
 - (2) 20 1-in. meters;
 - (3) 30 1½-in. meters;
 - (4) 100 2-in. meters;
 - (5) allowance on old meters;
 - (6) parts list discount.
- Complete bids follow:
- (A) Pittsburg Equip. Meter Company\$15,799.50
 - (B) Worthington Co.17,505.90
 - (C) Neptune Meter Co.17,910.47
 - (D) Hersey Mfg. Co.19,025.40
 - (E) Standard Supply Co.19,310.50
 - (F) Badger Meter Co.19,445.40
 - (G) Gamon Meter Co.20,175.00
 - (H) Crane Company22,701.50

Unit bids follow:

| | (1) | (2) | (3) | (4) | (5) |
|----------|--------|---------|---------|---------|-----------|
| (A)..... | \$7.95 | \$17.55 | \$31.95 | \$47.95 | \$6205.00 |
| (B)..... | 6.86 | 12.12 | 26.77 | 40.17 | 1276.60 |
| (C)..... | 7.60 | 16.72 | 29.10 | 44.10 | 2906.93 |
| (D)..... | 7.45 | 16.38 | 29.80 | 44.69 | 1565.20 |
| (E)..... | 7.05 | 18.90 | 30.75 | 46.10 | 700.00 |
| (F)..... | 7.30 | 17.00 | 31.00 | 43.00 | 1424.00 |
| (G)..... | 7.40 | 16.80 | 28.00 | 42.00 | ..... |
| (H)..... | 8.40 | 17.47 | 31.08 | 46.20 | ..... |

(I).....50-20%
 (J).....50%
 (K).....2% cash
 (L).....
 (M).....50%
 (N).....50-10%
 (O).....15%
 (P).....45%

BIDS OPENED

OAKLAND, Calif.—Healy - Tibbitts Const. Co., 64 Pine St., San Francisco, at \$19,922 submitted low bid to City Port Commission for sheet pile bulkhead for the foot of Peralta Street, involving:

- (A) 11,000 lin. ft. green piles;
 - (B) 28,000 lin. ft. creosoted sheet piling;
 - (C) 13 M.F.B.M. creosoted timber;
 - (D) 25 M.F.B.M. untreated timber;
 - (E) 80,000 lbs. rods, etc.
- Total bids follow:
- (1) Healy - Tibbitts Const. Co., San Francisco\$19,922
 - (2) Schuler & McDonald, Oakland21,175
 - (3) A. W. Kitchen, S. F.22,214
 - (4) Duncanson - Harrelson Co., San Francisco23,720
 - (5) Jacobs & Pattiani, Oakland23,870
 - (6) M. B. McGowan, S. F.26,392
 - (7) B. C. Gerwick, S. F.27,230

Unit prices follow:

| | (A) | (B) | (C) | (D) | (E) |
|----------|-------|-------|--------|--------|---------|
| (1)..... | \$.55 | \$.22 | \$.89 | \$0.00 | \$73.00 |
| (2)..... | .38 | .36 | 80.00 | 45.00 | .04 |
| (3)..... | .31 | .45 | 113.00 | 37.00 | .043 |
| (4)..... | .42 | .43 | 95.00 | 75.00 | .04 |
| (5)..... | .51 | .39 | 120.00 | 92.00 | .032 |
| (6)..... | .57 | .44 | 119.00 | 69.00 | .043 |
| (7)..... | .53 | .50 | 100.00 | 60.00 | .05 |

BIDS OPENED

SACRAMENTO, Cal.—A. Teichert & Sons, P. O. Box 1118, Sacramento, at \$2549.40 submitted low bid to county supervisors to construct armor top asphalt surface on the Florin Road, involving:

- (1) 612 tons ¾- to ¾-in. crushed rock;
- (2) 255 tons ¼- to ¾-in. crushed rock;
- (3) 12,740 gals. asphalt.

Complete bids follow:

- (A) A. Teichert & Sons, Sacramento, \$2549.40.
- (B) E. F. Hilliard, Sacto., \$2646.20.

Unit bids follow:

| | (1) | (2) | (3) |
|----------|--------|--------|--------|
| (A)..... | \$2.00 | \$2.20 | \$0.06 |
| (B)..... | 1.95 | 2.20 | .07 |

Bids held under advisement.

ENGINEERING NEWS

BRIDGES

SAN GABRIEL CANYON, Cal.—Bids for the construction of a reinforced concrete bridge and several smaller spans on the route of the new San Gabriel Highline road will be asked by the U. S. Bureau of Public Roads early in July. The proposed structure will span the San Gabriel River at a point near Camp No. 1. It will be of reinforced concrete construction, 350 ft. in length and about 45 ft. above the streambed. The time for completion has been set at about five months.

ROSEBURG, Ore.—Until July 18, 2:30 P. M., bids will be received by Construction Division, U. S. Veterans' Bureau, Arlington Bldg., Washington, D. C., to construct bridge over the Umpqua river, complete, except for grading of road approaches. The work will include excavating, concrete (plain and reinforced), structural steel and painting. Separate bids will be received for:

(a) piers complete ready for superstructure.

(b) steel superstructure including concrete roadway and wood floor sidewalk, with painting complete.

Plans obtainable from Supervising Superintendent of Construction, Veterans' Hospital, Palo Alto, Calif., or from the Bureau at Washington.

SAN BERNARDINO, Cal.—A. H. Lowe, city engineer, and Wilbur P. Burritt, authorized by city council to prepare plans for the proposed viaduct to span the Santa Fe Railway tracks to replace the existing bridge and to eliminate the curve at the south end of the structure where accidents have occurred. Of the total cost, the state will pay \$150,000, the county \$30,000, the city \$11,000, and the railway \$75,000. Construction is planned to start about Nov. 1.

OAKLAND, Cal.—Axel Cederborg, 1453 Excelsior Ave., Oakland, at \$32,791.41 awarded contract by city council to construct reinforced concrete trestles in portions of Park Blvd., between Estates Drive and Mountain Blvd.

SAN DIEGO COUNTY, Cal.—Until July 12, 2 P. M., bids will be received by State Highway Commission to construct reinforced concrete girder bridge over The Atchison, Ponoka & Santa Fe Railway about 2 mi. south of Del Mar, consisting of two 58-foot spans, two 43-ft. 4-in. spans, and nine 40-ft. spans on concrete bents, involving:

- (1) 5900 cu. yds. struc. excav.
- (2) 5900 lin. ft. reinf. conc. piles, incl. test piles;
- (3) 3490 cu. yds. Class "A" Port. cem. conc. (struct.);
- (4) 40 cu. yds. Class "E" Port. cem. conc.;
- (5) 820 cu. yds. Class "A" Port. cem. conc. (footing blocks);
- (6) 660,000 lbs. reinf. steel;
- (7) 14,500 lbs. cast steel rockers and bearings;
- (8) 180 lin. ft. 8-in. corr. metal pipe;
- (9) 1 lot misc. items of work.

State will furnish corrugated metal pipe and spillway assemblies.

Previous call for bids in connection

with this project, originally set for opening June 29, was withdrawn and this new date, July 13, set.

EUREKA, Humboldt Co., Calif.—Smith Bros. Co., Eureka, at \$18,833 awarded contract by county supervisors to construct bridge over the South Fork of the Eel River at Redway. Complete list of bids follows:

| | |
|-------------------------------|----------|
| Smith Bros. Co. | \$18,833 |
| J. E. Fitzsimmons, Lodi | 19,235 |
| Mercer-Fraser Co., Eureka | 20,375 |
| Helwig Const. Co., Sebastopol | 21,200 |
| H. Padgett, Eureka | 22,449 |

Frank Kelly, county surveyor, estimated cost at \$20,000.

SAN LUIS OBISPO COUNTY, Cal.—J. W. Terrell, 2765 Donner Way, Sacramento, at \$63,514.80 awarded contract by State Highway Commission to construct two steel stringer bridges with concrete decks: 1 across San Simeon Creek, about 6 mi. south of San Simeon, consisting of eight 42-ft. spans and three 20-ft. spans, and the other at Station 140+45, about 6 1/2 miles south of San Simeon, consisting of six 83-foot spans and two 20-foot spans.

OKANOGAN COUNTY, Wash.—Strong & MacDonald, Inc., Puget Sound Bank Bldg., Tacoma, at \$52,560 awarded contract by State Highway Commission to construct two concrete girder bridges across Methow River on Methow Valley Highway, bet. Pateros and Carlton in Okanogan County, consisting of one bridge 498 feet long and one bridge 290 ft. long, both with 21 ft. roadways.

YAVAPAI COUNTY, Ariz.—H. L. Royden, Phoenix, submitted low bid to U. S. Bureau of Public Roads, Phoenix, Ariz., June 16, at \$26,825, to construct Clear Creek Bridge, Section C of Route 9, the Clarkdale-Globe National Forest Highway, Coconino National Forest, Yavapai County, Arizona, involving:

- | |
|--|
| 420 cu. yds. excav. unclass. for structures. |
| 155 cu. yds. "A" concrete. |
| 35 cu. yds. "B" concrete. |
| 257 cu. yds. "E" concrete. |
| 61,000 lbs. reinforcing steel. |
| 230,000 lbs. structural steel. |
| 120 cu. yds. basket rip-rap. |
| 120 cu. yds. basket rip-rap. |

SAN JOAQUIN COUNTY, Cal.—Until July 20, 2 P. M., bids will be received by State Highway Commission,

Sacramento, to construct a bridge across Paradise Cst about 6.2 mi. east of Tracy, consisting of ten 44-ft. steel stringer spans with concrete deck on concrete pile bents, and approaches to be paved with Portland cement concrete, involving:

- (1) 290 cu. yds. struc. excav.;
- (2) 6200 cu. yds. rdwy. excav. with-out class;
- (3) 8306 sta. yds. imp. overhaul;
- (4) 3900 cu. yds. imp. borrow;
- (5) 480 tons untreated cru. gravel or stone surf. (detour);
- (6) 30 M. gals. water apply to surf. and borders;
- (7) 1 timber detour bridge;
- (8) 1 remove existing bridge;
- (9) 2700 lin. ft. reinf. conc. piles incl. test piles;
- (10) 500 cu. yds. Class "A" Port. cem. conc. (struct.);
- (11) 88 cu. yds. Class "A" Port. cem. conc. (pave.);
- (12) 30 cu. yds. Class "A" Port. cem. conc. (slope paving);
- (13) 81,700 lbs. bar reinf. steel (pave. and struct.);
- (14) 445,000 lbs. struc. steel;
- (15) 1670 lbs. cast steel;
- (16) 100 cu. yds. salvaged surf. (borders);
- (17) 18 bbls. light fuel oil;
- (18) 6 bbls. heavy fuel oil;
- (19) 450 sq. yds. subgrade for pave.;
- (20) 27 sta. finish rdwy.;
- (21) 0.12 mi. move and reset property fences;
- (22) 1 lot misc. items of work.

OREGON STATE.—Following contracts awarded by the State Highway Commission:

Clackamas County—Odom & Durette Salem, at \$25,361 to construct bridge over Abernethy Creek on East Portland-Oregon City Highway at Oregon City, involving 1,050 cu. yds. excavation, 2,800 lin. ft. foundation piling, 900 lin. ft. concrete piling, 945 cu. yds. concrete, 168,000 lbs. metal reinforcement and 390 lin. ft. concrete handrail.

Lane County—C. J. Montag, Portland, at \$40,845 to construct 17 bridges on Cheshire-Prairie Road Section of the Siuslaw Highway, involving 8,400 lin. ft. cresooted piling, 900 cu. yds. concrete, 190,000 lbs. metal reinforcement, 2,600 lin. ft. handrail and 220 M. F. B. M. lumber.

Umatilla County—R. H. Jones, Baker, at \$13,774 to construct bridge over O. W. R. & N. Co. tracks on Columbia River Highway at Umatilla, involving 600 cu. yds. excavation, 500 cu. yds. concrete, 102,000 lbs. metal reinforcement and 389 lin. ft. concrete handrail.

COCONINO COUNTY, Arizona—Lewis Bros., Winslow, Ariz., submitted low bid to U. S. Bureau of Public Roads, Phoenix, Ariz., June 28th, at \$22,996 to construct Oak Creek Bridge and Grading Approaches, Section F of Route 7, Oak Creek National Forest Highway, Coconino National Forest, Coconino County, Arizona, involving:

| |
|--|
| 1800 cu. yds. unclass. excav.; |
| 550 cu. yds. unclass. excav. for structures. |
| 390 cu. yds. concrete. |
| 49,000 lbs. reinf. steel. |
| 75 cu. yds. cement rubble masonry. |
| 104 lin. ft. wood guard rail. |
| 230 lin. ft. protection ditch. |

SUB-CONTRACTORS MATERIALMEN Stop Your Losses

Credit information on general contractors, owners, builders and individuals.

MATERIALMEN'S CREDIT BUREAU

J. E. Higgins, General Manager
564 Market St.—KEarny 6245-46
Night Phone DOuglas 5304
San Francisco

SAN BERNARDINO, Cal.—T. C. Pritchard, 5260 Magnolia Ave., Riverside, tentatively awarded contract by city council June 27, at \$18,164 to construct concrete and steel bridge on Orange St., bet. Redlands and Highland, across the Santa Ana River.

WASHINGTON STATE—Until July 12, 10 a. m., bids will be received by State Highway Commission, Olympia, Wash., to construct:

- (1) Bridge 180 ft. long over the Pilchuck River on Island School, North Section of State Road No. 1 in Snohomish County, consisting of one 90-ft. and two 45-ft. steel girder spans with 24-ft. roadway and one 4-ft. sidewalk.
- (2) Bridge 445 ft. long over the South fork of the Skykomish River, between God Bar and Index, on State Road No. 15 in Snohomish County, consisting of one 240-ft. through steel truss and four 50-ft. concrete girder approach spans with 24-ft. roadway and one 5-ft. sidewalk.

Specifications obtainable from above office or from office of County Engineer of county in which work is located, on deposit of \$2. Certified check 5% payable to State Treasurer required with bid.

DREDGING, HARBOR WORKS & EXCAVATIONS

LOS ANGELES, Cal.—Until 2 P. M. July 11, bids will be received by the County Supervisors to construct earth levees, furnish and place rock rip-rap and construct appurtenant works on Los Angeles river between 52nd St. and Cerritos trestle, involving:

- PROPOSAL NO. 1
- (1) 175,000 cu. yds. excavation and construction of levee complete.
- PROPOSAL NO. 2
- (1) 12,200 lin. ft. laying railroad on top of levees, complete;
- (2) 90,000 tons furnish and place rock rip-rap on levee slopes, district to pay freight.

- PROPOSAL NO. 3
- (1) 175,000 cu. yds. excavation and construction of levees;
- (2) 12,200 lin. ft. laying railroad track on top of levees;
- (3) 90,000 tons furnish and place rock rip-rap on levee slopes, district to pay freight.

E. C. Eaton, 202 North Broadway, County Flood Control Engineer. Mame B. Beatty, 501 Hall of Records, Clerk of the Board.

OAKLAND, Cal.—Healy - Tibbitts Const. Co., 64 Pine St., San Francisco, at \$19,922 awarded contract by City Port Commission for sheet pile bulkhead for the foot of Peralta Street.

SACRAMENTO, Calif.—Basalt Rock Co., 900 8th St., Napa, at \$43,500 submitted low bid to U. S. Engineer Office, Sacramento, to furnish, deliver and place rip-rap stone along the Sacramento river between the mouth of Cache Slough and Collinsville, involving:

- (1) 23,000 tons rip-rap stone, from 20 to 300 lbs.;
- (2) 1,000 tons rip-rap stone, from 20 to 100 lbs.

Complete bids follow:

| | Unit | Total |
|------------------------------|------|----------|
| Basalt Rock Co., Napa..... | 1.50 | \$43,500 |
| G. F. Atkinson, S. F..... | 1.92 | 55,650 |
| Daniel Const. Co., S. F..... | 2.49 | 72,210 |
| Harbor Tug & Barge Co., 2.51 | | 72,790 |
| Healy-Tibbitts, S. F..... | 2.54 | 73,660 |

Bids held under advisement.

ALAMEDA, Alameda Co., Calif.—Standard Dredging Co., 414 13th St., Oakland, at \$116,750 awarded contract by Constructing Quartermaster, Benton Field Air Depot, Alameda, for making hydraulic fill and constructing sand levees at Benton Field Air Depot under Spec. No. 6, involving approximately 1,200,000 cubic yards. Following is a complete list of the bids:

- Standard Dredging Co., Oakland, \$,094; \$116,750.
- San Francisco Bridge Co., San Francisco, \$,09; \$121,000.
- Hydraulic Dredging Co., Oakland, \$,1006; \$125,750.
- American Dredging Co., San Francisco, \$,09; \$131,125.

STREET LIGHTING SYSTEMS

SAN RAFAEL, Marin Co., Calif.—Globe Electric Works, 1899 Mission St. San Francisco, at \$24,165 awarded the contract by Constructing Quartermaster for electrical distributing system in connection with the Hamilton Field (Marin Meadows) Bombing Base. Work involves street lighting, switch house, transformer vault, gas meter house, etc.

OAKLAND, Cal.—Carl E. Hardy, superintendent of the Municipal Electric Department, will prepare plans for ornamental street lighting in Grand Ave., bet. Broadway and Telegraph Ave. and the continuation of the system in East 14th St. from High St. to 50th Ave. The city will pay \$49,000 of the total cost.

MACHINERY AND EQUIPMENT

GRIDLEY, Butte Co., Cal.—City trustees contemplate purchase of a Diesel engine to generate electricity for the municipal utility system. The trustees at their last meeting announced they were "dissatisfied with the attitude of P. G. & E. Company."

SAN FRANCISCO—Jenison Machinery Co., 58 Fremont St., at \$4,396 submitted low bid to Quartermaster Supply Officer, Fort Mason, to furnish one automobile or tractor operated crane, similar and equal to Hendy Model "C". Complete list of bids follows:

- Jenison Machinery Co., 58 Fremont St., San Francisco, Orton, \$4,396.
 - Kratz & McClelland, Inc., Liberty Hoist, Winch & Crane, \$4,830.
 - Honolulu Iron Works, Hendy, \$6,350.
 - Joshua Hendy Iron Works, Hendy, \$6,450.
- Bids held under advisement.

SAN FRANCISCO—Cyclops Iron Works, 837 Polson St., at \$3,263 submitted low bid to Supervising Architect, Treasury Department, Washington, D. C., for new ammonia compressor, brine cooler, etc., at the U. S. Marine Hospital in San Francisco. The complete list of bids follows:

- Cyclops Iron Works..... \$3,263
- York Ice Machinery Corporation, Philadelphia 3,585
- Baker Ice Machine Co., L. A. 3,590
- Oakland Refrigerator & Butcher Supply Co., Oakland..... 3,822

YAKIMA, Wash.—See "Reservoirs and Dams", this issue. Bids opened by U. S. Bureau of Reclamation for motor-operated tandem cylinder gate hoist, etc., in connection with the Cle Elum Dam.

RESERVOIRS AND DAMS

PASADENA, Cal.—Until 11 A. M., July 26, bids will be received by city clerk Bessie Chamberlain, City Hall, to furnish discharge needle valves, welded steel pipes, Venturi tubes, gate valves, caterpillar gates, etc., for use in connection with the Pine Canyon Dam and in accordance with Specifications prepared by S. B. Morris, Chief Engineer and General Manager, and C. E. Pearce, Designing Engineer, Louis C. Hill and Fred R. Noetzel, consulting engineers. Material and equipment to be supplied follows:

- Two free - discharge needle valves, outlet dia. 72-in.
- One do 42-in.
- Three do 36-in.
- Two 96-in. dia. welded steel pipe, each approx. 150 ft. long.
- One 54-in. dia. do approx. 108 ft.
- One 48-in. dia. do approx. 105 ft.
- Two 48-in. do approx. 155 ft. long.
- Two 48-in. do approx. 24 ft. long.
- One 54-in. inlet dia. welded steel Venturi tube, register and appurtenances.
- One 48-in. do.
- One 20-in. inlet dia. cast iron Venturi tube, register and appurtenances.
- Two 96-in. inlet dia. butterfly valves
- One 54-in. inlet dia. hydraulically operated gate valve or slide gate.
- Three 48-in. do.
- 48 lin. ft. 96-in. dia. Class C cast iron pipe flanged.
- 23 lin. ft. 54-in. do.
- 70.5 lin. ft. 48-in. do.
- One 54-in. dia. cast iron entrance transition section.
- Three 48-in. do.
- One 8x10-ft. caterpillar gate, with hoist, cables and appurtenances.
- Two caterpillar gate frames for 96-in. dia. outlets.
- Four caterpillar gate frames for 54- and 48-in. dia. outlets.
- Approx. 2450 lin. ft. gate guides for caterpillar gate.

LOS ANGELES, Cal.—Until 2 P. M. July 11, bids will be received by the County Supervisors to construct miscellaneous alterations on spillway of Devil's Gate Dam, involving:

- (1) 210 cu. yds. excavation;
- (2) 210 cu. yds. backfill;
- (3) 130 cu. yds. placing hand placed rockfill;
- (4) 230 cu. yds. place loose dumped rockfill;
- (5) 115 cu. yds. place cement rubble masonry;
- (6) 20 cu. yds. removal of existing concrete;
- (7) 150 cu. yds. place reinf. concrete;
- (8) 2575 sq. ft. place Gunite on ceiling of bridge, inc. placing of miscellaneous metal supports and wire mesh;
- (9) 30 ft. drilling dowel holes in existing concrete;
- (10) 25 lin. ft. placing tile drains;
- (11) 20 drilling weep holes; complete.
- (12) construction of equestrian ramp, complete.

E. C. Eaton, 202 North Broadway, County Flood Control Engineer. Mame B. Beatty, 501 Hall of Records, Clerk of the Board.

PASADENA, Cal.—Until 11 A. M., July 26, bids will be received by city clerk, Bessie Chamberlain, City Hall, to furnish discharge needle valves, welded steel pipes, Venturi tubes, gate valves, caterpillar gates, etc., for use in connection with the Pine Canyon Dam. Specifications prepared by S. B. Morris, Chief Engineer and General Manager, and C. E. Pearce, Designing Engineer. Louis C. Hill and Fred A.

Noetzi, consulting engineers. Project involves:

Two free-discharge needle valves outlet dia. 72-in.;
One do, 42-in.;
Three do, 36-in.;

Two 96-in. dia. welded steel pipes, each approx. 50 ft. long;
One 54-in. dia. do, 105 ft. long;
One 48-in. dia. do, 105 ft. long;
Two 48-in. dia. do, 155 ft. long;
Two 48-in. dia. do, 24 ft. long;
One 54-in. inlet dia. welded steel Venturi tube, register and appurtenances;

One 48-in. do;
One 20-in. do;
Two 96-in. inlet dia. butterfly valves
One 54-in. inlet dia. hydraulically operated gate valve or slide gate;
Three 48-in. do;
45 in. ft. 96-in. dia. Class C cast iron pipe flanged;

23 in. ft. 54-in. do;
70.5 in. ft. 48-in. do;
One 54-in. dia. cast iron entrance transition section;
Three 48-in. do;
One 8x10-ft. caterpillar gate, with hoist, cables and appurtenances;

Two caterpillar gate frames for 96-in. dia. outlets;

Four caterpillar gate frames for 54- and 48-in. dia. outlets;

Approx. 250 lin. ft. gate guides for caterpillar gate.
Plans obtainable from the Water Department upon deposit of \$5. returnable. The total contract amounts to about \$200,000.

BOULDER CITY, Nev.—Consolidated Steel Corp., Ltd., 1200 N. Main St., Los Angeles, at \$29,200, awarded contract by U. S. Bureau of Reclamation, Denver, under Schedule No. 1, to furnish:
(1) 520 50x50-ft. bulkhead gates, each gate to be complete.
(2) 529 sets of structural steel gate frames, guides, rollers, tracks, seats, seals, supports and appurtenant parts for the gate of (1).

YAKIMA, Wash.—Bids for furnishing one motor-operated tandem cylinder gate hoist with a capacity of 364,000 lbs. for the bottom gate and 270,000 lbs. for the top gate, with stems, etc., and two cylinder gates with outside diameter of 20 ft. 2 1/2-in. and 19 ft. 10-in., with guides and seats, for installation at Cle Elum Dam, Yakima, Wash., opened by U. S. Bureau of Reclamation, Denver, Colo., June 16, follow:

Pacific Iron & Steel Works, Tacoma, Wash., Item 1, \$19,400; Item 2, no bid; comb. Items 1 and 2, no bid.

Allis-Chalmers Mfg. Co., Milwaukee, Wis., (1) \$5630 (2) \$12,577 (1 and 2) no bid.

The Link-Belt Co., Chicago, Ill., (1) \$9624 (2) \$18,492 (1 and 2) \$25,156.

H. R. L. Motor Co., Seattle, Wash., (1) \$19,114.

The American Locomotive Company Schenectady, N. Y., (1) \$11,347 (2) \$3,367 (1 and 2) \$14,714.

Hardie-Tynes Mfg. Co., Birmingham Ala., (1) \$11,723 (2) \$3932 (1 and 2) \$15,505.

McClintic - Marshall Corp., Bethlehem, Pa., (2) \$3839.

M. H. Treadwell Co., Inc., New York City (1) \$19,160 (2) \$4070 (1 and 2) \$23,000.

Earl Gear & Machine Co., Philadelphia, Pa., (1) \$18,100.

Lakeside Bridge & Steel Co., Milwaukee, Wis., (1) \$12,450 (2) \$4000 (1 and 2) \$16,157.

Ther & Stowell Co., Milwaukee, (1) \$13,875 (2) \$5837.

St. Paul Foundry Co., Saint Paul,

Minn., (1) \$18,412 (2) \$8964.

Chas. C. Steward Machine Co., Birmingham, Ala., (1) \$15,163.14.

Commercial Boiler Works, Seattle, Wash., (2) \$4748.

Reading Iron Works, Reading, Pa., (1) \$19,650 (2) \$4475.

Ordgen Iron Works, Ordgen Utah, (1) \$25,000.

Harnischfeger Sales Corp., Milwaukee, Wis., (1) \$15,870 (2) \$4985 (1 and 2) \$20,645.

Goodman Mfg. Co., Chicago, Ill., (1) \$12,860.

Herbert Hayward Co., Baltimore, Md., (1) \$12,800 (2) \$5500.

John W. Beam, Denver, Colo., (1) \$15,750 (2) \$6550 (1 and 2) \$22,000.

J. W. Beam, Denver, Colo., (2) \$5,900.

Minneapolis - Moline Power Implement Co., Minneapolis, Minn., (1) \$17,950 (2) \$6007 (1 and 2) \$23,957.

Omaha Steel Works, Omaha, Neb., (1) \$15,720 (2) \$5497.

Wallace Bridge & Structural Steel Co., Seattle, Wash., (1) \$14,876 (2) \$5,400 (1 and 2) \$19,976.

Marion Machine Foundry & Supply Co., Scottsdale, Pa., (1) \$7813.25.

Bethlehem Shipbuilding Corp., San Francisco, (1) \$14,990 (2) \$6200 (1 and 2) \$21,190.

Washington Iron Works, Seattle, Wash., \$19,600 (2) \$10,000 (1 and 2) \$29,600.

Fulton Iron Works, St. Louis, Mo., (1) \$23,000 (2) \$5510 (1 and 2) \$28,510.

Joshua Hendy Iron Works, San Francisco, (1) \$13,969.

Silent Hoist Winch & Crane Co., Brooklyn, N. Y., (1) \$16,590 (2) \$7325 (1 and 2) \$23,915.

Bethlehem Steel Co., Bethlehem, Pa., (1) \$13,863 (2) \$6270 (1 and 2) \$20,000.

Commercial Iron Works, Portland, Ore., (1) \$9311 (2) \$12,599 (1 and 2) \$20,582.

Newport News Shipbuilding & Dry Dock Co., New York City (1) \$20,300 (2) \$6700 (1 and 2) \$23,900.

Pacific Car & Foundry Co., Seattle, Wash., (2) \$5916.

Nashville Bridge Co., Nashville, Tenn., (2) \$6273.

The Aldrich Pump Co., Allentown, Pa., (1) \$13,999.

Lake Erie Eng. Corp., Buffalo, N. Y. (1) \$17,086 (2) \$6363 (1 and 2) \$22,698.

Stacey Schmidt Mfg. Co., York, Pa., (1) \$6000. 30

LOS ANGELES, Cal.—Until Aug. 1, 2 P. M., bids will be received by the Los Angeles County supervisors to construct San Gabriel Dam No. 1. Bonds in the amount of \$2,000,000 have been sold to the Bank of America and an additional \$3,000,000 will be disposed of within the next few weeks. A block of \$2,000,000 has been advertised for sale. Plans for the project are obtainable from E. C. Eaton, County Flood Control Engineer, 202 N Broadway, Los Angeles.

The plans call for a rock fill dam with poured concrete or Gunite facing slabs. The proposed dam will be 280 ft. in height above stream bed (extending practically 100 ft. below to foundation rock), 1670 ft. in length measured along the road on the crest, and 1200 ft. thick at the base. The total estimated cost is \$10,000,000.

The specifications provide that a certified check or cashier's check, payable to the chairman of the board of supervisors, in the sum of \$300,000, shall accompany each bid. Faithful performance and labor and material bonds, each in the sum of 50%, shall be furnished by the successful bidder. A provision, to obviate a recurrence of the legal entanglement on the original bid on San Gabriel Dam No. 2, has

been inserted in the proposal form and in the contract. This provides that the deposit by bidders to guarantee execution of the contract shall be for the purpose of indemnifying the district to the extent of such deposit against any loss that may be sustained by reason of the failure of the contractor to execute the contract within twenty days after the award. In such case the district will be damaged to the extent of the difference between the aggregate amount for which such bidder shall offer to do the work, based upon the estimated quantities given, and the estimated aggregate cost of the same work based upon such estimated quantities under any contract that may be awarded by the district for substantially the same work within 90 days after the date set for receiving bids, together with the sum of \$30,000 as additional damages because of the delay. If the bidder fails to execute a written contract and furnish bonds as required within the time provided, the district shall collect the amount of the certified check or cashier's check and retain the same until the amount of such damages as provided shall be ascertained, after which the amount of such damages shall be the property of the district, and the excess, if any, of the amount of the check over the amount of such damages, shall be repaid to the bidder upon demand in the manner prescribed by law. If the proposal is not accepted, or if it is accepted and the written contract and bonds are executed within 20 days as required, the check shall be returned to the bidder.

A charge of \$4 will be made for each set of plans and specifications. This payment will not be returnable.

The approximate quantities as shown by the two alternate proposals are as follows:

PROPOSAL NO. 1

- (1) 400,000 cu. yds. Class A excav. on west abutment above elevation 1190;
- (2) 125,000 cu. yds. Class B excava. on east abutment above eleva. 1190;
- (3) 659,000 cu. yds. Class C excava. streambed below elevation 1190 in vicinity of cut-off;
- (4) 633,000 cu. yds. Class D excava., streambed below eleva. 1190 downstream from cut-off;
- (5) 15,000 cu. yds. Class E excava., cut-off trenches;
- (6) 24,000 cu. yds. Class F excava., misc. open cut;
- (7) 1750 cu. yds. Class G excavation, inclined outlet shaft;
- (8) 62,700 cu. yds. Class H excava., main outlet tunnel;
- (9) 735 cu. yds. Class J excavation, spillway pilot tunnel;
- (10) 55,000 cu. yds. backfill;
- (11) 4,100,000 cu. yds. Class A rockfill in body of dam;
- (12) 643,000 cu. yds. Class B rockfill below streambed downstream from cut-off;
- (13) 470,000 cu. yds. Class C rockfill, large rock on downstream face
- (14) 349,000 cu. yds. Class D rockfill, packed on upstream face;
- (15) 19,100 cu. yds. Class A concrete, main cut-off wall;
- (16) 725 cu. yds. Class B reinf. conc.;
- (17) 2300 cu. yds. Class C concrete, trash racks and tunnel outlet;
- (18) 400 cu. yds. Class D concrete, lining in outlet shaft;
- (19) 13,800 cu. yds. Class E concrete, lining in outlet tunnel;
- (20) 35,500 cu. yds. Class F concrete, plain concrete;
- (21) 325 cu. yds. Class G concrete, tunnel plug;

- (22) 6600 cu. yds. Class H concrete, floater slabs;
- (23) 2,167,000 sq. ft. placing 6-in. Gunite facing slabs;
- (24) 4500 lin. ft. drilling grout holes, Class A, less than 50 ft.;
- (25) 11,300 lin. ft. drilling grout holes, Class B, greater than 10 ft. and less than 50 ft.;
- (26) 34,000 lin. ft. drilling grout holes, Class C, greater than 50 ft. and less than 150 ft.;
- (27) 8500 lin. ft. drilling grout holes, Class D, redrilling thru grout;
- (28) 17,500 lin. ft. drilling grout holes, Class E, less than 20 ft., in shaft tunnels only;
- (29) 2500 holes; placing fittings on grout holes;
- (30) 6650 lin. ft. placing grout pipe;
- (31) 620 cu. yds. pressure grouting;
- (32) 36,000 lin. ft. placing metal slabs;
- (33) 220,000 lbs. place gates and valves
- (34) 154,000 lbs. place steel trash racks
- (35) 3000 lbs. place iron pipe hand-railing;
- (36) 5350 lbs. place structural steel;
- (37) 148,000 lbs. install pipe for valve operation;
- (38) 1000 lbs. placing operating machinery;
- (39) 7,675,000 lbs. place reinf. steel;
- (40) 1500 lbs. place iron pipe conduit;
- (41) 3100 lbs. place misc. metal;
- (42) 2040 lin. ft. placing tile drains;
- (43) 1120 lin. ft. place steel dowels.

PROPOSAL NO. 2

- Same as No. 1, except:
- (23) 2,167,000 sq. ft. placing 6-in. concrete facing slabs.

SEWERS AND SEWAGE DISPOSAL PLANTS

FORT CLAYTON, C. Z.—Until Aug. 25 (time extended from June 15) bids will be received by Quartermaster Department, Quarry Heights, Panama Canal Zone, to construct earth and rock roads, curbs, walks; water distributing and street lighting systems; storm and sanitary sewer system and miscellaneous building construction. See item under "Government Work and Supplies" in this issue.

ALBANY, Alameda Co., Calif.—City Engineer H. I. Dygert is preparing plans to extend the Marin Ave. storm and sanitary sewer at a cost of \$25,000. It is planned to extend the 78-in. sewer about 1,200 ft. into the bay.

REDWOOD CITY, San Mateo Co., Cal.—C. L. Dimmitt, city engineer, authorized by city council to prepare specifications for sewers in Carmelita Manor, which will connect with the city's sewage system, involving:

- (1) 814 lin. ft. 8-in. sewer;
- (2) 3165 lin. ft. 6-in. sewer;
- (3) 20 manholes.

B. E. Myers, city clerk.

SAN RAFAEL, Marin Co., Calif.—Earl W. Heple, 494 Delmas St., San Jose, at \$55,844 awarded contract by the Constructing Quartermaster for drainage system in connection with the Hamilton Field (Marin Meadows) Bombing Base.

SAN RAFAEL, Marin Co., Calif.—Oakland Sewer Const. Co., 9915 Walnut, Oakland, at \$36,648 awarded contract by Constructing Quartermaster for sanitary sewer in connection with the Hamilton Field (Marin Meadows) Bombing Base.

LAS VEGAS, Nevada—Fuller Construction Co., Dallas, Tex., submitted low bid to city commission June 16 at \$77,257 to construct sewers in Latral Sanitary Sewer District No. 1.

The work includes sewer lines, man-holes, lamp holes, flush tanks, wyes, etc. The Fuller Construction Co. has the contract for sewer system and disposal plant, awarded Nov. 2, 1931, at \$108,510.54, now under construction. The other bids were:

- Kemper Construction Co., Los Angeles, \$86,961.14.
- J. C. Hickey, Alhambra, Cal., \$97,010.20.
- Bebek & Erkich, Los Angeles, \$105,516.25.

LOS ANGELES, Cal.—Until 10. A. M., July 13, bids will be received by Board of Public Works to construct extension of the by-pass channel and the north outfall sewer at the Hyperion sewage treatment plant, involving:

- (1a) construct 140.50 lin. ft. of reinforced concrete pipe sewer on crescented wooden pile bent trestle, with all required appurtenances, etc.
- (1b) type 1—construct 1040 lin. ft. of a crescented wood pile bent pier, consisting of approximately 12 4-pile bents and 54 2-pile bents, together with the required bracing to adjoining bent, complete.
- (a) per 2-pile bent (including bracing, superstructure and appurtenances);
- (b) per 4-pile bent (including bracing, etc.);

Type 2—construct 1040 lin. ft. of a bituminous enameled steel H-beam pile bent pier, consisting of approximately 12 4-pile bents and 54 2-pile bents, together with the required X-bracing rods, bracing rods to adjoining bent, superstructure and all necessary appurtenances, complete;

- (a) per 2-pile bent, 8-in. section (including bracing, superstructure, etc.);
- (b) per 4-pile bent, 8-in. section (including bracing, etc.);
- (c) per 2-pile bent, 10-in. section (including bracing, etc.);
- (d) per 4-pile bent, 10-in. section (including bracing, etc.).

Note: In types 1 and 2 of item (1b) the price "per bent bid" shall be understood to include one bent complete in place, together with that portion of the superstructure and bracing connecting said bent to the next adjoining bent.

SANTA CRUZ, Santa Cruz Co., Cal.—Capitola Sanitary District votes bonds of \$21,500 to finance construc-

tion of a sewer system including pumphouse, sewer lines and outfall. Bond vote was 128 in favor and 15 against. Further details in connection with this project will be published shortly.

SAN FRANCISCO.—Montague Pipe & Steel Co., 1999 3rd St., at \$745 submitted low bid to city purchasing agent to furnish 2700 ft. 14-in. 14-gauge asphalt double dipped, riveted or welded steel pipe, slip joint. Complete bids follow:

- Montague Pipe & Steel Co. \$745
- Rees Blow Pipe & Mfg. Co. 795
- Western Pipe & Steel Co. 80

Bids held under advisement.

AMERICAN LAKE, Wash.—Strong-MacDonald, Inc., 1011 East F St., Tacoma, Wash., at \$38,850 awarded contract by Construction Division, U. S. Veterans' Bureau, Washington, D. C., to construct a vitrified clay and reinforced concrete outfall sewer, 19,000 feet in length, at the Veterans' Hospital, American Lake.

WHEELER FIELD, T. H.—Mark Const. Co., Honolulu, T. H., at \$64,888 awarded contract by Army Quartermaster Department, to construct sewer line, septic tank, sprinkling filter, dosing tank, discharge tunnel, and sludge bed at Wheeler Field, Honolulu.

MISCELLANEOUS CONSTRUCTION

CANAL ZONE—Until June 22, under Specification No. 6620, bids will be received by Bureau of Yards and Docks, Navy Department, Washington, D. C., for steel tanks, concrete ethylizing plant enclosure, motor operated pumps and fan, and piping and ethylizing systems at the naval fleet air base, Coco Solo, Canal Zone. Deposit of \$15, returnable, required for plans, obtainable from the Bureau.

PITTSBURG, Contra Costa Co., Cal.—City Manager George T. Oliver is making surveys for proposed new reservoir in connection with the municipal water system. Estimates of cost will also be prepared for a new water softener.

WATERWORKS

UPLAND, San Bernardino Co., Cal.—South Chester Tube Co., 716 A. G. Bartlett Bldg., Los Angeles, awarded contract by city council at \$37.26 per c ft. to furnish f.o.b. trenchside 9,000 ft. of 6-in. steel pipe for city water system extensions and replacements.

WHITTIER, Los Angeles Co., Cal.—Until 7:30 P. M., July 13, bids will be received by city council for cast iron pipe and copper pipe as follows:

- 1,500 ft. 4-in. cast iron pipe;
- 20,000 ft. 6-in. do;
- 2,000 ft. 8-in. do;
- 1,500 ft. 10-in. do;
- 9,000 ft. copper surface pipe, ¾-in. 1-in., 1½-in. and 2-in.

Specifications obtainable from M. R. Bowen, City Engineer, and Superintendent of the Water Department. Certified check or surety company bond, 10%. Mrs. Debbie R. Allen, city clerk.

STOCKTON, San Joaquin Co., Cal.—Bids will be asked within thirty days by the city council to furnish and erect a 100,000-gallon water storage tank in connection with the Stockton Deep Water Project. B. C. Allin is city port director.

SKILSAW Portable Electric Hand Saws (four models).

SKILSAW Portable Electric Sander.

SKILSAW Radial Arm Attachments.

SYNTRON Portable Electric Hammers (four models, motorless).

MALL Flexible Shaft Machines (50 models).

Electric Drills, Grinders, Buffers, Routers, Lock Mortisers.

Peter H. Nelson

Labor Saving Portable Electric Tools

1246 Mission St., San Francisco
Underhill 7662
SALES : SERVICE : RENTALS

LOS BANOS, Merced Co., Calif.—City Engineer W. W. Bedesen authorized by city trustees to prepare plans for new rapid sand and pressure filter systems at the water works. Bids will be asked about August 17.

CANAL ZONE—Until July 6 (time extended from June 22) under Specification No. 6620, bids will be received by Bureau of Yards and Docks, Navy Department, Washington, D. C. for steel tanks, concrete ethylizing plant enclosure, motor operated pumps and fan, and piping and ethylizing systems at the naval fleet air base, Coco Solo, Canal Zone. Deposit of \$15, returnable, required for plans, obtainable from the Bureau.

OAKLAND, Cal. —Ducummon Corp. 656 Townsend St., San Francisco, at \$1894 awarded contract by East Bay Municipal Utility District to furnish 100,000 lin. ft. ¾-in. copper tubing.

STREETS AND HIGHWAYS

COLORADO STATE—J. B. Bertrand Inc., Denver, submitted low bid to the Highway Department, Denver at \$187,925.38 for highway construction on Combined F. A. Projects Nos. 245-AR No. 2, 245-BR and 245-C, No. 2, a concrete paving project 11.163 miles long, located bet. La Junta and Las Animas on State Highway No. 6, Bent and Otero Counties, involving: 51,000 cu. yds. excavation, unclass.; 46,000 sta. yds. overhaul; 200 yd. ml. overhaul; 127,140 sq. yds. concrete pavement; 8,570 cu. yds. sand cushion; 0.3 M.B.M. untreated bridge timber; 5 M.H.M. treated timber; 4.6 M.B.M. miscel. untreated timber; 844 cu. yds. Class A concrete; 112,600 lbs. reinforced steel; 15,400 sq. yds. pavement reinforcing; 9,000 lbs. structural steel; 114 ft. 10-in. C.M.P. with collars; 230 ft. 10-in. C.M.P.; 376 ft. treated timber piling; and incidental items.

ALASKA—Until July 20, 9 A. M., bids will be received by U. S. Dept. of Agriculture, Bureau of Public Roads, Juneau, Alaska, to clear and grub the Tongass Highway, Mud Bay-Point Higgins Section, National Forest Road project within the Tongass National Forest, First Judicial Division, 2.901 mi., involving: (1) 19 acres clearing; (2) 12 acres grubbing.

Specifications obtainable from above office on deposit of \$10, returnable. Certified check 5% required with bid.

WHITE PINE COUNTY, Nev.—Until July 13, 2 P. M., bids will be received by C. H. Sweetser, District Engineer, U. S. Bureau of Public Roads, 461 Market St., San Francisco, to apply Government furnished fuel oil and cutback asphalt and process existing crushed gravel surfacing Section A of Route 13, Midland Trail (Ely-Belt Creek) National Forest Highway, Nevada National Forest and Federal Lands Project No. 1, 9.620 miles, involving:

- (1) 227,000 gals. apply fuel oil;
 - (2) 9,620 mi. process oil treated crushed gravel;
 - (3) 9,620 ml. rolling;
 - (4) 55 tons apply cutback asphalt seal
- Specifications obtainable from above office on deposit of \$10 certified check payable to Regional Fiscal Agent, U. S. Forest Service. Certified check 5% required with bid.

SANTA CLARA COUNTY, Calif.—Until July 11, 2 P. M., bids will be received by John H. Skeggs, District Engineer, State Highway Commission, Room 211, State Building, San Francisco, to plane 10.9 miles existing asphalt conc. pavement between Morgan Hill and Sargent Overhead. Specifications obtainable from above office. Certified check 10% required with bid.

IDAHO STATE.—Quinn-Roberts Co. Inc., Boise, at \$40,613.85 awarded contract by Department of Public Works to place crushed rock or gravel surfacing and construct a road mix oil mat on 11,003 miles of the Bear Lake Highway bet. Paris and St. Charles, F. A. P. 97-ECDE.

Complete bids follow:
 Quinn-Robbins Co., Inc.....\$40,613.85
 Olof Nelson, Logan, Utah.....40,700.00
 Engineer's estimate 45,429.50

IDAHO STATE.—Quinn Robbins Co. Inc., Boise, at \$74,305.75 awarded contract by Department of Public Works to construct 16.710 miles of a plant mix oil mat on the North and South Highway bet. Craigmont and Culeadac in Lewis and Nez Perce Counties, F. A. P. 59 and 69.

Complete bids follow:
 Quinn-Robbins Co., Inc.....\$74,305.75
 M. J. Kuney, Spokane.....\$7,560.40
 Standard Asph. Pav. Co., Spo-
 kane 92,606.80
 H. G. Johnson, Portland.....99,680.90
 Triangle Con. Co., Boise.....102,194.30
 Kern & Kibbe, Portland.....110,507.10
 Parker-Schram Co., Portland
 (irregular)
 Engineer's estimate 91,122.82

YOLO COUNTY, Cal.—A. Teichert & Son, 1063 45th St., Sacramento, at \$1008 submitted low bid to U. S. Engineer Office, Sacramento, to construct a new bituminous surface on a roadway approximately 600-ft. long, one-half mile west of the westerly end of M Street Bridge, Sacramento, over the hydraulic dredge fill recently made by the U. S. Engineer Department. Complete bids follow:
 A. Teichert & Son, Sacto.....\$84 \$1008
 J. R. Reeves, Sacto.....\$75 \$1050
 Bids held under advisement.

ALASKA—Until July 20, 9 A. M., bids will be received by U. S. Department of Agriculture, Bureau of Public Roads, Juneau, Alaska, to reconstruct and improve the Douglas Highway, Lawson Creek Bridge, National Forest Road Project, adjacent to the Tongass National Forest, First Judicial Division, 0.049 mile, involving: (1) 75 cu. yds. structure excavation; (2) 0.029 mile finishing; (3) 280 cu. yds. unclass. borrow; (4) 11.5 M. ft. b.m. untreated timber; (5) 13.5 M. ft. b.m. treated timber; (6) 10.0 cu. yds. Class B concrete; (7) 22 lin. ft. 18-in. corr. metal pipe; (8) remove old trestle.

Specifications obtainable from above office on deposit of \$10, returnable. Certified check 5% required with bid.

SAN FRANCISCO.—Until July 13; 2:30 P. M., bids will be received by S. J. Hester, secretary, Department of Public Works, to resurface Bosworth St. between Mission and Elk Sts., involving:

- Proposition No. 1**
 (1) 133,000 sq. ft. asph. conc. wearing surface, remove and replace by same, 2-in. thick.
- Proposition No. 2**
 (1) 133,000 sq. ft. asph. conc. wearing surface, removed to depth of 1-in. by heating and replaced;
 (2) 50 tons asph. conc. binder course;
 (3) 200 ft. granite curb reset;
 (4) 100 ft. conc. curb reset;
 (5) 100 ft. asph. conc. curb.
- Estimated cost \$9810. Specifications obtainable from office of John J. Casey 3rd floor, City Hall.

SHASTA COUNTY, Cal.—Until July 20, 2 P. M., bids will be received by State Highway Commission, Sacramento, to grade and surface with crusher run base and bituminous treated crushed gravel or stone surfacing (plant mixed) about 10.2 ml., between Canyon Creek and Hat Creek Summit, involving:

- (1) 58 acres clear and grub right-of-way
 - (2) 250,900 cu. yds. rdwy. excav. without class;
 - (3) 1,781,000 sta. yds. overhaul;
 - (4) 600 cu. yds. struc. excav.;
 - (5) 51,000 tons crusher run base;
 - (6) 20,000 tons crushed gravel or stone (bit. treated surf.);
 - (7) 930 bbls. heavy fuel oil;
 - (8) 325 tons asphalt (Grade "E");
 - (9) 60 tons cut-back asphalt (seal 50%);
 - (10) 67 cu. yds. Class "A" Port. cem. conc. (struc.);
 - (11) 3000 lbs. bar reinf. steel (struc.);
 - (12) 70 lin. ft. 12-in. corr. metal pipe;
 - (13) 1550 lin. ft. 18-in. do;
 - (14) 550 lin. ft. 24-in. do;
 - (15) 32 lin. ft. corr. metal pipe (clean and relay);
 - (16) 103 lin. ft. salvage exist. culverts;
 - (17) 1355 M. gals. water applied to subgrade and surfacing;
 - (18) 543 Sta. finish roadway;
 - (19) 65 monuments complete in place.
- State will furnish corrugated metal pipe.

ALASKA—Until July 20, 9 A. M., bids will be received by U. S. Department of Agriculture, Bureau of Public Roads, Juneau, Alaska, to reconstruct and improve the Sitka Highway, Indian River Park Section, National Forest Road Project, adjacent to Tongass National Forest, First Judicial Division, 1.089 miles, involving:

- (1) 4 acres clearing;
 - (2) 2.5 acres grubbing;
 - (3) 6,600 cu. yds. unclass. excav.;
 - (4) 150 cu. yds. struc. excav.;
 - (5) 3,000 cu. yds. top course gravel;
 - (6) 1,000 cu. yds. supplemental gravel
 - (7) 800 cu. yds. unclass. borrow;
 - (8) 474 lin. ft. 18-in. corr. metal pipe
 - (9) 86 lin. ft. 24-in. do;
 - (10) 136 lin. ft. 30-in. do.
- Specifications obtainable from above office on deposit of \$10, returnable. Certified check 5% required with bid.

AMADOR COUNTY, Cal. — Willard, Biasotti & Lovatti, 40 W. Clay Street, Stockton, at \$12,600.59 awarded contract by State Highway Commission to surface with bituminous treated crushed gravel or stone about 4.8 mi. between Amador City and Martell.

**CAPITAL CITY
TITLE COMPANY**

▼

**J. C. PALEN,
Manager**

▼

914 Seventh Street
Sacramento :: California

SAN JOSE, Santa Clara Co., Cal.—Until July 11, 11 A. M., bids will be received by Henry A. Pfister, county clerk, to improve Junipero Serra Blvd. Supervisor District No. 5, involving 41,130 cu. yds. excavation. Specifications obtainable from office of Board of Supervisors. Robt. Chandler, county surveyor.

IDAHO STATE—Diesel Oil Sales Co. 115 Belmont North, Seattle, submitted low bid to G. E. McKelvey, commissioner of Public Works, Boise, June 2, at \$28,369, for oiling in Idaho F. A. P. No. 65, 80, 96-ABC. Work consists of constructing a road mix oil mat on 42,528 miles of the Old Oregon Trail between the Caribou County line and Wyoming state line, in Bear Lake County, involving:
15,600 bbls. heating and applying oil;
42,528 miles mixing and finishing.

SAN JOAQUIN COUNTY, Cal.—Until July 12, 2 P. M., bids will be received by State Department of Public Works, Division of Architecture, 502 State Office Bldg., Sacramento, to surface with bituminous treated crushed gravel or stone, 0.6 mile of roads within the State Hospital Grounds at Stockton. Plans obtainable from above office.

SAN LUIS OBISPO COUNTY, Cal.—Granite Construction Co., Bin No. 9, Watsonville, at \$144,687.30 awarded contract by State Highway Commission, Sacramento, to grade and surface with bituminous treated crushed gravel or stone about 9.7 miles bet. Cambria and one mile north of San Simeon.

IDAHO STATE—Jack Casson, Hayward, Cal., awarded contract by Idaho State Highway Dept. at \$24,490 for highway oiling in F. A. P. No. 18-A, road mix oil material on 12,312 mi. of North and South Highway, Genesee-Thorn Creek section, Latah and Nez Perce Counties, F. A. P. 33-AB and 68-A, 20,363 mi. of North and South Highway, bet. Winchester and Cottonwood, Lewis and Idaho Counties. The work involves 14,805 mi. scarifying, heating and applying 15,145 bbls. oil, finishing and mixing 33,680 mi. Stockpiles at Genesee and Craigmont will involve 4000 cu. yds. stockpiling treated surface.

SAN FRANCISCO—Until July 13, 2:30 P. M., bids will be received by S. J. Hester, secretary, Department of Public Works, to resurface Mission St. between Silver Ave. and county line. Estimated cost \$22,460. Project involves:

Proposition No. 1

(1) 300,000 sq. ft. asph. concrete wearing surface, remove and replace.

Proposition No. 2

(1) 300,000 sq. ft. asph. concrete wearing surface, removed to depth of 1-in. by heating, and replacing;
(2) 50 tons asphalt concrete binder;
(3) 200 ft. granite curb to be reset.

Specifications obtainable from John J. Casey, city engineer, 3rd floor, City Hall.

FORT CLAYTON, C. Z.—Until Aug. 25 (time extended from June 15) bids will be received by Quartermaster Department, Quarry Heights, Panama Canal Zone, to construct earth and rock roads, curbs, walks; water distributing and street lighting systems; storm and sanitary sewer system and miscellaneous building construction. See item under "Government Work and Supplies" in this issue.

June 17, 1932
EUREKA COUNTY, Nevada—Until Aug. 2 (approx. date), bids will be received by S. C. Durkee, State Highway Engineer, Carson City, to furnish, apply and mix asphaltic fuel oil with the roadway surface between 4 mi. east of Dunphy and Eureka-Elko County line, 18.01 mi. Specifications obtainable after July 18 from above office, county clerk's office at Eureka, on deposit of \$5, \$2.50 returnable. Certified check 5% required with bid.

WASHINGTON STATE—Until July 12, 10 A. M., bids will be received by State Highway Commission, Olympia, Wash., for:

- (1) Paving with Portland cem. conc. about 3.0 mi. of State Road No. 2, Davenport West, F. A. P. No. 7-C, in Lincoln County.
- (2) Constructing a bituminous surface on about 19.6 mi. of State Road No. 2, Creston to Wilbur in Lincoln County and on about 17 mi. of State Road No. 3, Barstow to Laurier in Ferry County. Specifications obtainable from above office or from office of County Engineer of county in which work is located on deposit of \$2. Certified check 5% payable to State Treasurer required with bid.

WASHINGTON STATE—Following contracts awarded by State Highway Commission for highway construction:
Goetz & Brennan, Seattle, at \$145,859, to pave with Port. cem. conc. about 5.9 miles of State Road No. 3, Dayton north, F. A. P. No. 157-A, in Columbia County, involving also construction of 40-ft. concrete girder bridge and other items.

J. A. Tertling & Sons, Spokane, at \$25,288, to grade and surface about 1.6 mi. State Road No. 15, Summit East in Chelan County, involving 9 acres clearing, 45,850 cu. yds. excav., 5150 cu. yds. cru. stone, 1098 lin. ft. pipe culverts and other items.

Hargrave Construction Co., Spokane, at \$56,126, to construct bituminous surface on the following section of State Highways:

State Road No. 5—Lewis County. Divide to Mill Creek, 42 mi. bit. surf. Tr. light; Elbe to West Fork, 13 mi. bit. surf. Tr. No. 3 (Non-Skid Seal).
State Road No. 8—Clark and Skamania Counties. Washougal to Stevenson, 25 mi. bit. surf. Tr. No. 3 (Non-Skid Seal).

State Road No. 12—Cowlitz and Wahkiakum Counties. Longview to Coal Creek Slough, 4 mi. bit. surf. Mix Tr. (Road Mix).
F. S. Kernan, Portland, second low at \$60,532.

Coal Creek Slough to Cathlamet, 19 mi. bit. surf. Tr. No. 3 (Non-Skid Seal).

Cathlamet to Skamokawa, 8 mi. bit. surf. Tr. Light.

KERN COUNTY, Cal.—Western Motors Transfer Co., 118 State Street, Santa Barbara, at \$10,321.20, awarded contract by State Highway Commission, for highway oiling in Kern County, between Democrat Springs and Weldon, 30.6 miles in length, to be treated with road oil as a dust palliative, involving 4230 bbls. 70-80 road oil. Contract previously awarded to Street Improvement Co., was recinded on May 20.

IDAHO STATE—Contracts for highway construction awarded by the State Department, Boise, are:
Triangle Construction Co., Spokane, Wash., at \$32,804 for F. A. P. 101-B, C, D and E sub-base rock and crushed rock surfacing on 24,187 mi. of Palouse

Highway, between Tensed and Mud Bay school house, Benewah and Kootenai Counties.

Morrison-Knudsen Co., Boise, at \$18,179, for 12,325 mi. bituminous surfacing between Caldwell and Parma, 13,612 mi. between Nampa and Marsang, 8.92 mi. between Meridian and Kuna.

LOS ANGELES, Cal.—Sully-Miller Contracting Co., 1500 W. 7th St., Long Beach, awarded contract by county supervisors at \$19,6660 to improve Colorado St. (City of Long Beach), and 4th St., from Argonne Ave. to Hathaway (State Highway), 5177 lin. ft. or 0.98 mi. under Cash Contract No. 442. The work involves:
145,490 sq. ft. 3-in. asph. concr. wearing surface.
145,290 sq. ft. 4-in. asph. concr. base.

UTAH STATE—Granite Construction Co., Watsonville, Calif., awarded contract by State Road Commission June 16, at \$32,463.45 (labor) for oiling on S. P. 367, 33.06 miles oiled mixed gravel road in Grand, Emery, Carbon, Sevier, Piute, and Garfield Counties, involving:

- F. A. P. No. 6—REOP. (20 ft. width)
1600 bbls. application of oil;
3,253 miles scarifying and mixing;
150 cu. yds. sanding of seal coat.
F. A. P. No. 77—B-REOP. (20 ft.)
6000 bbls. application of oil;
10,174 miles scarifying and mixing,
450 cu. yds. sanding of seal coat.
S. P. No. 367-A (18 ft.)
400 bbls. application of oil;
8 miles scarifying and mixing;
350 cu. yds. sanding of seal coat.
S. P. No. 367-B (18 ft.)
3100 bbls. application of oil;
5.64 miles scarifying and mixing;
250 cu. yds. sanding of seal coat.
S. P. No. 367-C-D-E (18 ft.)
4960 bbls. application of oil;
6 miles scarifying and mixing;
300 cu. yds. sanding of seal coat.
The state will furnish materials costing \$48,472.

SAN FRANCISCO—Until July 14, 2 P. M., bids will be received by C. H. Sweetser, U. S. Bureau of Public Roads, 461 Market St., for 1,992 mi. of highway grading and structures, Federal Lands project No. 1, grading unit 2-3 Hoopa Valley, Indian Reservation, Humboldt County, involving:

- (1) 17 acres clearing;
- (2) 90,006 cu. yds. unclass. excav.;
- (3) 700 cu. yds. unclass. excav. (struc)
- (4) 83,200 sta. yds. overhaul;
- (5) 1,992 mi. finish earth graded road;
- (6) 1268 lin. ft. corr. metal pipe;
- (7) 176 cu. yds. hand laid rock embankment;
- (8) 9.3 M.E.M. timber cribbing;
- (9) 23 cu. yds. crushed rock or gravel for backfill.

Specifications obtainable from above office on deposit of \$10, certified check payable to Regional Fiscal Agent, U. S. Forest Service.

SAN BERNARDINO COUNTY, Cal.—Basich Bros., 20550 Normandie Ave., Torrance, at \$218,600 awarded contract by the State Highway Commission to grade and surface with oil treated crushed gravel or stone about 16.5 mi. bet. Halloran Summit and Mountain Pass.

OREGON STATE—Following contracts awarded by the State Highway Commission for highway construction:
Douglas County—Portland Sand and Gravel Co., Section Line Road, Portland, at \$18,737 for Scottsburg-Paradise Creek Section of Umpqua Highway; 11.05 mi. screened gravel surf.,

involving 22,000 cubic yards screened gravel.

Klamath County—Dunn and Baker, Klamath Falls, at \$54,525.50 for Terminal City-Klamath Falls Section. The Dalles-California Highway, 1.72 miles concrete to pave, and 0.52 mile crushed rock surf.

Lane County—Jacobsen-Jensen Co., 407 Stanton, Portland, at \$15,680 for Cheshire-Prarie Road Section of Siuslaw Highway, 4.02 miles grading, involving 69,000 cu. yds. excavation.

Lincoln and Tillamook Counties—J. C. Compton, McMinnville, at \$25,487.50 using asphalt, for bituminous macadam Project No. 9, involving construction of 2.0 miles bit. mac. and application of 19.5 miles oil mat surf. treatment. Work in three units in vicinity of Hebo and Otis.

Linn, Benton and Polk Counties—J. C. Compton, McMinnville, at \$66,776 for bituminous macadam Project No. 12, involving 19.3 mi. pavement widening and resurfacing and 2 miles non-skid surface treatment. Work in four units in vicinities of Tangent, Monmouth and Corvallis.

Tillamook County—Theo. Arenz, 633 E 25th N., Portland, at \$50,905 for Kilchis River-Tillamook Section, Oregon Coast Highway, 1.63 miles concrete pavement and 0.57 miles gravel surf.

Umatilla County—Award held pending for Adams-Milton Section, Oregon-Washington Highway; 17.7 miles bit. mac. pave., widening and resurfacing. A. Milne, 1853 E Broadway, Portland, at \$53,463 submitted the low bid.

EUREKA, Humboldt Co., Cal.—Until July 12, 2 p. m., bids will be received by Fred M. Kay, county clerk, for a new road from Bayside to Grotzman's Ranch. Plans obtainable from Frank E. Kelly, county surveyor.

SAN LEANDRO, Alameda Co., Cal.—San Leandro Rock Co., 2485 Washington St., San Leandro, awarded contract (only bid submitted) by city council to furnish rock and screenings for year ending June 30, 1933, as follows:

| | |
|-------------------------------|--------|
| Red rock macadam..... | \$1.05 |
| Red rock, 1-inch..... | 1.05 |
| Red rock screenings..... | 1.05 |
| Rock fill..... | .75 |
| Concrete rock..... | 1.45 |
| Concrete rock screenings..... | 1.45 |
| Bird's-eye..... | 1.50 |

SAN LEANDRO, Alameda Co., Cal.—Hentley-Moore Co., 344 High St., Berkeley, at \$3.24 awarded contract by city council to furnish and spread oil on street surface for year ending June 30, 1933.

EUREKA, Humboldt Co., Cal.—Highway Builders', Ltd., 640 Redhill Ave., San Anselmo, at \$9570, awarded contract by county supervisors for 5½ miles of emulsified asphalt paving in Road District Nos. 4 and 5, as follows:
No. 4—Indianola cut-off, .5 mi.; Hess Road, .5 mi.

No. 5—Turner Road to Carlson's Railroad Bridge, 1.2 mi.; Kirkpatrick's Lane, .7 mi.; Bayside and McCutcheon Road, 1.0 mi.; McFarlane Lane, 4 mi.; Indianola cut-off, .3 mi.; Preston Addition, Arcata, .3 mi.; Samoa and Crannell Roads (spurs), .5 mi.

Pavement to be 16 to 18 ft. wide. Three other firms also submitted bids.

OROVILLE, Butte Co., Cal.—Until July 6, 2 P. M., bids will be received by C. F. Belding, clerk of the Board of Supervisors, for yearly maintain-

ance work on the following roads:

Pennington Road from Gridley Colusa Road to County line.

Wyandotte Miners Ranch Road from Honcut Wyandotte Road to Oroville Quincy Road.

Burdick Road from Durham Dayton Road to Troxel Road.

Puiga Road from Big Bend Road to County Line.

Specifications obtainable from above office, or from County Road Engineer, J. A. Bumgarner. Certified check 10% required with bid.

OROVILLE, Butte Co., Cal.—Until July 6, 2.30 P. M., bids will be received by C. F. Belding, clerk of the Board of Supervisors, for 10,000 tons of crushed rock for maintenance and repair of county roads. Specifications obtainable from above office, or from County Road Engineer, J. A. Bumgarner. Certified check 10% required with bid.

SANTA BARBARA, Cal.—Until 1:30 p. m., June 23, bids will be received by city council to improve Alameda Padre Serra, between Los Olivos St. Extension and Moreno Road, and portions of Alvarado Place, Laguna St., Lasen Road and other streets, involving grading, asphalt and rock surfacing, concrete pavement, asphalt concrete surfacing, combined concrete curb and gutter, curb, gutter, concrete driveways, sidewalk, concrete wall, catch basin, 12-in. corrugated iron drain, catch basins, manholes, etc. Estimated cost, \$37,000. 1911 Act. George D. Geib, city clerk. E. E. Brown, city engineer.

VENTURA COUNTY, Cal.—Oilfields Trucking Co., Taft, at \$5211, awarded contract by State Highway Commission for treating with fuel oil 10.1 mi. of earth shoulders between Calleguas Creek and Los Angeles-Ventura County line.

SAN FRANCISCO—Eaton & Smith, 715 Ocean Ave., at \$10,534.18, awarded contract by Department of Public Works to improve Garfield St. bet. Orizaba Ave. to Head St. and crossing at Grafton and Garfield.

KERN COUNTY, Cal.—Western Motors Transfer Co., 118 State St., Santa Barbara, at \$10,321.20, submitted low bid to District Engineer, State Highway Commission, Fresno, for highway oiling in Kern County, between Democrat Springs and Weldon, 30.6 mi. in length, to be treated with road oil as a dust palliative, involving 4230 bbls. 70-80 road oil. Contract previously awarded to Street Improvement Co., was rescinded on May 20.

Complete bids follow:

| | Unit | Total |
|------------------------|------|-----------|
| Western Motors Tr. | | |
| Co. Santa Barbara..... | 2.44 | 10,321.20 |
| Oilfields Trucking | | |
| Co., Taft..... | 2.57 | 10,871.10 |
| F. W. Nighbert, Bak- | | |
| ersfield..... | 2.60 | 10,998.00 |
| C. W. Hartman, Bak- | | |
| ersfield..... | 3.00 | 12,690.00 |

Bids held under advisement.

OAKLAND, Cal.—Worden & Forsythe, 264 Sybil Ave., San Leandro, at \$6550 awarded contract by East Bay Municipal Utility District to furnish under Specification LS 82: 35,000 sq. ft. bituminous surfacing (street pavements).

BERKELEY, Alameda Co., Cal.—W. H. Lawrence, 1400 East 32nd St., Oakland, at \$1,688 awarded contract by

Regents of the University of California for paving portions of Canyon Road and roads of Poultry Research Station, Hutchinson Co., 1450 Harrison St., Oakland, at \$1,480 awarded contract for grading road and constructing culverts in Strawberry Canyon.

UTAH STATE—Until 2 P. M., July 6, bids will be received by State Road Commission, State Capitol, Salt Lake City, Utah, to construct a gravel surfaced road, in Davis County, F. A. P. No. 112-A, between Bountiful and Farmington, 5.51 miles, involving:
(1) 119,900 cu. yds. common excavation;
(2) 15,000 cu. yds. gravel and sub-base
(3) 262 cu. yds. teinf. concrete in structures.

Plans may be obtained from the commission upon deposit of \$5. Cash or certified check, 5%. H. S. Kerr, Chief Engineer.

IDAHO STATE—Fred Redmon, Yakima, submitted low bid to G. E. McKelvey, commissioner of public works, Boise, June 21, at \$12,777, for surfacing on State Aid Project No. 128-AB, 63-D, 213 A. Work consists of placing crushed rock surfacing on the following projects: S.A.P. 128-A, Moscow south, 1.4 miles; S.A.P. 128-B, Moscow north, 3.3 miles; S.A.P. 63-D, Moscow-Bovill, 4 miles; S.A.P. 213-A, Moscow-Pullman, 1.42 miles, all in Latah County, involving:
1.42 miles trenching;
1.42 miles clear and reshape ditch;
3225 cu. yds. crushed rock surface in place;
5800 cu. yds. crushed rock surface in windrows;
500 cu. yds. binder;
500 mile yards haul on binder.

IDAHO STATE—Wm. Hoops, Twin Falls, submitted low bid to G. E. McKelvey, State Commissioner of Public Works, Boise, June 17, at \$31,000 for highway construction on Idaho State Road Project No. 189-BD. Work consists of grading and draining sections of and surfacing with crushed gravel 20,549 miles of the Sawtooth Park Highway between Godwin and Rogerson in Twin Falls County and includes the following quantities:
27,000 cu. yds. excavation, unclass.;
2,500 cu. yds. excavation, structures;
2,800 sq. yds. overhaul;
2,500 cu. yds. crushed gravel surfacing L-H-P;
7,400 cu. yds. crushed gravel surf. in place;
11,200 cu. yds. crushed gravel surface L-H-W;
7,650 cu. yds. crushed gravel surf. in windrows;
2,000 cu. yds. binder;
2,000 m. y. haul on binder;
150 M. G. sprinkling water;
1 cu. yd. Class A concrete;
180 lin. ft. 12-in. corr. metal pipe, U-H-P;
2,200 lin. ft. 18-in. corr. metal pipe, U-H;
290 lin. ft. 24-in. corr. metal pipe, U-H-P;
80 lin. ft. 30-in. do;
100 lin. ft. 36-in. do;
350 lin. ft. 12-in. do relay;
570 lin. ft. 18-in. do relay;
150 lin. ft. 24-in. do relay;
10 move irrigating structures;
2,300 lin. ft. construct irrig. ditches;
1.5 MFEM lumber for irrig. struch;
56 lin. ft. moving wood flume;
1 remove concrete structure;
3,000 cu. yds. maint. material in place.

CHURCHILL CO., Nevada.—As previously reported, until July 6, 3:00 P. M., bids will be received by S. C. Durkee, state highway engineer, Herose's Memorial Bldg., Carson City, to apply asphaltic fuel oil and mix it with a crushed rock or crushed gravel surface over 28.96 miles between Sand Springs and Eastgate, involving:

- (1) 679,704 gals. asph. fuel oil applied to rdwy. surf.;
- (2) 28.96 miles mixing;
- (3) 28.96 miles rebuilding and finishing shoulders.

Specifications obtainable from office of engineer and on file in office of U. S. Bureau of Public Roads, 461 Market St., San Francisco.

LOS ANGELES, Calif.—Until 11 A. M. July 6, bids will be received by the general manager of Los Angeles harbor department at Room 405, Branch City Hall, 7th and Beacon Streets, San Pedro, for constructing concrete floor and bituminous surfacing in transit shed at Berths 146-146, Los Angeles Harbor; Spec. No. 886. Work involves approximately 91,900 square feet of 6-in. cement concrete base pavement over each fill, 125,900 square feet of 1½-in. bituminous surfacing, 295 lin. ft. of special concrete curb and inlets. Bidding data may be obtained from the Harbor Engineer, Branch City Hall, San Pedro. Burt Edwards, general manager.

BERKELEY, Alameda Co., Calif.—Ariss-Knapp Co., 961 41st St., Oakland, at \$8,600 awarded contract by the State Department of Public Works Sacramento, for grading at the California School for Deaf at Berkeley. Complete bids published in issue of June 22.

CARPINTERIA, Santa Barbara Co., Cal.—American Cast Iron Pipe Co., Los Angeles, awarded contract by the Carpinteria Sanitary District June 29 at \$517 to furnish and deliver trench-side 1100 ft. 6-in. cast iron pipe. Delivery to be made by July 15. The other bids were:

Grinnell Co. of the Pacific, \$532.40.
U. S. Pipe & Foundry Co., \$533.50.
National Cast Iron Pipe Co. submitted an irregular bid which was not considered.

Fred L. Johnson, 23 W Figueroa St., Santa Barbara, consulting engineer for the district.

SAN BERNARDINO, Cal.—Los Angeles Mfg. Co., 2500 E 23rd St., Los Angeles, awarded contract by the city council June 20 for furnishing welded sheet steel drive pipe for the Devil Canyon Project. The prices were I.o.b. Devil Canyon. The items are:

- (1) 2700 ft. 6-in. 14-gauge pipe;
 - (2) 1630 ft. 8-in. 14-gauge pipe.
- The bids follow:
Los Angeles Mfg. Co. (1) 32c (2) 41.5c.

West Coast Pipe & Steel Co., (1) 25c (2) 44.5c.

California Corrugated Culvert Co., (1) 38.5c (2) no bid, but submitted a lid on 8-in. 12-gauge at 63.5c.

SAN FRANCISCO.—Kimball-Krogh Pump Co., 515 Harrison St., at \$57.50 awarded contract by Department of Public Works to repair sewage pumping stations at Vicente St. and Great Highway and Commercial and Drumm Sts. Informal bids were received for this work.

SAN RAFAEL, Marin Co., Calif.—James Curry, 1100 Peninsular Avenue, Burlingame, at \$23,400 awarded contract by Constructing Quartermaster for water distributing system in con-

nection with the Hamilton Field (Marin Meadows) Bombing Base.

ARCADIA, Los Angeles Co., Cal.—Utilities Equipment Corp., Ltd., 110 N. Alameda St., Los Angeles, awarded contract by City Council June 21 at 91c ft. for furnishing trench-side Arcadia, 2220 ft. 12-in. class 150 sand spun cast iron pipe in 16½-ft. lengths. Shipment is to be made from the mill of R. D. Wood & Co., Philadelphia, Pa., with delivery by July 30. This firm did not submit a bid on immediate delivery. The other bids were:

U. S. Pipe & Foundry Co.—Immediate delivery, \$1.14; shipment from mill 96c ft.; DeLavaud pipe, 18-ft. lengths. Delivery 30 days.

American Cast Iron Pipe Co.—Immediate delivery, \$1.20; shipment from mill 81 ft.; Mone cast pipe, in 16-ft. lengths. Delivery, 35 days.

National Cast Iron Pipe Co.—Immediate delivery \$1.312; shipment from mill \$1.14; DeLavaud pipe in 18-ft. lengths. Delivery, 35 days.

PASADENA, Los Angeles Co., Cal.—City board of directors has approved plans for valves, pipe and miscellaneous equipment estimated to cost \$200,000, for use in connection with the Pine Canyon Dam. Bids will be called the latter part of this month. The tentative date for bids is July 26. The equipment will include 1,500,000 lbs. of pipe and six outlet gates of 43- to 96-in. size. S. B. Morris, chief engineer of the Water Department.

LOS ANGELES, Cal.—Until 2 P. M. July 5, bids will be received by the county supervisors to furnish standard steel pipe, ungalvanized, for San Gabriel Dam No. 2, as follows:

- (1) 1700 ft. 2-in., in approx. five foot lengths (min. 4 ft., max. 6 ft.) threaded at one end, provided with thread protectors;
- (2) 700 ft. 2½-in., in random lengths between 10 ft. and 20 ft., one end threaded, provided with thread protectors;
- (3) 1900 ft. 2½-in., in random stock lengths, one end threaded, provided with thread protector.

All f.o.b. District's freight yard, at Azusa.

E. C. Eaton, 202 North Broadway, County Flood Control Engineer. M. E. Beatty, 501 Hall of Records, Clerk of the Board.

RIVERSIDE, Riverside Co., Calif.—Board of public utilities has authorized water pipe replacement projects as follows:
Magnolia Ave. bet. Jefferson and Van Buren Sts., involving 10,740 ft. 12-in. c. i. pipe. The estimated cost is \$21,480.
Market Street between 5th and 11th Sts., involving 2400 ft. 12-in. c. i. pipe. The estimated cost is \$9000.

SAN FRANCISCO—United Iron Works, Oakland, at \$1610, awarded contract under Schedule No. 928-32-275 by Quartermaster Supply Officer, Fort Mason, to furnish and deliver one centrifugal steam turbine driven pumping unit. Pump to be horizontal split case, 2-stage type, with 5-in. dia. discharge connection; 6-in. dia. suction connection with capacity of 1000 g. p. m. against a total dynamic head of 500 ft., and shall be operated at an approximate speed of 2200 r. p. m. Steam turbine to be similar and equal to Westinghouse 3 M. D. or G. E. D-54 or Moore Steam Turbine Form 8-5.

Complete bids follow:
United Iron Works, Oakland, \$1610.00
Western Eng. Co., S. F., 1688.50

Byron Jackson Co., S. F. \$1820 (Westinghouse), \$2022 (G. E. turbine).
DeLaval Steam Turbine Co.,
San Francisco 2295.00

OAKLAND, Cal.—Art Concrete Works, 24th and Adeline Sts., Oakland, at \$4320, awarded contract by East Bay Municipal Utility District, Oakland, to furnish under Specification LS 84:
6000 concrete covers for meter boxes.
5000 concrete meter boxes.

BELMONT, San Mateo Co., Cal.—Deputy City Engineer William W. Hendricks authorized to prepare specifications and estimate cost of 500 ft. of 4-in. water main on the South road to connect the Belle Mont tanks with water users on the hill.

UPLAND, San Bernardino Co., Cal.—South Chester Tube Co., South Chester, Pa., submitted the low bid to city council, June 16, at \$72.26 per C ft. for furnishing 9000 ft. 6-in. steel pipe for the city water system.

American Cast Iron Pipe Co. submitted the low bid on cast iron pipe at \$41.05 per C ft. The U. S. Pipe & Foundry Co. submitted the only other bids on cast iron pipe at \$46.

The other bids on steel pipe were:
Santa Fe Pipe & Supply Co., \$37.55;
Crane Co., \$37.75; C. G. Claussen & Co., \$38.03; Haldeman Corp., \$38.14; National Supply Co., \$38.10; Duncan Corp., \$38.20; Kelly Pipe Co., \$38.20; California Pipe & Supply Co., \$38.55; Pacific Pipe & Supply Co., \$38.62; Pacific Southwest Pipe Co., \$38.40; L. A. Mfg. Co., \$43.

The bids were referred to R. G. Manley, city service manager. Construction of the line will be done by the city service manager, by force account under the direction

FORT CLAYTON, C. Z.—Until Aug. 25 (time extended from July 15) bids will be received by Quartermaster Department, Quarry Heights, Panama Canal Zone, to construct earth and rock roads, curbs, walks; water distributing and street lighting systems; storm and sanitary sewer system and miscellaneous building construction. See item under "Government Work and Supplies" in this issue.

LOS ANGELES, Cal.—Failure of the appellant to ask for a rehearing on the Supreme Court's decision validating the \$220,000,000 Metropolitan Water District bond issue, has rendered the decision final except that the court itself may upon its own motion reopen the case at any time before July 2. Negotiations are under way for the disposal of the issue, and bids for the construction of the San Jacinto tunnel will be advertised as one of the first contracts as soon as the money is available.

IDAHO STATE—Carl Nyberg, Realty Bldg., Spokane, Wash., at \$9,450 awarded contract by Department of Public Works June 21 to construct 11.631 miles crushed gravel surfacing on North and South highway between Bonners Ferry and Naples, F.A.P. 20-A and extension. Complete bids follow:

- Carl Nyberg, Spokane, \$ 9,450
- Hunt & Shannon, Butte, 9,450
- F. J. Haas, Grandview, Wash., 12,015
- Stenstrom and Jonovich, Coeur d'Alene, Idaho 12,150
- F. G. Redmon, Yakima 17,010
- Engineer's estimate 14,850

OAKLAND, Calif.—Rensselaer Valve Co., 55 New Montgomery Street, San Francisco, at \$2662 (lump sum bid) submitted low bid to East Bay Municipal Utility District to furnish 98 gate valves, as follows:

- (1) 8-inch;
- (2) 10-inch;
- (3) 12-inch;
- (4) 16-inch;
- (5) 20-inch.

Complete bids follow:

- (A) Rensselaer Valve Co., \$5080; lump sum if awarded all, \$2662.
- (B) Grinnell Co., \$3927; lump sum \$3,120.
- (C) Waterworks Supply Co., \$4448.32; lump sum, \$3241.20.
- (D) Walworth California Co., \$3502.
- (E) Michigan Valve Co., \$4784; lump sum, \$3611.20.
- (F) Kennedy Valve Co., \$4255.54; lump sum, \$3882.34.
- (G) Crane Co., \$4240; lump sum, \$4,350.
- (H) Oakland Plumbing Supply, \$4693; lump sum, \$4456.
- (I) National C. I. Pipe Co., \$4555.44.
- (J) Utilities Equip Co., \$4986.
- (K) C. G. Claussen & Co., \$2724.

Unit bids follow:

- (A) (1) \$1400 (2) \$680 (3) \$1100 (4) \$1200 (5) \$700.
- (B) (1) \$375 (2) \$472 (3) \$760 (4) \$750 (5) \$370.
- (C) (1) \$1293.50 (2) \$945.92 (3) \$941.60 (4) \$1301.30 (5) \$376.30.
- (D) (1) \$940 (2) \$488 (3) \$800 (4) \$872.50 (5) \$401.50.
- (E) (1) \$1120 (2) \$584 (3) \$1000 (4) \$1050 (5) \$430.
- (F) (1) \$1224.50 (2) \$585 (4) \$981.80 (5) \$1078.80 (5) \$454.60.
- (G) (1) \$1290 (2) \$560 (3) \$1000 (4) \$1025 (5) \$450.
- (H) (1) \$1425 (2) \$688 (3) \$1080 (4) \$1095 (5) \$465.
- (I) (1) \$1381.50 (2) \$683.68 (3) \$1,072.40 (4) \$1025.20 (5) \$422.66.
- (J) (1) \$1500 (2) \$728 (3) \$1140 (4) \$1120 (5) \$498.
- (K) (1) \$794 (2) \$560 (3) \$970.

Bids held under advisement.

COLORADO STATE.—Until 10 A. M., July 6, bids will be received by State Highway Department, Denver, Colo., for highway construction as follows:

COMBINED FEDERAL AID PROJECT NOS. 124-E NO. 2, 134-D NO. 2 AND 134-E NO. 2, an Oil Processed Gravel Surfacing Project 14.422 miles long located between Siebert and Stratton in Kit Carson County on State Highway No. 4, involving:

Road mix oil process surf., 26,080 tons.

Oil process surf., for stock piles, 750 tons.

Base course oiling, 105,700 gal.

Oil processing base, 14,359 miles.

Alternate bids to be received from plant mix oil processed surfacing.

The bidder is invited to submit bids on the following 2 items which will be considered as alternate items for "Road Mix Oil Processed Surfacing," and "Oil Processed Surfacing for Stock Piles," respectively.

Plant mix oil processed surf., 26,080

Plant mix oil processed surf. for stock piles, 750 tons.

Completion required on or before Nov. 1, 1932.

Certified check required, \$1700.

COMBINED FEDERAL AID PROJECT NOS. 295-E NO. 3 AND 295-AR NO. 2, a Road Mix Oil Processed Surfacing Project 13.878 miles long located between Alamosa and La Jara in Alamosa and Conejos Counties on State Highway No. 17, involving:

Road mix oil processed surfacing, 15,020 tons.

Road mix oil processed surfacing (material on road), 72,000 sq. yds.

Oil processed surf. for stock piles, 750 tons.

Base course oiling, 62,000 gals.

Oil processing base, 8,310 miles.

Grading and grading roadbed, 90,400 sq. yds.

1300 certified check required.

Completion required on or before Nov. 1, 1932.

IDAHO STATE.—Until 2 P. M., July 5, bids will be received by G. E. McKevey, Commissioner of Public Wks., Boise, for road oiling on Idaho Federal Aid Project No. 20-A and Ext. Work consists of constructing a road mix oil mat on 16.929 miles of the North and South Highway between Bonners Ferry and the Bonner County Line in Boundary County, involving:

- (1) 5,248 miles scarifying;
- (2) 7150 bbls. heat and apply oil;
- (3) 16,929 miles mix and finish;
- (4) 150 cu. yds. bituminous treated surfacing in stockpile.

Completion of the work required on or before Sept. 1, 1932. Plans obtainable from the Bureau of Highways at Boise upon payment of \$2 for each set. Proposal guarantee, 5%.

IDAHO STATE.—Until July 1, 2 P. M., bids will be received by G. E. McKevey, commissioner of Public Wks., Boise, to furnish and place in windrows crushed rock or gravel surfacing on 34,568 miles of the Sawtooth Park Highway between Soshone and Bellevue in Lincoln and Blaine Counties, involving:

- (1) 32,210 cu. yds. crushed rock or gravel surfacing in windrows.

Certified check 5% required with bid. Specifications obtainable from above office on payment of \$2.

IDAHO STATE.—Arthur Velguth, Spirit Lake, Ida., at \$11,244.49 awarded contract by Department of Public Works, June 24, to construct 21.407 miles road mix oil mat on the Clarks Fork Highway bet. Sandpoint and Priest River in Bonner County, P. A. P. 95-ABEGH and State Aid Project 19-DE.

Complete bids follow:
Arthur Velguth, Spirit Lake, \$11,244.49
Standard Asph. Pav. Co., Spokane, Wash. 12,742.97
Quinn-Robbins Co., Boise, 13,147.97
Hargrave Const. Co., Spokane 15,288.68
Engineer's estimate 15,663.50

IDAHO STATE.—Until 2 P. M., July 8, bids will be received by Commissioner of Public Works, G. E. McKevey, Boise, for road oiling on State Aid Project No. 139-BD. Work consists of constructing a road mix oil mat on 20,549 miles of the Sawtooth Park Highway bet. Godwin and Rogerson in Twin Falls County, involving:

- (1) 7800 bbls. heat and apply oil;
- (2) 20,549 milise mix and finish.

Completion of the work required on or before Sept. 1, 1932. Plans obtainable from the Bureau of Highways, Boise, upon deposit of \$2. Proposal guarantee, 5%.

SUSANVILLE, Lassen Co., Cal.—W. C. Colley, Box 643, Susanville, submitted lone bid to Lassen-Modoc Joint Highway District at \$17,930 to grade 2.31 miles in Willow Creek Valley. Bid taken under advisement until July 5.

SACRAMENTO, Calif.—McGillivray Const. Co., Folsom Blvd., and 65th St., Sacramento, at \$4518.30 submitted low bid to county supervisors to pave one-

half mile of the Swanson road, involving:

- (1) 800 cu. yds. excavation;
- (2) 815 cu. yds. fill;
- (3) 42,240 sq. ft. 4-in. asph. concrete pavement;
- (4) 5,280 lin. ft. headerboard.

Complete bids follow:
(A) McGillivray Const. Co. \$4518.30
(B) J. R. Reeves, Sacramento 6252.44
(C) A. Teichert & Son, Sacto. 6393.62
(D) Clark & Henery, Stockton 7060.49

Unit bids follow:

| | | | | |
|----------|-------|-------|-------|-------|
| (A)..... | (1) | (2) | (3) | (4) |
| (B)..... | \$.20 | \$.10 | \$.10 | \$.01 |
| (C)..... | .40 | .30 | .128 | .08 |
| (D)..... | .70 | .15 | .136 | .12 |

Bids held under advisement.

STOCKTON, San Joaquin Co., Cal.—Smith Bros. Co., 133 W. Magnolia St., Stockton, at \$9432.50 submitted low bid to county supervisors to construct 2.7 miles of the Borden road from Lincoln St. and Charter Way to the Lane Road for a connecting link with the Garwood Ferry Road, involving:

- (1) 11,500 cu. yds. grading roadside borrow;
- (2) 21,500 cu. yds. imported borrow;
- (3) 6 install pipes.

Estimated cost, \$13,500.

Complete bids follow:

- (A) Smith Bros. Co., Stockton, \$9432.50
- (B) Williard & Biasotti, Stockton 10,060.00
- (C) John Jurkovich, Fresno 10,368.00
- (D) E. W. Heple, San Jose 10,626.00
- (E) Percira & Reel, Tracy 10,320.00
- (F) C. W. Wood, Stockton 10,320.00
- (G) Davis & Robinson, Lodi, 12,809.70
- (H) A. Teichert & Son, Sacto., 12,954.00
- (I) T. G. Smith, South Gate 13,330.00
- (J) W. T. McCarty, Stockton, 14,277.50
- (K) Oilfields Truck Co., Taft, 17,115.00
- (L) S. M. McGaw, Stockton, 17,890.00

Unit bids follow:

| | | | |
|----------|--------|-------|----------|
| (A)..... | (1) | (2) | (3) |
| (B)..... | \$.185 | \$.23 | \$ 10.00 |
| (C)..... | .13 | .27 | 10.00 |
| (D)..... | .20 | .25 | .50 |
| (E)..... | .17 | .27 | 160.00 |
| (F)..... | .15 | .29 | 10.00 |
| (G)..... | .18 | .28 | 5.00 |
| (H)..... | .21 | .325 | 26.20 |
| (I)..... | .20 | .34 | 320.00 |
| (J)..... | .125 | .40 | 40.90 |
| (K)..... | .21 | .46 | 35.00 |
| (L)..... | .22 | .48 | 40.00 |

Bids held under advisement.

IDAHO STATE.—Sutherland and Burns, Idaho Falls, submitted low bid to G. E. McKevey, commissioner of public works, Boise, Idaho, June 21, at \$11,894, for surfacing on Idaho State Aid Project No. 134-BD. Work consists of surfacing with crushed gravel 9.35 mi. of the Roosevelt Highway from Pingree toward Sterling, in Bingham County, involving:

4500 cu. yds. crushed gravel surf. in place;

8650 cu. yds. crushed gravel surf. in windrows;

2200 cu. yds. sub-base gravel;

1500 cu. yds. binder;

1500 mile yards haul on binder;

300 M. balloons sprinkling water;

500 cu. yds. maintenance material;

1500 mile yards haul on maintenance material.

VENTURA, Cal.—Supervisors of Ventura County have reduced road budget for the next fiscal year to \$134,000. The program eliminates the paving of Wood Road, \$16,000; surfacing of Los Angeles Ave., \$39,000, and reduction of asphalt materials in the five districts, \$75,000.

SACRAMENTO, Cal.—A. Teichert & Son, P. O. box 1118, Sacramento, at \$1900.80 submitted low bid to county supervisors to construct a road rock shoulder on the Rio Linda Road, involving 39,600 sq. ft. rock shoulder. Complete bids follow:

A. Teichert & Son, unit #048; total \$1900.80.
J. R. Reeves, Sacramento, #049; \$1,940.40.

McGillivray Const. Co., Sacramento, \$054 \$2138.40.

Bids held under advisement.

BUTTE COUNTY, Cal.—State Highway Commission on June 21 officially accepted completion of the contract of Granfield, Farrar & Carlin for graded roadbed between Barcees Creek and Pulga, 1.8 miles in length at a cost of approximately \$340,000.

SANTA MARIA, San Bernardino Co., Cal.—No bids submitted to City Council June 20 to improve Orange St. bet. Miller St. and Airport Ave. Work may be readvertised later. The proposed improvement involves:

- (1) 6275 sq. ft. 4-in. asphalt. concr. pavement;
 - (2) 6275 sq. ft. 4-in. and 6-in. concrete gutter;
 - (3) 1969 ft. concrete curb;
 - (4) 2885 sq. ft. 3-in. sidewalk.
- York Peterson, city engineer; Mrs. Flora A. Rivers, city clerk. Proceedings under 1911 Act.

SAN RAFAEL, Marin Co., Calif.—Pacific States Const. Co., Call Bldg., San Francisco, at \$57,148.18 awarded contract by Constructing Quartermaster for roads, curbs, gutters and paving in connection with the Hamilton Field (Marin Meadows) Bombing Base.

SAN RAFAEL, Marin Co., Calif.—Eaton & Smith, 715 Ocean Ave., San Francisco, at \$10,992 awarded contract by Constructing Quartermaster for preparation of landing field in connection with the Hamilton Field (Marin Meadows) Bombing Base.

SAN LUIS OBISPO, Cal.—Until July 5, 3 P. M., bids will be received by J. G. Driscoll, county clerk, to pave a portion of Broad Street in the city of San Luis Obispo. Specifications obtainable from the office of the county surveyor. Certified check 5% payable to chairman, Board of Supervisors, required with bid.

SAN BENITO, Monterey, San Luis Obispo and Santa Barbara Counties, Cal.—Until July 7, 2 P. M., bids will be received by L. H. Gibson, district engineer, State Highway Commission, 50 Higuera St., San Luis Obispo, to apply traffic stripe to pavement on 259 miles of highway in the counties listed above.

SACRAMENTO, Cal.—A. Teichert & Sons, P. O. Box 1118, Sacramento, at \$1905.48 awarded contract by county supervisors to construct earth fill on Fair Oaks Blvd., Howe Avenue and Fulton Ave.

MENDOCINO COUNTY, Cal.—Until July 6, 2 P. M., bids will be received by H. S. Comly, district engineer, State Highway Commission, 546 West Wabash Ave., Eureka, to construct a Portland cement concrete retaining wall in town of Willits. Specifications obtainable from above office. Certified check 10% payable to Director of Public Works, required with bid.

BERKELEY, Alameda Co., Calif.—Ariss-Knapp Co., 961 11st St., Oakland, at \$8,800 submitted low bid to State Department of Public Works, Sacramento, for grading at the California School for Deaf at Berkeley. Following bids received:

Ariss-Knapp Co., Oakland.....\$8,600
(1) deduct 865
(2) deduct 1,290
Lee J. Immel, Berkeley.....\$9,430
(1) deduct 850
(2) deduct 1,590

Bids held under advisement.

STOCKTON, San Joaquin Co., Cal.—S. M. McGaw, 425 Lexington Ave., Stockton, at \$5987 awarded contract by city council for laying a concrete junction box and extending outfall sanitary sewer westerly to new deep water channel.

Complete bids published in issue of June 2.

SANTA BARBARA, Calif.—No bids submitted to city council June 23 to improve Alameda Padre Serra bet. Los Olivos St. extension and Moreno Road and portions of other streets; 1911 Act. The proceedings have been continued until Sept. 29. The proposed work is estimated to cost \$37,000 and involves grading, asphalt and rock surfacing, concrete paving, asphalt concrete surfacing, curb, walk, gutter, etc. E. B. Brown is the city engineer, Geo. D. Geib, city clerk.

OAKLAND, Calif.—City council requests Alameda county supervisors for county aid in financing three street improvements during the fiscal year 1932-33. The county would finance one-half of the following projects:

- San Leandro St., formerly E Tenth and Russet St., from Fruitvale Ave. to the San Leandro line, \$50,400. This is a continuation of the improvement of this thoroughfare, toward which the county paid \$20,000 during the fiscal year 1930-31, and was asked \$52,900 last year, although the county paid nothing but promised future aid.
- Two- and Third Aves. bet. Central Pacific right-of-way and Gascock St., \$5000. This calls for an equal appropriation by the city and \$4200 by the street railway company in the event that the street car tracks are removed.

Foothill Boulevard from 22nd to 23rd Avenues. This is a widening project, made necessary by increased traffic. Walter N. Frickestad is city engineer.

LOS ANGELES, Cal. — July 11 is date set by city council for hearing on improvement of streets in the 118th St. and Spring St. Improvement District. The proceedings for this improvement were carried through under the provisions of the 1911 Act and of the Assessment Limitation and Majority Protest Act of 1931. The estimated quantities are:

- (1) lump sum for all grading;
- (2) 155,556 sq. ft. 6-in. concrete pav.;
- (3) 105 sq. ft. 8-in. conc. paving;
- (4) 1709 sq. ft. 4-in. concrete paving (driveways);
- (5) 5565 sq. ft. rock and oil roadway;
- (6) 3945 lin. ft. light unplas. curb;
- (7) 10 728 sq. ft. one-course cement walk;
- (8) water system;
- (9) 201 water service connections.

Total estimated cost is \$48,057.02.

SACRAMENTO, Calif.—McGillivray Const. Co., Folsom Blvd. and 65th St., Sacramento, at \$6762.96 submitted low

bid to county supervisors to construct asphalt macadam shoulder on Greenhach Lane over 7.1 miles of shoulder, involving 93,930 sq. ft. asphalt macadam shoulder. Complete bids follow:

McGillivray Const. Co., unit, #072; total \$6762.96.

J. R. Reeves, Sacramento, #0849; \$7974.66.

A. Teichert, Sacramento, #109; \$10,238.37.

Bids held under advisement.

BIDS OPENED

LOS ANGELES, Cal.—Bids for furnishing 1000 tons per month of 90% road oil during the period commencing July 1 and ending Dec. 31, 1932, under Spec. No. 2844, opened by City Purchasing Agent, follow:

- (1) f.o.b. insulated tank cars or trucks on A. T. & S. F. spur in alley north of McPherson St. and east of Santa Fe Ave., 2445 McPherson St.
- (2) f.o.b. city trucks at dealer's plant.
- (3) f.o.b. insulated tank cars or trucks on S. P. spur at Hewitt Station, 12,251 Sherman Way in San Fernando Valley.

The bids were:
The Petrol Corp., (1) \$6.24 (2) \$7.02 (3) \$7.59; net.
Standard Oil Co., (1) \$6.74 (2) \$7.12 (3) \$7.69; net.
Richfield Oil Co., (1) \$6.74 (2) \$7.12 (3) \$7.69; net.
Union Oil Co., (1) \$6.74 (2) \$7.12 (3) \$7.69; net.
Gilmore Oil Co., (1) \$6.74 (2) \$7.12 (3) \$7.69; net.

23

AWARD

STOCKTON, San Joaquin Co., Cal.—Pereira & Reed, 545 Roosevelt Ave., Tracy, at \$3275 awarded contract by county supervisors to construct two miles of the Peltier Road from the Ray School west, involving:

- (1) 800 cu. yds. grading;
 - (2) 3500 tons 2½-in. road gravel, base course;
 - (3) 2600 tons 1½-in. road gravel, top course;
 - (4) 4 pipes, install.
- Complete bids follow:
(A) Pereira & Reed, Tracy.....\$ 8275
(B) Geo. French, Stockton..... 8808
(C) Willard, Biasotti & Lovatti, Stockton 8935
(D) Smith Bros., Campbell..... 9870
(E) C. W. Wood, Stockton..... 10160

Unit bids follow:
(1) (2) (3) (4)
(A)\$155 \$118 \$118 \$5.00
(B) 20 1.18 1.18 2.59
(C) 24 1.30 1.30 5.00
(D) 20 1.40 1.40 5.00

BIDS OPENED

SAN DIEGO COUNTY, Cal.—Griffith Co., 502 Los Angeles Railway Bldg., Los Angeles, at \$35,638 submitted low bid to the State Highway Commission, Sacramento, to pave with asphalt concrete about 2.1 miles between Rose Canyon and Torrey Pines Reservoir, involving:

- (1) 24,700 sq. yds. subgrade for pave;
- (2) 10,250 tons asphalt concrete;
- (3) 20 culvert markers;
- (4) 111 sta. finish roadway.

Complete bids follow:
(A) Griffith Co., Los Angeles, \$35,638.00
(B) V. R. Dennis Const. Co., San Diego 37,108.50
San Diego 37,108.50
(C) Daley Corp., San Diego..... 37,115.00

Unit bids follow:
(1) (2) (3) (4)
(A) \$0.99 \$3.20 \$3.00 \$5.00
(B)07 3.40 1.50 4.50
(C)10 3.32 3.00 5.00

BUILDING NEWS

APARTMENTS

Plans Completed.
APARTMENTS Cost, \$20,000
SAN FRANCISCO. E Valencia St S
 24th St.
 Three-story and basement frame and
 stucco apartments (30 apt.).
 Owner and builder—E. Bailey, 1341
 Valencia St., San Francisco.
 Architect—Plans by owner.
 Construction will be started in about
 three weeks.

CHURCHES

Contract Awarded.
CHURCH Cost, \$25,208
UPLAND, San Bernardino Co., Calif.
 Euclid Ave. and C St.
 One- and two-story brick, frame and
 stucco church (40x100).
 Owner—Upland Methodist Church
 (Rev. Irvin A. Engle, pastor).
 Architect—Skilling & Inwood, 1008 W
 Adams Blvd., Los Angeles.
 Contractor—S. L. Wallace, 1318 West
 51st St., Los Angeles.

FACTORIES AND WARE- HOUSES

Contract Awarded.
PACKING PLANT Cost, \$—
PORTERVILLE, Tulare Co., Cal.
 One-story and basement concrete and
 brick packing plant (100x220-ft.)
 sawtooth type roof, wood trusses,
 composition roofing, maple floors,
 etc.
 Owner—Sunflower Packing Corp., (F.
 K. Ritchie, mgr.).
 Plans by Mr. Honn.
 Contractor—Harry T. Honn, 1159 N
 Alameda St., Los Angeles.

Sketches Prepared.
INDUSTRIAL BLDG. Cost, \$50,000
LOS ANGELES, Los Angeles Co., Cal.
 San Fernando Road, bet. Hamilton
 and Santa Fe Tracks.
 Three-story reinforced concrete indus-
 trial building (70x145 ft.)
 Owner—Goodwill Industries of South-
 ern California (Rev. F. H. Blair,
 Supt.), 242 N. Main St., Los Ang-
 eles.
 Architect—Marsh, Smith & Powell,
 Architects Bldg., Los Angeles.

Concrete Contract Awarded.
ADDITION Cost, \$25,000
SAN FRANCISCO. 950 Battery St.
 Three-story Class C concrete st ad-
 dition to factory (steel rolling
 doors, steel sash, etc.)
 Owner—Kraft-Phenix Cheese Corp. of
 California.
 Plans by W. M. Baird, 400 Rush St.,
 Chicago, and care owner at San
 Francisco.
Concrete—Cahill Bros., 206 Sansome
 Street.
 Bids are being taken on all other
 portions of the work.

Plans Being Figured.
TRANSIT SHED Cost, \$65,000
LONG BEACH, Los Angeles Co., Cal.
 Berth 48, Pier 1.
 One and two-story steel frame, con-
 crete and corrugated iron transit shed
 (40x83 feet); metal doors, steel
 sash, sprinkler system, etc.
 Owner—City of Long Beach.
 Plans by Long Beach Harbor Dept.,
 James F. Collins, Port Mgr.

Completing Plans. Contract Awarded.
ADDITION Cost, \$60,000
SOUTH SAN FRANCISCO, San Ma-
 teo Co., Cal., Bayshore Highway.
 One-story steel frame and brick ad-
 dition to factory.
 Owner—Pacific Bone, Coal & Fertil-
 izer Co.
 Engineer—L. H. Nishkian, 525 Market
 St., San Francisco.
 Contractor—MacDonald & Kahn,
 Financial Center Bldg., San Fran-
 cisco.

Plans Being Completed.
CREAMERY & OFFICES Cost, \$—
RICHMOND Contra Costa Co., Cal.
 SE Macdonald & San Pablo Aves.
 One-story and mezzanine floor ma-
 sonry and wood stud wall cream-
 ery and offices.
 Owner—Golden State Co., Ltd., 425
 Battery St., San Francisco.
 Architect—Eng. Dept. of Owner.
 Bids will be asked in two weeks.

GOVERNMENT WORK AND SUPPLIES

SAN RAFAEL, Marin Co., Cal.—J.
 D. Hannah, 251 Kearny St., San Fran-
 cisco, at \$659,675 awarded contract
 by Constructing Quartermaster for
 building construction in connection
 with the Hamilton Field (Tarin
 Meadows) Bombing Base. Work in-
 volves:
 Barracks; 12 officers' quarters; 5
 non-commissioned officers' quarters;
 1 hangar and shops; 1 corporation
 warehouse; 1 radio building and 1
 dope shop, etc.

Plans Completed.
POSTOFFICE Cost, \$150,000
VALLEJO, Solano Co., Cal. Main and
 Carolina Sts.
 One-story and basement Class A re-
 inforced concrete and granite
 postoffice building.
 Owner—U. S. Government.
 Architect—Charles Dean, California
 State Life Bldg., Sacramento.
 Plans have been forwarded to
 Washington for approval.

Plans Being Figured. (Bids close July
 28th).
POSTOFFICE Cost, \$450,000
RENO, Washoe Co., Nevada. No. 21
 Mill Street.
 Three-story Class A postoffice (terra
 cotta and stone exterior finish;
 marble corridors; 190x80 feet).
 Owner—U. S. Government.
 Architect—F. J. De Longchamps, Ga-
 zette Bldg., Reno.

YAKIMA, Wash.—See "Reservoirs
 and Dams", this issue. Bids opened
 by U. S. Bureau of Reclamation for
 motor-operated tandem cylinder gate
 hoist, etc., in connection with the Cle
 Elum Dam.

Final Plans Approved.
POST OFFICE Cost, \$160,000
PALO ALTO, Santa Clara Co., Calif.
 Hamilton Ave., Waverly and Gil-
 bert Sts. (140-ft. frontage).
 One-story, mezzanine floor and base-
 ment Class A post office (concrete
 walls, clay tile roof, terra cotta,
 marble, tile work, etc.)
 Owner—United States Government.
 Architect—Birge M. Clark, 310 Univer-
 sity Ave., Palo Alto.
 Bids will be asked shortly.

FORT CLAYTON, C. Z.—Until Aug.
 25 (extended from June 15) bids will
 be received by Quartermaster Depart-
 ment, Quarry Heights, Panama Can-
 al Zone, for construction and com-
 pletion of excavation of earth and
 rock, roads, curbs and walks, water
 distribution and fire protection sys-
 tem, storm and sanitary sewer system,
 electric distribution and steel lighting
 system; fourteen company officers' quar-
 ters approximately \$319,500; twenty-
 four family non-commissioned of-
 ficers' quarters, approx. \$80,000; one
 battalion barracks, approx. \$357,500;
 widening of Gaillard St., lighting and
 moving Officers' Club and garage for
 Second Field Artillery Post at Fort
 Clayton.

ALAMEDA, Alameda Co., Calif.—
 Standard Dredging Co., 414 13th St.,
 Oakland, at \$116,750 awarded contract
 by Constructing Quartermaster, Ben-
 ton Field Air Depot, for making hy-
 draulic fill and constructing sand le-
 vées under Spec. 6. See "Dredging,
 Harbor Works and Excavations" in
 this issue for complete list of unit and
 total bids received.

LAS VEGAS, Nev.—Rosen & Fischel
 Inc., 11 S. La Salle St., Chicago, Ill.,
 at \$214,709 (original plan) and \$20,-
 533 (adding height) to Treasury De-
 partment, Washington, D. C. for com-
 pleting the U. S. post office building
 at Las Vegas.

Preparing Plans.
IMMIGRATION STATION \$400,000
HONOLULU, T. H.
 Two-story steel frame and concrete
 immigration station (stucco and terra
 cotta exterior, marble, tile and
 cement floors, 1 elevator, U. S.
 Standard plumbing goods, Oregon
 Pine interior finish.
 Owner—United States Government.
 Architect—Herbert C. Cayton.
 Consulting Architect—C. W. Dickey,
 Damon Bldg., Honolulu, T. H.

WINSLAW, Ariz.—Until Friday,
 July 22, bids will be received by the
 U. S. Department of the Interior, Bu-
 reau of Indian Affairs, Washington, D.
 C., for the construction of an Indian
 sanitarium at Winslow, Ariz. The
 buildings to be erected include: hospi-
 tal building, \$100,000; equipment,
 \$12,000; nurses' quarters, \$12,000;
 garages, \$5,000; physicians' quarters,
 \$8,000; utilities, \$4,000; and walks,
 \$2,000. E. K. Miller, Superintendent,
 Hopi Indian Reservation, Keams Can-
 yon, Ariz., will have charge of the
 project for the government.

SAN ANGELO, Texas.—Christy-
 Dolph-Cannon Const. Co., Dallas, Tex.,
 submitted low bid at \$119,800 to the
 Treasury Department for extension
 and remodeling (except elevator) of
 the U. S. post office and court house
 at San Angelo.

HALLS AND SOCIETY BUILDINGS

Construction Postponed.
RECREATION BLDG. Cost, \$8000
CHICO, Butte Co., Cal. Civic Center.
 One-story reinforced concrete recrea-
 tion building (Spanish type; tile
 roof).
 Owner—City of Chico.
 Architect—Cole and Brouhard, First
 National Bank Bldg., Chico.

Clearing Site.
 LODGE BLDG. Cost, \$—
 SANTA CRUZ, Santa Cruz Co., Cal.
 New lodge building.
 Owner—Loyal Order of Moose (E. C. Kramer, Secretary).
 Architect—Not selected.
 H. R. Lord, 652 Soquel Ave., Santa Cruz, is now wrecking present building on site. Arrangements are now under way to raise funds to finance construction of a new building.

Segregated Bids Being Taken.
 LODGE Cost, \$20,000
 PINOLE, Contra Costa Co., Cal.
 Two-story Class C brick lodge (50x100) tile, tar and gravel roof, hot air heating system, hardwood, linoleum and tile floors.
 Owner—Pinole Lodge, F. & A. M. Plans by Matanovich-Manov, 218-219 Fox Theatre Bldg., Oakland.
 Plans and specifications obtainable from Matanovich-Manov, secretary of the building committee.

Plans Being Completed.
 MEMORIAL BLDG. Cost, \$20,000
 BENICIA, Solano Co., Cal.
 One-story and basement frame and stucco Memorial Building (65x85 feet), auditorium to seat 350.
 Owner—County of Solano.
 Architect—W. E. Coffman, Forum Bldg., Sacramento.
 On either side of the large entrance hall are the meeting and clubrooms. The meeting room is 16x22 ft. and the clubroom 16x22 ft. Beyond this is the main auditorium, which is 30x49 ft. in size. A stage 17x50 ft. and a gallery above the entrance hall and rooms will seat about 150. This will make a seating capacity of approximately 350 for the auditorium and gallery.

Preparing Working Drawings.
 ALTERATIONS Cost, \$25,000
 NAPA, Napa Co., Cal.
 Alterations to second floor of Masonic Temple (banquet facilities will be provided).
 Owner—Masonic Hall Association.
 Architect—Reed and Corlett, Oakland Bank of Savings Bldg., Oakland.

HOSPITALS

ROSEBURG, Oregon.—York Ice Machine Corp., 1238 N 44th St., Philadelphia, at \$15,504 awarded contract by Veterans' Administration, Washington for refrigeration and ice machinery plant at the Veterans' Hospital, Roseburg.

STOCKTON, San Joaquin Co., Cal.—Oakland Refrigeration and Butcher Supply Co., 1622 E. 12th St., Oakland, at \$947 awarded contract by State Department of Public Works, Sacramento, for refrigeration equipment at the Stockton State Hospital.

Contracts Awarded.
 ADDITION Cost, \$40,000
 HANFORD, Kings Co., Cal.
 Two-story wing addition and general alterations to county hospital (reinforced concrete and brick construction, gypsum tile walls, interior Schumacher and rock lath partitions, linoleum floors, tile floors, wood and steel sash, steam heating system, exhaust system, signal call system (50 beds); two diet kitchens, two utility rooms, one emergency operating department, one maternity department, children's wards, five baths, cells, plaster cast rooms, locker and sewing rooms.

SAN RAFAEL, Marin Co., Calif.—Globe Electric Works, 1899 Mission St., San Francisco, at \$24,064 submitted low bid to Constructing Quarter-master, for electrical distributing system in connection with the Hamilton Field (Marin Meadows) Bombing Base. Following is a complete list of the bids:

- (1) 1 gas meter house, 1 switching station, 2 transformer vaults, underground electric distribution system.
- (2) deduct if portion of electric distribution system is installed.
- (3) deduct if entire street lighting system is omitted.
- (4) deduct if transformer enclosure adjacent to switching station is omitted.
- (5) add if exterior wall surface of transformer vaults Nos. 1 and 2 are stuccoed.

| | | |
|--------------------------|-----|----------|
| Globe Elec. Works, S. F. | (1) | \$24,064 |
| | (2) | 2,800 |
| | (3) | 5,550 |
| | (4) | 350 |
| | (5) | 100 |
| Radelfinger Bros., S. F. | (1) | \$24,873 |
| | (2) | 2,420 |
| | (3) | 6,500 |
| | (4) | 200 |
| | (5) | 70 |
| Severin Elec. Co., S. F. | (1) | \$28,578 |
| | (2) | 1,480 |
| | (3) | 6,700 |
| | (4) | 300 |
| | (5) | 190 |
| Bennett & Taylor, L. A. | (1) | \$27,785 |
| | (2) | 2,370 |
| | (3) | 3,587 |
| | (4) | 200 |
| | (5) | 150 |

| | | |
|-------------------------------|-----|----------|
| Matson-Seabrooke Co., Oakland | (1) | \$28,230 |
| | (2) | 2,450 |
| | (3) | 6,943 |
| | (4) | 578 |
| | (5) | 112 |
| Star Elec. Co., Seattle | (1) | \$28,297 |
| | (2) | 2,609 |
| | (3) | 7,648 |
| | (4) | 521 |
| | (5) | 81 |
| Leibert & Trobeck, S. F. | (1) | \$28,550 |
| | (2) | 4,460 |
| | (3) | 8,268 |
| | (4) | 100 |
| | (5) | 60 |
| H. S. Tittle, S. F. | (1) | \$28,746 |
| | (2) | 3,016 |
| | (3) | 5,902 |
| | (4) | 375 |
| | (5) | 122 |

| | | |
|---------------------------|-----|----------|
| NePage-McKenny, S. F. | (1) | \$29,287 |
| | (2) | 2,287 |
| | (3) | 7,487 |
| | (4) | 387 |
| | (5) | 90 |
| Robt. E. McKee, L. A. | (1) | \$29,950 |
| | (2) | 1,800 |
| | (3) | 5,900 |
| | (4) | 85 |
| | (5) | 10 |
| Newberry Elec. Co., L. A. | (1) | \$29,968 |
| | (2) | 1,413 |
| | (3) | 7,838 |
| | (4) | 455 |
| | (5) | 122 |

| | | |
|--|-----|----------|
| F. G. Lynn and F. Hefferman, San Francisco | (1) | \$30,499 |
| | (2) | 2,442 |
| | (3) | 7,680 |
| | (4) | 450 |
| | (5) | 75 |

| | | |
|---------------------------------------|-----|----------|
| Butte Elec. Equip. Co., San Francisco | (1) | \$31,390 |
| | (2) | 3,664 |
| | (3) | 8,342 |
| | (4) | 400 |
| | (5) | 105 |
| Butte Elec. Mfg. Co., S. F. | (1) | \$32,047 |
| | (2) | 2,683 |
| | (3) | 6,921 |
| | (4) | 350 |
| | (5) | 80 |

| | | |
|------------------------------------|-----|----------|
| North Bay Electric Co., San Rafael | (1) | \$32,830 |
| | (2) | 3,200 |
| | (3) | 8,168 |
| | (4) | 396 |
| | (5) | 83 |
| Chas. Langlais, S. F. | (1) | \$28,413 |
| | (2) | 1,139 |
| (Bid irregular) | (3) | 6,550 |
| | (4) | 350 |
| | (5) | 100 |

SAN RAFAEL, Marin Co., Calif.—Following bids received for building construction in connection with the Hamilton Field (Marin Meadows) Bombing Base, San Rafael:
 (1) 200-man barracks;
 (2) 8 quarters for company officers;
 (3) hangars and shops;
 (4) total bid for items 1, 2, 3.

| | | |
|--------------------------|-----|-----------|
| J. D. Hannah, S. F. | (1) | \$138,500 |
| | (2) | 128,000 |
| | (3) | 333,000 |
| | (4) | 588,000 |
| | (5) | 134,700 |
| Robt. E. McKee, L. A. | (1) | \$134,700 |
| | (2) | 144,900 |
| | (3) | 357,000 |
| | (4) | 624,100 |
| K. E. Parker, S. F. | (1) | \$142,800 |
| | (2) | 144,700 |
| | (3) | 349,000 |
| | (4) | 629,700 |
| Barrett & Hilp, S. F. | (1) | \$143,910 |
| | (2) | 145,134 |
| | (3) | 352,491 |
| | (4) | 627,585 |
| Leibert & Trobeck, S. F. | (1) | \$140,300 |
| | (2) | 141,350 |
| | (3) | 393,500 |
| | (4) | 665,000 |
| MacDonald & Kahn, S. F. | (1) | \$156,000 |
| | (2) | 170,500 |
| | (3) | 367,676 |
| | (4) | 670,000 |
| S. F. Const. Co., S. F. | (1) | \$155,000 |
| | (2) | 133,100 |
| | (3) | 375,000 |
| | (4) | 670,000 |
| H. Mayson, Los Angeles | (1) | \$165,200 |
| | (2) | 162,500 |
| | (3) | 375,732 |
| | (4) | 683,432 |

| | | |
|--|-----|-----------|
| Lindgren & Swinerton, Inc. San Francisco | (1) | \$151,261 |
| | (2) | 179,136 |
| | (3) | 372,263 |
| | (4) | 687,569 |
| Rocca & Caletti, San Rafael | (1) | \$151,000 |
| | (2) | 149,000 |
| | (3) | 411,900 |
| | (4) | 706,000 |

| | | |
|------------------------------------|-----|-----------|
| Anderson & Ringrose, San Francisco | (1) | \$155,900 |
| | (2) | 165,400 |
| | (3) | 404,000 |
| | (4) | 715,000 |
| Mittry Bros., L. A. | (1) | \$165,800 |
| | (2) | 155,400 |
| | (3) | 403,443 |
| | (4) | 720,649 |

| | | |
|--------------------------|-----|-----------|
| Los Angeles Const. Co. | (1) | \$169,556 |
| | (2) | 164,400 |
| | (3) | 402,499 |
| | (4) | 730,446 |
| J. F. Shepherd, Stockton | (1) | \$174,942 |
| | (2) | 167,543 |
| | (3) | 397,697 |
| | (4) | 737,000 |

| | | |
|-----------------------------|-----|-----------|
| Schuler & McDonald, Oakland | (1) | \$165,000 |
| | (2) | 151,384 |
| | (3) | 475,000 |
| | (4) | 791,000 |
| A. Nelson, S. F. | (1) | \$142,740 |
| F. J. Reilly, S. F. | (1) | \$149,431 |
| F. C. Amoroso & Sons S. F. | (1) | \$157,730 |
| | (2) | 159,353 |
| | (3) | 177,114 |

| | | |
|-------------------------------------|-----|-----------|
| Reilly & Grace, S. F. | (1) | \$159,569 |
| | (2) | 177,114 |
| O. Monson, S. F. | (1) | \$159,569 |
| Wm. Spivock, S. F. | (1) | \$138,600 |
| N. H. Sjoberg & Sons, San Francisco | (2) | \$142,300 |
| Ed. Jackson, San Rafael | (2) | \$149,000 |

Newport Const. Co.,.....(3) \$407,200
 Clinton Const. Co., S. F.,(4) \$647,000
 Complete list of alternate bids available at this office and may be inspected by those interested.
 (7496) 1st report Dec. 24, 1931; 4th, June 11, 1932.

Owner—County of Kings.
 Architect—E. J. Kump, Rowell Bldg., Fresno.

General Work

J. Frank Brown, Hanford.....\$18,247
Masonry
 M. M. Brown, Fresno.....\$ 4,300

Tiling

Fresno Marble & Tile Co., 1511 O St., Fresno..... 1,290

Painting

Joc Stretter, Fresno..... 2,375

Plastering

L. C. Strong, Visalia..... 2,835

Plumbing

Rudy Kohler, Visalia..... 3,033

Heating

Barrett - Hicks Co., 1031 Broadway, Fresno..... 1,234

Electric

Robinson Electric Co., 136 N. Van Ness Ave., Fresno..... 2,547

Roofing

San Joaquin Atlas Co., 1824 Stanislaus St., Fresno..... 1,752
 Linoleum and furniture bids rejected.

Contract Awarded.
HOSPITAL Cost, \$100,000
 ALBUQUERQUE, New Mexico.
 Three-story hospital (70 patients' rooms).
 Owner—Presbyterian Sanatorium.
 Architect—Berlin & Severns, Chicago.
 Supervising Architect—E. B. Chisty, Albuquerque, New Mexico.

Contractor—Edward Lemblke & Co., P. O. Box 211, Albuquerque, New Mexico.

POWER PLANTS

SAN BERNARDINO, Calif.—Robert Neuman, Dist. Supt., Southern Sierras Power Co., has announced that construction of underground transmission lines on D St. bet. 3rd and 6th Sts. will be started within the next thirty days. Estimated cost, \$40,000.

COLORADO SPRINGS, Colo.—Springfield Boiler Co., Springfield, Ill., awarded contract by city at \$50,519 (straight tube and alternate) to furnish a steam generator, boiler, superheater, air preheater, setting and auxiliaries for city power plant. Burns & McDonnell, Kansas City, Mo., consulting engineers. The bids were: Springfield Boiler Co.—(1) Straight tube, \$54,793; alternate, \$50,519; (2) bent tube, no bid.

Ebehook & Wilcox Co., New York—(1) \$53,499, (2) \$50,771.
 Stearns-Roger Mfg. Co. (Foster-Wheeler Co.), Denver—(1) \$59,670, (2) \$55,700.

Miue & Smelter Co. (Riley-Baden Hausen Corp.), Denver—(1) No bid, (2) \$50,570; alternate, \$52,077.
 Erie Boiler Co., Erie, Pa.—(1) \$56,269 (2) no bid.

Combustion Engineering Co., New York—(1) \$60,334, (2) \$56,317.

LOS ANGELES, Cal.—Allis-Chalmers Mfg. Co., awarded contract by Thomas Oughton, city purchasing agent, at \$61,690 for furnishing transformers under Specifications No. 2768.

LOS ANGELES, Cal.—Until 11 a. m., Aug. 2, bids will be received by City Purchasing Agent Thomas Oughton, for furnishing steam boiler equip-

ment, Specifications No. 2826, as follows:

(1) Furnish and erect on purchaser's site at Wilmington the first of two steam generating units and appurtenances of 1400 lbs. per sq. in. maximum pressure, 1350 lbs. normal working pressure. Alternative bids will be taken on equipment of 480 lbs. maximum pressure, 450 lbs. working pressure.

(2) Furnish and erect the second of two steam generating units, etc. Specifications No. 2826 obtainable from Room 107, City Hall.

GRIDLEY, Butte Co., Cal.—City trustees contemplate purchase of a Diesel engine to generate electricity for the municipal utility system. The trustees at their last meeting announced they were "dissatisfied with the attitude of P. G. & E. Company."

LOS ANGELES, Cal.—Until 11 a. m., Aug. 2, bids will be received by City Purchasing Agent Thomas Oughton for furnishing steam turbine electric generator unit f. o. b. cars (bidder to designate point). In accordance with Specifications No. 2827, which may be obtained at the office of the Purchasing Agent, 107 City Hall. Equipment is to be substantially of the following specifications: 81,250 K. V. A.; 65,000 K. W.; power factor, 0.80; voltage, 13,800; phases: 3-Y connector; 50 cycles.

LOS ANGELES, Cal.—Until 11 A. M., July 12, bids will be received by Thomas Oughton, Los Angeles City Purchasing Agent, 107 City Hall, to furnish transformers under Specification No. 2829.

Bids, same date, for metal clad switch gear, under Specification No. 2833.

Bids, same date, for oil circuit breakers, under Specification No. 2836.

All for Water and Power Department.

PUBLIC BUILDINGS, FIRE HOUSES AND JAILS

Contracts Awarded.
ART MUSEUM Cost, \$—
SEATTLE, Wash., Volunteer Park. Two-story concrete art museum, 80x 240-ft.

Owner—City of Seattle and Art Institute of Seattle (Thos. Toomey, assistant director, Harvard Ave. and E. Republican St., Seattle).
 Architect—Eebb & Gould, Hoge Bldg., Seattle.

General Contract—Peder P. Gjarde, Lyon Bldg., \$235,000 (approx.).

Heating, Ventilating and Plumbing—University Plumbing & Heating Co., 3939 University Ave., Seattle.
Electric Work—NePage-McKenny Co., 804 6th Ave., South, Seattle.

Painting—Atlas Painting & Decorating Co., 4011 Woodland Park Ave., Seattle.

Elevator—Otis Elevator Co., 2200 4th Ave., Seattle.

Contract Awarded.
COURTHOUSE \$250,000 Available
TILLAMOOK, Oregon.
 Class A Courthouse.

Owner—County of Tillamook.
 Architect—Lawrence, Holford, Allyn & Bean, 925 Failing Bldg., Portland.

Contractor—L. H. Hoffman Co., Public Service Bldg., Portland, \$102,593.
 Heating—C. F. Yundt, Corvallis, Oregon.....\$10,827

Electric—W. I. Grasl, Portland..... 2,948
Plumbing—George Burckhard, Tillamook..... 5,080

Bids Wanted—To Close July 18th, 10 A. M.

HALL OF RECORDS Cost, \$300,000
MARTINEZ, Contra Costa Co., Cal.
 Three-story Class A steel frame and concrete Hall of Records (hollow tile and metal lath partitions, steel sash, heating plant).

Owner—County of Contra Costa.
 Architect—E. Geoffrey Bangs, 411 30th Street, Oakland.

Structural Engineer—F. H. Tibbitts, Alaska Commercial Building, San Francisco.

Mechanical Engineer—G. M. Simonson Call Bldg., San Francisco.

Bids are being taken on brick, hollow tile, marble, terrazzo work, tile linoleum and cork tile.

Other contracts previously awarded.

RESIDENCES

Plans Being Figured.
RESIDENCES Cost, \$20,000-\$30,000
SAN FRANCISCO. Sea Cliff District. Three two-story and basement frame, stucco and brick veneer residences (9 rooms, 3 baths each) tile and composition roof, gas heat, colored tile b a t h s and kitchens, electric refrigeration, etc.

Owner and Builder—Allen & Co., 163 Sutter Street.

Architect—Hyman and Appleton, 68 Post Street.

Young & Horstmeyer, 461 Market St., are figuring the plans and desire sub-bids on all portions of the work.

Contract Awarded.
RESIDENCE Cost, \$10,000

BERKELEY, Alameda Co., Cal. Cragmont and Shasta Streets.
 One-story brick veneer and stucco residence (7 rooms and 2 baths).

Owner—Withheld.

Architect—E. L. Snyder, 2101 Addison St., Berkeley.

Contractor—F. W. Confer, 2101 Addison St., Berkeley.

Preparing Working Drawings.
RESIDENCE Cost, \$14,000

SAN FRANCISCO. Sea Cliff District. Two-story and basement frame, stucco and brick residence (8 rooms, 3 baths) tile roof, gas steam heating system, canvas walls and ceiling painted, electric refrigeration, hardwood floors and trim, tile baths, kitchen and pantry).

Owner—Withheld.

Architect—Milton Morrison, 601 42nd Avenue.

Bids will be asked at a later date.

Plans Completed.
RESIDENCE Cost, \$25,000

LIDO ISLE, Los Angeles Co., Cal.
 Two-story frame and stucco residence (tile and composition roof, wood and tile floors, etc.)

Owner—Warren Williams.

Architect—Franz Herding, 5514 Wilshire Blvd., Los Angeles.

Plans Being Completed.
RESIDENCE Cost, \$20,000

CARMEL, Monterey Co., Cal.
 Two-story and basement frame and stucco residence (12 rooms and 3 baths) tile roof, steam heat, oil burner, electric refrigeration, etc.; French style.

Owner—Jean Juillard.
 Architect—W. C. Raiguel, Hotel Del Monte, Monterey.

Bids will be asked at a later date.

SCHOOLS

Completing Plans. -
ADDITION Cost, \$125,000
CLAREMONT, Los Angeles Co., Cal.
 Foothill Boulevard.

Two-story and basement reinforced
 concrete addition to high school
 (233x176 ft.); steel roof joists, tile
 and deck roof, etc).
 Owner—Claremont High School Dist.
 Architect—March, Smith & Powell,
 Architects Bldg., Los Angeles.

Plans Being Completed
HOUSE OF STUDIES
 Cost, \$55,000 (1st unit)
OAKLAND, Alameda Co., Cal. Chabot
 Road and College Ave.

Three-story and basement steel frame
 and brick veneer house of studies
 (main wing, 140x36 ft.), concrete
 basement, cast stone trim, slate
 roof.
 Owner—College of St. Albert. The
 Great (Dominican House of
 Studies), Steiner and Bush Sts.,
 San Francisco.

Architect—Arnold Constable, 580 Mar-
 ket St., San Francisco.
 Plans will be completed in about
 four weeks.

Plans Completed.
COLLEGE Cost, \$175,000
AN DIEGO, San Diego Co., Cal. State
 Teachers' College.

Physical education building.
 Owner—State of California.
 Architect—William H. Wheeler, Cali-
 fornia Bank Bldg., San Diego.

Preparing Plans.
GYMNASIUM Cost, \$90,000
LOS ANGELES, Los Angeles Co., Cal.
 No. 151 W. 30th Street.

Class C brick gymnasium.
 Owner—L. A. City School District.
 Architect—A. S. Nibecker Jr., Los An-
 geles.
 Heating Engineer—D. S. Reynolds,
 Los Angeles.

Preparing Working Drawings.
SCHOOL Cost, \$230,000
VALLEJO, Solano Co., Cal.

Two-story Junior High School (rein-
 forced concrete exterior walls, fire
 resistant construction on interior,
 tile roof, maple floors in class-
 rooms, linoleum in corridors,
 steam heating system with vacuum
 pump).

Owner—Vallejo Junior High School
 District, Elmer E. Cave, Secretary,
 Board of Education.
 Architect—Frederick H. Reimers, 233
 Post St., San Francisco, and Davis
 Pearce Co., Grant and Weber Sts.,
 Stockton, Associated.
 Plans will be completed in about 45
 days.

Plans Being Completed.
STORE Cost, \$30,000
BERKELEY, Alameda Co., Cal. Col-
 lege Ave. and Russell St.

One-story Class C concrete store
 (terra cotta tile front).
 Owner—K. E. Parker.
 Plans by Eng. Dept. of Lessee.
 Lessee—Safeway Stores, Inc., 4th and
 Jackson Sts., Oakland.
 Contractor—K. E. Parker, 135 South
 Park, San Francisco.
 Sub bids will be taken shortly.

Plans Complete.
SCHOOL ADDITION Cost, \$60,000
LOS ANGELES, Cal. 1008 Grattan St.
 Two-story Class B brick addition to
 school (60x177), (10 classrooms),
 tile roof, wood roof trusses, cast

stone trim, hollow tile partitions,
 etc.).
 Owner—L. A. City School District.
 Architect—Eng. Dept. of Owner.

BANKS, STORES & OFFICES

Plans Completed.
STORE Cost, \$20,000

BERKELEY, Alameda Co., Cal. Col-
 lege Ave. and Russell Street.
 One-story reinforced concrete and ter-
 ra cotta store (60x126) Summer-
 bell roof truss, composition roof-
 ing, plaster ceiling, cement floors
 with colored metallic hardener
 (parking space, 60x120).
 Owner and Builder—K. E. Parker, 135
 South Park St., San Francisco.
 Architect—Harold Genss, 2249 Ward
 St., Berkeley.
 Lessee—Safeway Stores, Inc., Fourth
 and Jackson Sts., Oakland.

Plans Being Figured.
STORE Cost, \$50,000
FRESNO, Fresno Co., Cal. No. 1022-
 1024 Fulton Street.
 Remodel present store.
 Owner—Fisher Glassford Hardware
 Co., Fresno.
 Plans by Eng. Dept. of Lessee.
 Lessee—W. T. Grant Co., 1441 Broad-
 way, New York City (H. T. Wil-
 liams, Chief Engineer).

Contract Awarded.
ADDITION Cost, \$60,000
OAKLAND, Alameda Co., Cal. Frank-
 lin Street.

Two-story steel and brick addition to
 five-story office building.
 Owner—Withheld.
 Architect—Hardman & Russ, 266
 Whitecotton Bldg., Berkeley.
 Contractor—David Nordstrom, 354
 Hobart St., Oakland.

Plans Prepared.
MARKET Cost, \$215,000
LONG BEACH, Los Angeles Co., Cal.
 Broadway near Lime.
 Two-story Class A market (190x360).
 Owner—Long Beach Market, Ltd., 724
 East Broadway, Long Beach (Mr.
 Braun in charge).
 Engineer—C. E. Whittlesey, 724 East
 Broadway, Long Beach.

Completing Plans.
MARKET Cost, \$15,000
SAN FRANCISCO. Vallejo Street near
 Columbus Avenue.

Two-story wood and steel frame mar-
 ket (80x30) glass front, steel sash,
 electric refrigeration, etc.
 Owner—A. Rossi, 627B Vallejo St.
 Plans by Peter Canali, 604 Montgom-
 ery Street.
 Bids will be asked in a few days.

Complete Bid Listing.
ALTER STORE Cost, \$30,000
OAKLAND, Alameda Co., Cal. No.
 1755 Broadway.

Alterations to three-story and base-
 ment reinforced concrete store The
 work will consist of plate glass
 and copper store fronts, steel sash,
 ornamental iron, tile and terrazzo
 floors and stairs, electric wiring,
 plumbing, sprinkler system, paint-
 ing and decorating, gunite, gas-
 steam heating, ventilating system,
 structural steel, freight elevator,
 cabinet and millwork, hardwood
 trim, plaster staff, parquet, hard-
 wood flooring, etc.
 Owner—E. B. Holladay.

Architect—Norstrom & Anderson, 1104
 W. M. Garland Bldg., Los Angeles.
 Low Bidder—Lindgren & Swinerton,
 Inc., 225 Bush St., San Francisco.

To Ask Bids In One Week.
STORES & OFFICES Cost, \$—
NAPA, Napa Co., Calif. Second and
 Brown Streets.
 Two- or three- story reinforced con-
 crete stores and offices (tar and
 gravel roof).
 Owner—Behlow Estate, 244 Kearny St.
 San Francisco.
 Engineer—Frederick Whitton, 369 Pine
 St., San Francisco.

THEATRES

Planned.
THEATRE Cost, \$—
SAN RAFAEL, Marin Co., Cal. Cam-
 pus of Dominican College.
 Rustic open air theatre.
 (Owner—Dominican College (Mother
 Raymond in charge), San Rafael.
 Architect—Arnold Constable, 580 Mar-
 ket St., San Francisco.
 Proposed project is in a preliminary
 stage.

Plans Being Completed.
THEATRE Cost, \$25,000
WILLOW GLEN, Santa Clara Co., Cal.
 Lincoln Avenue.

One- and two-story steel frame and
 reinforced concrete theatre and
 store (theatre to seat 800) tile and
 composition roof, steam heat, etc.
 Owner—Jas. Beatty (Liberty Amuse-
 ment Co.) 60 S San Pedro St., San
 Jose.
 Plans by Bruce Bernard, % owner.
 Segregated bids will be taken in
 about one week.

WHARVES AND DOCKS

Plans Being Prepared.
MORTUARY Cost, \$50,000
SAN FRANCISCO. NW Masonic Ave.
 and Golden Gate Ave.
 One- and two-story Class A mortuary
 and chapel (95x115-feet) tile roof,
 steam heating system, etc.
 Owner—Carew & English, 1618 Geary
 Street.
 Engineer—John G. Little, 251 Kearny
 Street.

Preparing Plans.
RACE TRACK Cost, \$300,000
ARCADIA, Los Angeles Co., Cal. San-
 ta Anita Rancho.
 Rack track (work involves grandstand
 stable, clubhouse, etc.)
 Owner—Joseph M. Smoot, 905 Title
 Guarantee Bldg., Los Angeles.
 Architect—A. R. Walker and P. A. Ei-
 sen, Ltd., 507 Signal Oil Bldg.,
 Los Angeles.
 Construction to start not later than

Contract Awarded.
SWIMMING POOL, Etc. Cost, \$12,640
SAN RAFAEL, Marin Co., Calif. St.
 Vincents Orphanage.
 Reinforced concrete swimming pool
 (work involves grading, backfill-
 ing, concrete work, steel work,
 tile, etc.)

Owner—Roman Catholic Archbishop of
 San Francisco, 1100 Franklin St.,
 San Francisco.
 Plans by Leo Mitchell, % owner.
 Contractor—Leibert & Trobeck, Rialto
 Bldg., San Francisco.

STOCKTON, San Joaquin Co., Cal.
 —City Port Director Col. B. C. Allin
 announces plans being completed and
 bids will be asked within thirty days
 to erect three or four warehouses and
 a 100,000-gallon water storage tank in
 connection with the deep water pro-
 ject. Cost is estimated at \$100,000.
 Bids will also be asked for movable
 freight equipment, estimated to cost
 \$50,000, and for the extension of the
 belt line railroad in connection with
 the same improvement.

MEMBERS OF THE ASSOCIATED GENERAL CONTRACTORS

PACIFIC COAST AND INTERMOUNTAIN TERRITORY

CALIFORNIA STATE BRANCH

1318 Pershing Square Bldg.—Trinity 9418—Los Angeles

O. C. STRUTHERS, President

E. L. KIER, Vice-President

GEORGE HERZ, Secretary

MELVILLE DOZIER, JR., Manager

NORTHERN CALIFORNIA CHAPTER

206 Sansome St.—Garfield 7107—San Francisco, Calif.

C. W. Wood, President

Geo. G. Pollock, Vice-President

Floyd O. Booe, Secretary-Manager

| | | |
|--|---|--------|
| Atkinson, Lynn S. (HPR)..... | 1316-17 Edwards & Wildey Bldg., L. A., Tr. | 7451 |
| Atkinson, Guy F., Co., Inc. (BHPR) 601 Russ Bldg., S. F., Sut. | | 3629 |
| Ball, N. M. (HP)..... | 1889 Yosemite Rd., Berkeley, AS. | 6722 |
| Basalt Rock Co., Inc. (H)..... | 908 8th St., Napa, Napa | 195 |
| Bechtel Co., W. A. (BHPR)..... | 155 Sansome St., S. F., CA. | 0780 |
| Bevanda, M. J. (HP)..... | 319 Elks Bldg., Stockton | 7470 |
| Bishop, E. B. (HP)..... | 500 Fremont Bldg., Sacramento, Capitol | 2456 |
| Bodenhamer Const. Co. (HPR)..... | Box 643, 354 Hobart St., Oakland, Glencourt | 5022 |
| Calif. Const. Co. (BHPR)..... | 715 Standard Oil Bldg., S. F., DO. | 4820 |
| Casson, Jack A. (HP)..... | Hayward, Calif., Hayward | 8560 |
| Clark & Henery Const. Co. (HP)..... | Market St., DO | 2903 |
| Colley, W. C. (HPR)..... | 35 Northampton Ave., Berkeley, ASH. | 1323 |
| Conner, J. L. (HP)..... | P. O. Box No. 86, Monterey | 1137 M |
| Connolly, T. E. (BHPR)..... | 461 Market St., S. F., Kearny | 6408 |
| Conyes, R. A. (HPR)..... | 1043 38th St., Oakland, Olym | 9391 |
| Currie, James (HPR)..... | 1100 Peninsula Ave., Burlingame, Burl | 3497 |
| Delin, C. M. (HPR)..... | 206 Sansome St., San Francisco, Gar. | 7107 |
| Dodge Bros., Inc. (HP)..... | Fallon, Nevada, Main | 1761 |
| Drumm, A. D. J. (HP)..... | 1043 38th St., Oakland, Olym | 9391 |
| Eaton & Smith (HPR)..... | 715 Ocean Ave., San Francisco, DE. | 6700 |
| Fairbanks, A. J. & J. L., Inc. (HP)..... | Linden Ave., So. S. F., | 436 |
| Fay Improvement Co., The (HPR)..... | Phelan Bldg., S. F., KE. | 4044 |
| Fitzmaurice, H. (HP)..... | 2857 Hannah St., Oakland, Olym | 2490 |
| Force Const. Co. (HP)..... | 70 Bellevue, Piedmont, Calif., HU. | 9349 |
| Franks Contracting Co. (PR)..... | 260 California St., S. F., DO. | 6684 |
| Frederickson Bros. (BHPR)..... | First Natl. Bank Bldg., Stockton, 5974 | |
| Frederickson & Watson Const. (BHPR)..... | 873 81st Ave., Oakland, SW. | 1264 |
| French, George J., Jr. (HP)..... | P. O. Box No. 675, Stockton, 6676 | |
| Gerwick, Ben C., Inc. (HP)..... | 112 Market St., S. F., SU. | 8454 |
| Granite Construction Co. (BHPR)..... | 1043 38th St., Watsonville, California, | 1839 |
| Hanrahan Co. (HP)..... | Hobart Bldg., San Francisco, CA. | 1639 |
| Harney, Charles L. (HP)..... | 74 New Montgomery St., S. F., CA. | 1711 |
| Hauser, W. H. (HPR)..... | 3129 E. 7th St., Oakland, Fruitvale | 6790 |
| Heafey-Moore Co. (HP)..... | 344 High St., Oakland, AN. | 0466 |
| Hemstreet & Bell (HP)..... | 411 "C" Street, Marysville, | 433 |
| Hodgman & MacVicar (HP)..... | 714 Plymouth, Pasadena, Ter. | 1563 |
| Holland, J. P., Inc. (HPR)..... | 1834 McKinnon Ave., S. F., MI. | 5400 |
| Ibell Const. Co. (HP)..... | 3560 Y St., Sacramento Capital | 472 |
| Jenkins, M. A. (HP)..... | Hayward, Calif., Hay. | 74 |
| Jones & King (HPR)..... | Latham Square Bldg., Oak, HI. | 2614 |
| Kaiser Paving Co. (BHPR)..... | 916 Financial Center Bldg., Oak, Cal. | 1620 |
| Knapp, J. F. (HP)..... | P. O. Box 903, San Francisco, MA. | 3876 |
| Larsen Bros. (HP)..... | 37th St., Sacramento, Capital | 1924 |
| Lee, U. B. (HP)..... | 10059 Carpenter St., San Leandro, Sweet. | 1717 |
| Le Tourneau, R. G. (HPR)..... | 122 Moss Ave., Stockton, 471 | |
| Lord & Bishop (HPR)..... | Native Sons Bldg., Sacramento, Main | 3981 |
| Lovelace, Nate (HP)..... | 5250 Broadway Tr., Oakland, CL. | 1990 |
| Malcom, C. T. (HPR)..... | Walnut Creek, Calif., W. C. | 277 |
| McDonald, D. (HPR)..... | 204 23rd St., Sacramento, Cap. | 1806 |
| McGillivray Const. Co. (HPR)..... | Box 927, Sacramento, Capital | 2170 |
| McMillan, W. K. (HP)..... | 2088 Howard St., San Francisco, MA. | 3876 |
| Mercer-Fraser Co. (BHPR)..... | Eureka, Eureka, | 808 |
| Nevada Contracting Co. (HPR)..... | Fallon, Nevada, Phone | 1851 |
| Nevada Rock & Sand Co. (HP)..... | Reyno, Nevada, Reno | 5291 |
| Nightbert, Fred W. (HP)..... | No. 10 "H" St., Bakersfield | 4724 |
| Pacific Pavements Co., Ltd. (HP)..... | 85 Barstow St., S. F., DO. | 0879 |
| Pacific States Construction Co. (HP)..... | Call Bldg., S. F., DO. | 4178 |
| Phillips, John, Co. (HP)..... | 582 Market St., San Francisco, KE. | 4471 |
| Pollock, Geo. G. (HP)..... | P. O. Box 576, Sacramento, Main | 1457 |
| Rohl, H. W., Co. (HPR) 4351 Alhambra Ave., Los Angeles, CH. | | 6141 |
| Six Companies, Inc. (BHPR) Financial Center Bldg., S. F., Gar. | | 3842 |
| Siems-Helmers, Inc. (BHPR)..... | 206 Sansome St., S. F., DA. | 5235 |
| Skeels & Graham Co. (HP)..... | P. O. Box 576, Roseville, Calif. | 4661 |
| Tedford, J. N. (HP)..... | Fallon, Nevada, Main | 461 |
| Teichert, A. & Son, Inc. (HP) 1846 37th St., Sacramento, Main | | 6586 |
| Tieslau Bros. (HP)..... | 2819 Grove St., Berkeley, BE. | 8635 |
| Tucker, H. V. Co. (HP)..... | 300 Vermont St., S. F., MA. | 7583 |
| Ulrich Const. Co., Geo. J. (BHP)..... | 2510 Broadway Tr., Oakland, CL. | 921 |
| Von der Hellen & Pierson (HPR)..... | Modesto, Castaic, Calif. | |
| Ward Engineering Co. (HP)..... | 315 Montgomery St., S. F., Dav. | 8984 |
| Wood, C. W. (HP)..... | P. O. Box 1435, Stockton, 8743 | |
| Young, Clarence (HP)..... | 5250 Broadway Tr., Oakland, CL. | 921 |
| Young & Son, Ltd. (HP) 599 Colusa Ave., Berkeley, Berk | | 5545 |

Associate Members

| | | |
|---|--|------|
| American Bitumuls Co. (Bitumuls)..... | 200 Bush St., S. F., CA. | 6653 |
| Anderson Bros. Supply Co. (Commissary)..... | Boulder City, Nev. | 7712 |
| Andrews, F. T., Co. (C. P. A.)..... | 1650 Russ Bldg., S. F., CA. | 7712 |
| Associated Oil Co. (Asso. Prod.)..... | 79 N. Mont'y St., S. F., KE. | 4800 |
| Austin Western Road Machinery Co. (Road & Machinery)..... | 435 Brannan St., San Francisco, DO. | 2183 |
| Autocar Sales & Service Co. (Autocar Trucks)..... | 326 Howard, San Francisco, SU. | 1730 |
| Bacon, Edward R., Co. (Road Machinery)..... | Folsom and 17th Sts., San Francisco, HE. | 3700 |
| Blake Bros. Co. (Crushed Rock)..... | Balboa Bldg., S. F., KE. | 5320 |
| Calaveras Cement Co..... | 315 Montgomery, San Francisco, DO. | 4224 |
| California Corrugated Culvert Co. (Corrugated Pipe)..... | 5th & Parker, West Berkeley, BE. | 5420 |
| Cement Gun Construction Co. (Cement Guns)..... | 85 Second St., San Francisco, SU. | 8306 |
| Contractors Ins. Agency (Insurance) 206 Sansome, S. F., SU. | | 3400 |
| Cowell Lime & Cement Co. (Cement) 2 Market St., S. F., GA. | | 4870 |
| Garfield & Co. (Equipment) Hearst Bldg., San Francisco, SU. | | 1036 |
| Geiger Iron Works (Equip.)..... | P. O. Box 423, Stockton, Stock. | 1898 |
| Granite Rock Co. (Crushed Rock)..... | Watsonville, Wat. | 988 |
| Harneschfer Sales Corp. (Equip.)..... | 82 Beale St., S. F., DO. | 2313 |
| Harron, Rickard & McCone Co. (Equip.)..... | 1600 Bryant St., San Francisco, UN. | 3740 |
| Link-Belt Co. (Equip.)..... | 400 Paul Ave., San Francisco, DE. | 6400 |
| Marion Steam Shovel Co. (Power Shovels)..... | 371 Howard St., San Francisco, KE. | 7493 |
| Modern Vehicle Co. (Mfrs. Steel Dump Bodies)..... | 4 & 4th St., San Francisco, GA. | 1402 |
| Murray & Ready (Labor Agency) 784 Market St., S. F., SU. | | 1205 |
| Northwest Engineering Co. (Shovels)..... | 23 Main St., S. F., SU. | 7053 |
| Pacific Coast Aggregates..... | 700 Wells Fargo Bldg., S. F., SU. | 8940 |
| Pacific Coast Engineering Co. (Structural Steel)..... | Foot of W. 4th St., Oakland, HI. | 1322 |
| Pacific H. B. A. Steel Co. (In. Drill Steel)..... | 540 Brannan St., San Francisco, CA. | 6683 |
| Pacific Portland Cement Co. (Golden Gate)..... | Hunter-Dulin Bldg., San Francisco, CA. | 4100 |
| Plant-Evans (Commissary)..... | Merchants' Ex. Bldg., S. F., GA. | 5923 |
| Robinson Tractor Co. (Caterpillar Tractors)..... | 1705-09 E. 12th St., Oakland, FR. | 2485 |
| Roebing's, Jno. A., Sons Co. (Wire Rope)..... | 1175 Howard St., San Francisco, CA. | 6490 |
| Santa Cruz Portland Cement Co. (Santa Cruz)..... | Crocker Bldg., San Francisco, GA. | 3307 |
| Shell Oil Co. (Shell Products)..... | 100 Bush St., S. F., EX. | 5400 |
| Soule Steel Co. (Reinforcing Steel)..... | 1750 Army St., S. F., VA. | 4141 |
| Spears-Wells Machinery Co. (Equip.) 1832 9th St., Oak., HO. | | 4100 |
| Standard Oil Co. of Calif. (Standard Products)..... | Standard Oil Bldg., San Francisco, SU. | 7700 |
| Traffic Service Bureau (Freight Audits) 24 Calif. St., S. F., GA. | | 6194 |
| Union Oil Co. of Calif. (Union Prod.) Mills Bldg., S. F., SU. | | 1400 |
| Union Commerc. Co. Inc. (Equip.) 234 Steuart St., S. F., DO. | | 0430 |
| Western Pipe & Steel Co. (Steel Pipe) 444 Market St., S. F., CA. | | 6798 |

SOUTHERN CALIFORNIA CHAPTER

1318 Pershing Square Bldg.—Trinity 9418

Los Angeles, Calif.

C. G. Fitzgerald, President Melville Dozier, Jr., Manager
 LYNN S. ATKINSON, First Vice-President (Engineering Div.)
 WM. A. SIMPSON, Second Vice-President (Building Div.)

The address of the firm is the same city in which is located the Chapter office unless otherwise shown in membership list.

Building Contractors

| | | |
|---------------------------------|--------------------------------------|-------|
| Atkinson, J. F. | 1102 Story Bldg., Vandike | 7783 |
| Baruch Corp. | 1015 Lincoln Bldg., Trinity | 5473 |
| Bradley Constr. Co., K. R. | 1833 West Pico, WASHINGTON | 2786 |
| Burgin, W. Jay | 1100 Redondo Ave., Long Beach, L. B. | 81103 |
| Byerts & Dunn | 7908 Santa Monica Bldg., Crestview | 9602 |
| Clinton Construction Co. | 1103 Spring Arcade Bldg., Madison | 2597 |
| Crowell, Wm. C. | 495 S. Bldwy., Pasadena, Warkfield | 6692 |
| Crowell Co., Weymouth | 2104 E. 15th St., Westmore | 5708 |
| DeCamp-Hudson Co., Ltd. | 1277 W. 24th St., Westmore | 3382 |
| Dixon, L. E., Co. | 609 So. Grand Ave., Trinity | 4923 |
| Escherich Bros. | 234 W. 37th Place, Adams | 6294 |

Class of Construction: (B) Building; (H) Highway; (P) Public Works; (R) Railroad.

ALAMEDA COUNTY CHAPTER

354 Hobart St., Rm. 410—Glencourt 7400—Oakland, Calif.

S. G. Johnson, President H. J. Christensen, Treasurer
 Geo. J. Maurer, Vice-President W. E. Hague, Manager

| | | | |
|--------------------------|---------------------------|----------------|-------------|
| Hall, J. F. | 531 Douglas Bldg., | Mutual | 6722 |
| Houghton & Anderson | 143 Rose St., | Mutual | 5430 |
| K. P. Lowell & Co., Ltd. | 606 Union Bank Bldg., | Vandike | 4072 |
| Macdonald & Driver | 311 Board of Trade Bldg., | Tucker | 6467 |
| McKee, Robert E. | 1128 Central Bldg., | Trinity | 0291 |
| Miller, Geo. E. | 401 N. Canon Dr., | B. H., | OXford 7404 |
| Simpson Construction Co. | 1007 Architects Bldg., | Mutual | 7261 |
| Snell, Fred C. | 339 N. Beverly Dr., | Beverly Hills, | OXford 6409 |
| Willard-Brent Co. | 234 E. 27th St., | Richmond | 2101 |

Bridges, Foundations

| | | | |
|---------------------------|-------------------------|---------|-------|
| Lebetter Co., W. M. | Box 1264, Arcade St., | Capitol | 13415 |
| Union Brothers | 707 San Fernando Bldg., | Angelus | 8759 |
| Raymond Concrete Pile Co. | 1008 Washington Bldg., | Vandike | 6536 |

Highways, Paving, Grading

| | | | |
|----------------------------|-----------------------------|-----------------------|--------|
| Basich Bros. | Torrance, Gardena | 446 | |
| Bock, Geo. J. | 1007 S. Harvard, E.Mpire | 7614 | |
| Donovan & Sons, J. C. | 4031 Goodwin Ave., | OLympic 0423 | |
| Ferry, Peter L. | San Fernando Rd. and Bdwy., | Glendale, OL | 0164 |
| Flaming Construction Co. | Pomona | 9343 | |
| Griffith Company | A. Railway Bldg., | Westmore | 9343 |
| Hall-Johnson Co. | P. O. Box 387, Alhambra, | Eliot | 1855 |
| Herz & Co., Geo. | 310 Platte Bldg., | San Bernardino, S. B. | 241-42 |
| Heuser, Chas. U. | 316 Allen Ave., | Glendale, DOuglas | 3965 |
| Hudson, Chas. H. | 408 Rives-Strong Bldg., | Vandike | 3374 |
| Jahn & Brass | 701 Lane Mortgage Bldg., | Trinity | 8674 |
| Lang Transportation Co. | 5501 Santa Fe Ave., | Jefferson | 3104 |
| Lewis Construction Co. | 300 S. Juanita St., | Washington | 1407 |
| Packard & Linner | 905 W. Latham St., | Phoenix, Ariz. | |
| Pearson & Dickerson | 4483 Cypress, Riverside, | | 1600 |
| Ross, M. S. | 4011 Goodwin Ave., | Capitol | 7603 |
| Wells & Bressler | P. O. Box 596, Santa Ana, | | 227 |
| Willis, C. G. & Sons, Inc. | 2119 E. 25th St., | LAfayette | 9826 |

Pipe Lines, Water Works

| | | | |
|----------------------------|------------------------------|----------|------|
| American Concrete Pipe Co. | P. O. Box 1428, Arcade Sta., | J.E. | 4211 |
| Haverty Co., Thos. | 316 E. 8th St., | Vandike | 1171 |
| United Concrete Pipe Co. | Box 1, Station H, L. A., | TWinoaks | 9196 |

Subways, Conduits

| | | |
|------------------------|-----------------------|--|
| Delta Construction Co. | P. O. Box 79, Compton | |
|------------------------|-----------------------|--|

General Engineering

| | | | |
|--------------------------------|-----------------------------|---------|------|
| Atkinson, Lynn S. | 609 S. Grand, TRinity | 7451 | |
| Bartmus, Peter | Hollywood Riviera, Redondo, | Redondo | 6404 |
| Bent Bros., Inc. | 418 S. Pecan S., | Angelus | 7510 |
| Campbell-Reichert Co. | 4000 Whiteside Ave., | Angelus | 0598 |
| Cox, R. L. | 1100 Westminster, Alhambra | 1699 | |
| Emeco Conc. Cutting Corp. | 1517 Santa Fe Ave., | Vandike | 7168 |
| Fitz Gerald Eng. & Constr. Co. | 216 Rowan Bldg., | Trinity | 5088 |
| Foley, D. A., Construc. Co. | 716 Grant Bldg., | Tucker | 7814 |
| Kemper Const. Co., Ltd. | 3701 Overland, Los Angeles | | |
| Macco Construction Co. | Hynes, Jefferson | 1148 | |
| Merritt-Chapman-Scott Corp. | P. O. Box 507, San Pedro, | | 2880 |
| Mitty Bros. Construction Co. | 722 Detwiler Bldg., | Vandike | 0210 |
| Morrison-Knudsen Co. | 411 West Fifth St., | Mutual | 7684 |
| Robinson Roberts Co. | 706 Rives-Strong Bldg., | Trinity | 2889 |
| Spicer, C. A. | 818 Financial Center Bldg., | Tucker | 9570 |
| Standard Dredging Co. | 325 Central Bldg., | Trinity | 3253 |
| Watson, R. A. | 1026 N. McCadden Pl., | Granite | 4121 |

Affiliates

| | | | |
|------------------------------|--------------------------------|-------------------|-------|
| Brashears & Co., C. | 501 Security Bldg., | TRinity | 5091 |
| Consolidated Rock Prod. Co. | 656 S. Los Angeles St., | TRinity | 0241 |
| Gilmore Oil Co. | 2423 E. 28th St., | Jefferson | 1211 |
| Graham Brothers | 1215 W. 7th St., | Long Beach, L. B. | 65251 |
| Hartford Accident & Ind. Co. | 548 S. Spring St., | Madison | 1471 |
| L. A. Brick Co. | 1078 Mission Road, Angelus | | 2684 |
| Sun Lumber Co. | Crescent Drive, Beverly Hills, | OXford | 6191 |
| Union Oil Co. | Union Oil Bldg., | Tucker | 7211 |

| | | |
|----------------------------|---------------------------------|------|
| Brennan, J. P. (B.) | 2820 Regent, Berkeley, BE. | 0346 |
| Christensen, H. J. (B.) | 1924 Broadway, Oakland, LA. | 7164 |
| DeVelbuis, C. Dudley (B.) | 369 Pine St., S. F., CA. | 3225 |
| Dyer Construction (B.) | 337 17th St., Oakland, CL. | 3203 |
| Furlong, Thos. H. L. (B.) | 460 Jerome Ave., Piedmont, HU. | 0620 |
| Jacobs & Pattiani (BP) | 337 17th St., Oakland, CL. | 3203 |
| Johnson, S. G. (B.) | 4652 Dolores Ave., Oakland, FR. | 6650 |
| Keating, W. C. (B.) | 925 Forum Bldg., Sacramento | |
| Lesure, E. T. (B.) | 87 Ross Circle, Oakland, OL. | 0389 |
| Littlefield, R. W. (B.) | 337 17th St., Oakland, HI. | 0994 |
| Lyons, W. E. (B.) | 354 Hobart St., Oakland, HO. | 5325 |
| Maurer, George J. Co. (B.) | 500 York Drive, Oakland, HU. | 3457 |
| Nordstrom, David H. (B.) | 354 Hobart St., Oakland, HU. | 7400 |
| Pedgrift, James H. (B.) | 4106 Broadway, Oakland, HU. | 1300 |
| Petersen, George (B.) | 1841 Bancroft, San Leandro, TR. | 2043 |
| Petersen, James B. (B.) | 4021 Agua Vista, Oakland, FR. | 9887 |
| Schultz, Herbert (B.) | 811 Mendocino, Berkeley, AS. | 2360 |
| Sullivan & Sullivan (B.) | 2653 Best Ave., Oakland, AN. | 4274 |
| Thornally, W. G. (B.) | 354 Hobart St., Oakland, CL. | 8476 |
| Westland, Fred J. (B.) | 354 Hobart St., Oakland, CL. | 7400 |

Associate Members

| | |
|--------------------------------|-------------------------------------|
| Calaveras Cement Co. | 315 Montgomery St., San Francisco |
| East Eay Glass Co. | 621 Sixth St., Oakland |
| Lannom Bros. Mfg. Co. | Fifth and Magnolia Sts., Oakland |
| Maxwell Hardware Co. | 1320 Washington St., Oakland |
| Melrose Building Materials Co. | 4591 Tidewater Ave., Oakland |
| Oakland Planing Mill | Second and Washington Sts., Oakland |
| Santa Cruz Portland Cement Co. | 354 Hobart St., Oakland |
| Sunset Lumber Co. | 400 High St., Oakland |
| Tilden Lumber Co. | Foot of University Ave., Berkeley |

SAN DIEGO CHAPTER

Spreckels Theater Bldg.—Main 4289—San Diego, Calif.

George R. Daley, President M. A. Mathias, Manager
 M. H. Golden, Vice-President

| | | |
|--------------------------------|---------------------------------------|--------|
| Carroll, B. G. | 4396 Maryland St., Hillcrest | 5274-M |
| Daley Corporation (HP) | 4430 Boundary St., Randolph | 1136 |
| Dennis Constr. Co., V. R. (HP) | Box 183, Sta. A, Hillcrest | 8293 |
| Ford, E. Paul (HP) | Box 201, E. San Diego, Randolph | 5101 |
| Golden, M. H. (B) | 404 California Bank Bldg., Franklin | 7983 |
| Grove, Cecil B. | 4316 Island Ave., Franklin | 7474 |
| Hazard Constr. Co., R. E. (HP) | 2508 Kettner Blvd., Franklin | 6315 |
| Jarboe Constr. Co. (B) | 208 Spreckels Theatre Bldg., Franklin | 3792 |
| Kier Const. Co., W. E. (B) | First National Bank Bldg., Main | 2427 |
| Larsen, B. O. (B) | 1340 E St., Main | 4752 |
| Miracle Const. Co. (HP) | Box 601, E. San Diego, Main | 2295 |
| Penick & Sons, T. B. (HP) | 3075 L St., Main | 4582 |

PACIFIC NORTHWEST BRANCH

4134 Arcade Building, Seattle, Wash.

JAS. MURDOCK, President H. V. BOGERT, Rec. Secretary J. B. WARRACK, Treasurer
 J. C. COMPTON, Vice-President P. L. CROOKS, Vice-Pres. and Secretary

PORTLAND CHAPTER

Multnomah Hotel—Atwater 7883—Portland, Ore.

Paul L. Crooks, President Philip Hart, 2nd Vice-President
 Ross B. Hammond, 1st Vice-President J. A. Lyons, Treasurer
 C. B. Herington, Executive Secretary

| | | |
|-------------------------------------|---------------------------------|------|
| Baker Construction Co. (B) |Security Bldg., Atw. | 9211 |
| Christensen, Fred, Inc. (BHP) | 187 E. 34th St., Ea. | 8934 |
| Cochrane Construction Co. (HP) | 65th & Ainsworth, Tr. | 5944 |
| Compton, J. C. (HP) |McMinnville, Ore., McM. | 106 |
| Crooks, P. L., Inc. (HPR) |Henry Bldg., Atw. | 7767 |
| Dann, J. J. (PHR) | 300 Henry Bldg., Atw. | 5837 |
| Edlefsen-Weygandt Co. (HP) |Foot of Jefferson, Atwater | 4090 |
| Endicott, Wm. |Corvallis, Oregon | |
| Gates, E. L. (HPR) |Eugene, Oregon | |
| Gilpin Construction Co. (HPR) |Henry Bldg., Atw. | 6220 |
| Greenwood, A. C. (BPHR) | 500 N. Front St., Br. | 3030 |
| Guthrie & Co., A., Inc. (BPHR) | 552 Sherlock Bldg., Atw. | 8316 |
| Hammond, Ross B. (B) | 1312 Public Service Bldg., Atw. | 2159 |
| Hauser Bros. Construction Co. (PHR) | Multnomah Hotel, Atw. | 7441 |

Class of Construction: (B) BUILDING; (H) HIGHWAY; (P) PUBLIC WORKS; (R) RAILROAD.

| | |
|--------------------------------|---|
| Hoffman, L. H. (BP) | Public Service Bldg., Atw. 3181 |
| Jacobsen-Jensen Co. (PH) | 407 Stanton, Gar. 3313 |
| Johnson Contract Co. (HPR) | 414 Exchange Bldg., Atw. 0678 |
| Johnson-Gardner Co. (HPR) | 414 Exchange Bldg., Atw. 0678 |
| Kern & Kibbe (HPR) | 290 E. Salmon St., Ea. 4116 |
| Kernan, F. J. | Porter Bldg., At. 2055 |
| La Pointe Constr Co. | 1291 Cumberland Rd., Be. 6000 |
| Lindstrom & Feigenson (BPHR) | 1991 Halsey St., Tr. 9226 |
| Lyons, J. A. (BPHR) | 1001 Halsey St., Tr. 2841 |
| Milne Constr. Co. | 1853 E. Broadway, Tab. 7277 |
| Morrison & Knudsen (BHPR) | 319 Broadway, Boise, Idaho |
| Morgan, T. M. (H) | 5410 Wilshire Blvd., Los Angeles |
| Newport Construction Co. (PHR) | 317 Exchange Bldg., Atw. 5900 |
| Pacific Bridge Co. (BPHR) | Ft. of E. Salmon St., Ea. 2164 |
| Parker & Banfield (BP) | 984 E. 17th St., Sel. 6182 |
| Parker-Schram Co. (PHR) | Couch Bldg., Atw. 4375 |
| Peck, E. C. & Co. (PH) | Aberdeen, Wash. |
| Puckett, W. H. Co. (PHR) | 319 Broadway, Boise, Idaho |
| Quinn, J. L. (B) | Box 1109, Klamath Falls, Ore. |
| Rebman, J. (PH) | 343 Vancouver Ave., Tr. 7825 |
| Robertson, Hay & Wallace (B) | 605 Weatherly Bldg., Ea. 3613 |
| *Saxton & Looney | Corvallis, Ore. |
| Seed, John S. (B) | 201 Worcester Bldg., Atw. 6444 |
| | Honorary Member and Director of Chapter |
| Shea & Co., J. F. (PHR) | 211 Henry Bldg., Atw. 2435 |
| Sullivan & Doyle (PHR) | Ft. of Curry St., Atw. 5297 |
| | Box 104, Portland, Ore. |
| United Contracting Co. (BPHR) | 309-10 Stock Ex. Bldg., Atw. 5296 |
| von der Hellen & Pierson (HR) | Naches, Wash. |
| White, Ernest & Co. (B) | Twin Falls, Idaho |
| Wren & Greenough (PHR) | 1037 Com. Bldg., At. 9882 |
| Wright Constr. Co. (BPH) | Aberdeen, Wash. |
| Young, I. L. (BPH) | 524 Henry Bldg., At. 0297 |

Associate Members Portland Chapter

| | |
|-------------------------------------|----------------------------------|
| Balzer Machinery Co. | 275 Pine St., Atw. 9391 |
| Beall Pipe & Tank Co. | 85 Columbia Blvd., Wa. 3171 |
| Clyde Equipment Co. | 555 Thurman St., Br. 5561 |
| Collins Concrete Pipe Co. | 410 River St., Wa. 7670 |
| Feenaghty Machinery Co. | 309 E. Yamhill, Ea. 2187 |
| Grand Sheet Metal Works. | 60 E. Third N., Ea. 2181 |
| Latture, J. L. Equip. Co. | 312-314 E. Madison St., Ea. 8166 |
| Loggers & Contractors Machy. Co. | 345 E. Madison St., Ea. 4128 |
| Metropolitan Casualty Ins. Co., The | Wilcox Bldg., Atw. 7521 |
| National Hospital Assn. | 400 Mohawk Bldg., Atw. 5291 |
| Oregon Portland Cement | 321 E. Madison, Ea. 3116 |
| Phoenix Iron Works. | 360 Hawthorne, Ea. 0029 |
| Pomeroy, J. H. & Co. | Box 48, Seattle, Wash. |
| Pure Iron Culvert & Mfg. Co. | 763 Gladstone, Sel. 2275 |
| Santa Cruz Portland Cement | 45 Fourth St., Atw. 9848 |
| Standard Oil Co. | Pacific Bldg., Bea. 4161 |
| Swigert, Hart & Yett | Ft. of E. Salmon St., Lan. 1125 |
| Union Oil Co. of California. | Yeon Bldg., Atw. 9521 |
| Wallace Bridge & Structural Steel | P. O. Box 48, Seattle, Wash. |
| Shell Oil Co. | Commerce Bldg., At. 7321 |

SPOKANE CHAPTER

West 515 First Avenue—Main 6822—Spokane

| | |
|-------------------------------|--------------------------------|
| Max J. Kinney, President | I. G. Anderson, Vice-President |
| Nick Norman, Vice-President | Dan Hannah, Secty.—Treas. |
| Alloway & Georg (B) | Hutton Bldg. |
| Auld & Shinn (B) | 1121 Indiana |
| Burnette, C. A. (H) | 1118 Ide Ave. |
| Byers, W. A. (H) | W. 1204 Mansfield |
| Clifton & Applegate (HPR) | Hutton Bldg. |
| Collins, J. H. & Co. (H) | Colville, Wash. |
| Colonial Building Co. (BH) | Hutton Bldg. |
| Crick, James (H) | Realty Bldg. |
| Degerstrom, N. A. (HPR) | Peyton Bldg. |
| Edwards, J. E. (H) | S. 1423 Adams |
| Geist, W. L. (H) | W. 444 23rd Ave. |
| Hansen Construction Co. | W. 1517 Jackson |
| Harding, Geo. (H) | Walla Walla, Wash. |
| Hargrave Construction Co. (H) | W. 418 Twentieth |
| Hewett, F. R. (H) | W. 420 Twenty-second |
| Joslin & McAllister (H) | Realty Bldg. |
| Kuney, Max J. (H) | Hutton Bldg. |
| Larson Bros. (B) | Hyde Bldg. |
| Long, Oliver J. (H) | W. 1924 Mansfield |
| Long & Price (H) | W. 503 Fourteenth |
| March Construction Co. | W. 1002 Riverside, Spokane |

| | |
|----------------------------------|----------------------|
| Martin, F. E. (B) | Galax Hotel |
| McLellan, A. (B) | E. 932 Ermina |
| Medby, M. C. (B) | S. 3614 Arthur |
| Meyers, W. G. | S. 2217 Teoka St. |
| Morin, S. G. (B) | Paulsen Bldg. |
| Norman, Nick (B) | 231 Waverly Place |
| Nyberg, Carl (H) | Realty Bldg. |
| Orino, Sam (H) | Realty Bldg. |
| Payne, Mrs. C. M. | N. 2602 Hamilton St. |
| Power, C. A. (H) | S. 1703 Grand |
| Siems, Spokane Co. (BPHR) | Realty Bldg. |
| Standard Asphalt Paving Co. (HP) | Chronicle Bldg. |
| D. A. Sullivan & Co. | Realty Building |
| Terteling, J. A., & Sons (HP) | 511 Sound Ave. |
| Tobin, James, & Son (H) | Box 916 |
| Triangle Construction Co. (H) | W. 1220 Ide |
| True-House Construction Co. (B) | N. 119 Wall |
| Wheeler & England (HP) | Coeur d'Alene, Idaho |
| Young, Peter J. (B) | S. 11 Cedar St. |

Associate Members

| | |
|---|----------------------------------|
| Beall Pipe & Tank Corp. | Realty Bldg. |
| Brandt Bros. | W. 14 Main Ave. |
| Coeur d'Alene Hardware & Foundry | Wallace, Idaho |
| Commercial Importing Co. | 617 Western Ave., Seattle, Wash. |
| Consolidated Supply Co. | W. 1310 Ide Ave. |
| Construction Equipment Co. | 1118 Ide Ave. |
| Feenaghty Machinery Co. | N. 715 Division St. |
| W. P. Fuller & Co. | N. 229 Post St. |
| General Machinery Co. | E. 3501 Riverside |
| Gladding-McBean & Co. | 524 Old National Bldg. |
| Haywe Fuel Co. | N. 740 Division St. |
| Hofius-Ferris Equipment Co. | W. 728 Mallon |
| Holley-Mason Hardware Co. | S. 157 Howard |
| Jones & Dillingham Co. | W. 715 First Ave. |
| Jones & Mitchell | Hutton Bldg. |
| Long Lake Lumber Co. | N. 348 Wall St. |
| W. S. McCrea & Co. | 212 Symons Bldg. |
| J. E. McGovern Co. | 550 Peyton Bldg. |
| Nott-Atwater Co. | S. 157 Monroe St. |
| Old National Insurance Agency | Old National Bank Bldg. |
| Oriental Importing Tea & Coffee Co. | W. 917 First |
| Spokane Concrete Pipe Co. | N. 2627 Dakota |
| Spokane Culvert & Tank Co. | N. End Division Street Bldg. |
| Spokane Paper & Stationery Co. | S. 152 Jefferson |
| Standard Oil Co. of Calif. | Old National Bldg. |
| Union Oil Co. | 611 Chronicle Bldg. |
| Washington Brick, Lime & Sewer Pipe Co. | S. 151 Washington St. |
| Washington Machinery & Supply Co. | W. 9 Cataldo |

MOUNTAIN PACIFIC CHAPTER

(Strictly a Public Works Chapter, practically every member carrying on highway, public works and railroad construction)

Washington Hotel—Seattle, Wash.

| | |
|-----------------------------------|---|
| John W. Rumsey, President | Lee Johnson, Secretary, Treasurer |
| John M. Clifton, Vice-President | James D. Brown, Manager |
| Allen & Goven | Olympia, Wash. |
| Barnard Curtis Co. | Ellensburg, Wash. |
| Clifton, Applegate & Toole | Hutton Bldg., Spokane, Ma. 4415 |
| Columbia Power & Investment Co. | Stevenson, Wash. |
| Coyle Construction Co. | 901 Westlake N., Seattle, Gar. 5741 |
| N. A. Degerstrom | 444 Peyton Bldg., Spokane |
| Dorsey & Wilder, Inc. | 2006 State St., Bellingham, Wash., 1310 |
| Fuel Oil Service | Olympia, Wash. |
| Goodfellow Bros. | Wenatchee, Wash. |
| Grays Harbor Const. | Hoquiam, Wash., Hoq. 303 |
| Hargrave Construction Co. | W. 418, 20th Ave., Spokane |
| Hendricks & Co. | Chehalis, Wash. |
| F. R. Hewitt | 420 W. 22nd, Spokane, Riv. 7554 |
| Johnson, Homer C. | Perkins Hotel, Portland |
| Joslin & McAllister | Spokane, Wash. |
| Lee H. Johnson | 920 N. Tacoma Ave., Tacoma, Ma. 6241 |
| Lidral, Wiley | Securities Bldg., Seattle |
| Lyon & Price | 503 W. 14th, Spokane, Riv. 5319-R |
| Norris Bros. | Burlington, Wash. |
| Chas. A. Powers. | S. 1703 Grand, Spokane, Riv. 3640 |
| Puget Sound Bridge & Dredging Co. | Seattle, El. 7300 |
| Puget Sound Construction Co. | Colman Bldg., Seattle, El. 7311 |
| Fred G. Redmon. | 206 S. 4th Ave., Yakima, 9133 |
| Rumsey & Co. | Lumber Exchange Bldg., Seattle, Ma. 8751 |
| Standard Asphalt Co. | Chronicle Bldg., Spokane, Wash., Ma. 1689 |
| von der Hellen & Pierson. | Enumclaw, Wash. |
| Winston Bros. | 4580 Colorado Ave., Seattle, Clen. 2268 |

Class of Construction: (B) Building; (H) Highway; (P) Public Works; (R) Railroad.

PACIFIC

25¢
per Copy

SKILL - INTEGRITY



RESPONSIBILITY

CONSTRUCTOR

CONSOLIDATED WITH

Building and Engineering News

IN THIS ISSUE



A.G.C. CONFERS WITH GOVERNOR ROLPH
ON WAGES AND CONVICT
ROAD CAMPS

GIVE BUSINESS A CHANCE AND RESTORE
PROSPERITY, SAYS C. F. ABBOTT,
STEEL INSTITUTE EXECUTIVE

“TO MARKET TO MARKET TO BUY”

By J. F. Misphey, State Purchasing Agent

BUILDING CITIES WITH NEW MATERIALS

By Guy Wilfrid Hayler

CO-OPERATIVE CONSTRUCTION CREDIT

UNIT PRICES

CONSTRUCTION NEWS

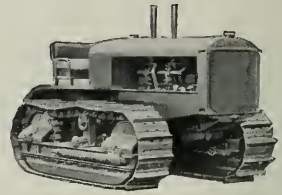
The A-C Model "L"

Establishes Horsepower Record

All the power you will ever need—wide range of speeds—clean-cut design—clearance—durability—are features of the Allis-Chalmers Model "L."

Six cylinders, six forward speeds—up to 6½ miles per hour. Same kind of responsive power, economy and performance as in the K35—only in a large tractor.

See us for the facts regarding a new horsepower record recently established by the Model "L."



**ALLIS-CHALMERS
TRACTORS and
EQUIPMENT**

**Eby Machinery
Company, Ltd.**

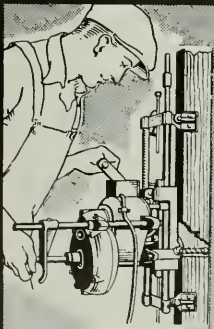
35 MAIN STREET

Power...Economy...Performance

DOuglas 1068

San Francisco

WAPPAT *Electric* TOOLS



Are Built to Last Longer

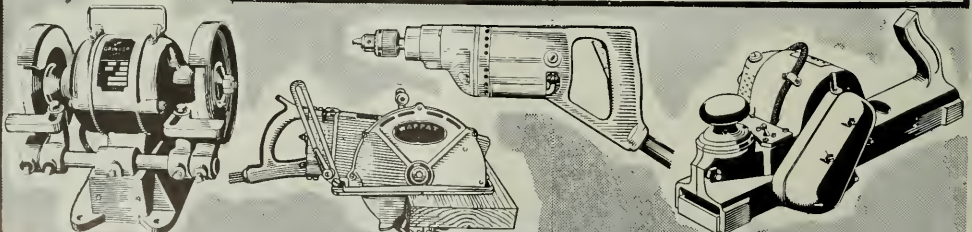
Cuts production costs . . . Speeds up the job . . . Makes for greater efficiency . . .
A size and type for every purpose.

Ask for a Demonstration

M. N. THACKABERRY

228 First Street, San Francisco
KEarny 4467

308 E. Third St., Los Angeles
TOOLS RENTED MUtual 7508



PACIFIC CONSTRUCTOR

With which is Consolidated Building and Engineering News

Official Publication of the Associated General Contractors of America
for the Eleven Pacific Coast States

J. P. FARRELL, *Editor*

SPENCER B. LANE, *Assoc. Editor, Assoc. M. Am. Soc. C. E.*

VOL. 15

SAN FRANCISCO, CALIF., JULY 15, 1932

No. 13

Editorial Comment

By Their Deeds Ye Shall Know Them.

In appreciation for the splendid cooperation received in the Oakdale district during the construction of the Hetch Hetchy pipe line between Oakdale and Tesla Portals, the Youdall Construction Company, contractors, canceled the bill for 6000 feet of lumber sold to the Oakdale Irrigation District. The letter with the canceled bill was presented at the district office by J. L. Sawyer.

Score another home run for the San Francisco Chamber of Commerce.

"Construction of the Coast Range Tunnel in connection with the completion of the Hetch Hetchy Water project for the City and County of San Francisco can best be completed by private contract under guarantee that the work be accomplished within the cost submitted by the lowest responsible bidder," says the Chamber.

In taking this position the Chamber assumes that estimates of the City and County if accepted might prove a costly experiment inasmuch as they carry no guarantee of fulfillment within the figures submitted.

Southwest Builder and Contractor, the recognized construction publication in the Pacific Southwest, in commenting upon the bidding in connection with the Hetch Hetchy tunnel project, closes an editorial, saying: "In view of the sad experience which the city of San Francisco has had in building the Hetch Hetchy project by day labor it would seem that her chief concern should lie in the rapid and certain completion of the work."

We await with interest the action of the Board of Public Utilities of the City and County of San Francisco on the bids received to complete the Hetch Hetchy project.

The depression is evidenced in more ways than one. At the present time those in the building industry are regarding with more interest small sums, than they did a few years ago. It used to be, to the larger accounts.

"The amounts called for in mechanics liens evidences the changes in attitude, of the building industry, to the smaller accounts," says Harry C. Westover, Santa Ana attorney. "There was a time when those connected with the building industry would not file liens for less than \$100. The cost of filing lien, and the cost of foreclosure, in the event there was a foreclosure, was so great that (at that time) it was thought inadvisable to file liens for sums

less than \$100. Consequently ninety per cent of the liens filed in this county exceeded \$100.

"At the present time the converse is true. A majority of the liens now being filed are for less than \$100. Liens have been filed for less than \$25. It is impracticable to foreclose liens for small amounts. The actual court costs of foreclosure will run from \$1500 to \$2500. Attorney fees will consume a greater part of the small claim. It takes as much work and the costs are the same to foreclose a lien for \$25 as it does one for \$2500. The same procedure is followed and each step is identical, regardless of the amount involved."

However, the building industry has come to the place where it must watch the pennies and consequently liens for much smaller accounts are now being filed than were filed several years ago.

Legislation to be enacted in the closing hour of Congress will provide for an extended program of public buildings and self-liquidating projects such as bridges, tunnels, etc. This measure is enacted for the relief of unemployment by providing construction work as well as a market for construction materials.

Members of the American Institute of Steel Construction, including their employes (if they are so inclined) are requested to write their representatives in Congress urging them to demand restrictive measures to prevent the use of foreign materials and particularly steel, in the proposed building construction program.

Manufacturers of other lines of construction materials will find it to their interest to take action along the lines of the steel interests. Prompt action, however, is necessary.

"If foreign building materials, particularly those that may be imported at prices below the cost of production, are to be used, the purpose of the legislation may be very largely defeated," says Chas. F. Abbott, executive director of the Steel Institution. "Every ton of foreign steel that is used displaces American workmen in our mills and incurs a loss to our transportation systems and railway labor. American rolling mills and American labor should receive first consideration during this period of business depression."

Well said, Mr. Abbott. American steel produced by American workmen for American structures to be paid for with American money, is a worthwhile slogan at this time if the public works program is to accomplish all that is expected of it.

Limit Stakes and Levels

By THE EDITOR

Labor statutes of Texas requiring contractors to pay prevailing wages on state work are held unconstitutional in a decision by three judges of the United States District Court, made June 14 at Austin. The decision was made in answer to an injunction sought by four contractors working on new buildings for the University of Texas restraining state officials from enforcing the statutes. More details are given in another article in this issue.

The fatality record to date on the Hoover Dam project has been one death for each 213,620 man hours. The labor turnover in May numbered 745 men time checked and 275 men hired. Since Six Companies, Inc., started work, 6,434 men have been hired, and of the 2,753 men working for the company and its sub-contractors on May 31, 47 per cent were ex-service men.

Faced with a shrinkage of \$1,750,000 in its anticipated revenues from automobile license fees, the Oregon State Highway Commission will be under the necessity of selling \$2,000,000 in bonds between now and October 1 to meet bond and interest payments due at that time.

States may not restrict skilled labor on federal-aid highway work to residents of the state, according to a ruling received by the New Jersey State Highway Commission. Under a policy outlined by the U. S. Bureau of Public Roads, a state may give preference to residents of the state in unskilled labor, but such limitations are not permitted in the case of skilled labor.

Among the proposals now being considered for a special session of the Pennsylvania State Legislature is one made by Governor Pinchot for a constitutional amendment to permit a bond issue of \$50,000,000 for highway construction. Governor Pinchot would repay the bond issue out of gasoline tax receipts.

The San Francisco Labor Council is urging Governor Rolph to call a special session of the Legislature to provide for emergency public works and other forms of unemployment relief. A resolution was passed unanimously indorsing a similar resolution of the State Federation of Labor.

"Unless funds are provided this winter, thousands will be without food and shelter," said Paul Scharrenberg, secretary of the State Federation. "Yet last winter that state was able to pay 500 convicts a daily wage for road work."

The Labor Clarion, official organ of the council, criticized the Republican platform for adhering to President Hoover's stand that unemployment relief is a matter of state and local responsibility.

The ability of contractors and their sureties to carry out their contracts is to be studied by the Ohio State Highway Department before contracts are let. A new credit division has been established within the department for this purpose.

The Ohio Department of Highways must bear the cost of reconstruction of two bridges erected by the Churchill Construction Co., which were destroyed by a

flood. County Judge King has ruled that although the contract specified that the contractor must guard against ordinary acts of the elements, the flood which destroyed the bridges was not "ordinary." Witnesses testified that the flood was the most severe in from 40 to 70 years.

Formation of a corporation drawing support from eight corporations already in existence, to manufacture complete houses on mass production schedules, is announced in the current issue of the magazine Fortune. The corporation, General Houses, Inc., is backed by a syndicate headed by Walter L. Fisher, Chicago engineer, who was Secretary of the Interior under President Taft, and Herbert Pope of the Chicago law firm of Butler, Pope, Ballard and Ellington. The magazine said the corporation would have the co-operation of Pullman Car and Manufacturing Co., the Concrete Engineering Co., the Curtis Companies, General Electric Co., Pittsburgh Plate Glass Co., Container Corp., American Radiator and Standard Sanitary Corp., and Thomas A. Edison, Inc. The corporation proposes to manufacture complete homes in factories to sell for \$3,500 each, including the site.

The general strike of building trades in New York City, called May 2, was settled June 16 with a compromise on the part of employers. Fifteen per cent reduction was agreed upon instead of the 25 per cent demanded by the employers. The basic scale is \$11.20 per day, with helpers receiving \$8.25. Bricklayers are to get \$13.20. About 130,000 men were involved in the strike, which is now estimated to have cost the construction industry over \$10,000,000. The new agreements will be in effect until the end of 1933.

ECCLES TALKS ON DEPRESSION—Marriner S. Eccles, president of the Utah Construction Company and well known banker of Ogden, recently addressed the Utah Bankers' Association on "The Depression, Its Causes, Effects and Suggested Remedies." In his address, Mr. Eccles urged an appropriation by Congress of \$5,000,000,000 for relief. This amount to be used for public works and unemployment (wages) with which to pave the road to prosperity. Reviewing the causes of the depression, Mr. Eccles asserted:

"During the years of prosperity great credit was extended. Installment buying was advocated to the 'nth degree, and it was possible to continue that prosperity as a result of continued credit extended abroad and to American people.

"Yet when the saturation point was reached and the debtors began to pay, purchasing power was curtailed, unemployment resulted, prices were forced down and chaos supplanted prosperity.

"We get right back where we started from, but we are forced to balance our budgets, as we have no power to create credit or money. The disappointing thing is that the government, which advised two years ago to spend and buy, and which is the one agency that could supply resources, has finally adopted a policy of deflation and economy."

The speaker assailed salary reductions, curtailing of employment, which he said, results only in a reduced standard of living, a constant decrease in consumption and a reduction in purchasing power.

The Marion Steam Shovel Co., Marion Ohio, is building an 18-yard shovel equipped with a 95-foot boom and mounted on crawler trucks. The shovel will be equipped with a movable counterbalance, located at the rear of the rotating frame, which will balance the weight of the empty bucket. The shovel is known as type 5,560.

Associated General Contractors Confer With Governor Rolph

By FLOYD O. BOOE, Secretary-Manager, Northern California Chapter

FOLLOWING up a series of preliminary conferences which have been held with various State officials, a State-wide representative group of officers and members



FLOYD O. BOOE

of Associated General Contractors of America in the State of California had a conference with Governor Rolph in Sacramento, Tuesday, July 12.

This conference with the Governor was arranged thru the good offices of Highway Commissioner Reardon and brought about for the purpose of placing before the Gov-

ernor certain facts and recommendations affecting the construction industry in this state.

The preliminary plans for the conference provided for submitting to the Governor and such of his advisers as he had invited to be present the following specific subjects:

First: A revision downward of the prevailing wage scale on public work of the State; to appoint where such public wage scale would more nearly conform to other wage scales for similar work in private industries.

Second: More rigid application of the procedure of pre-qualification of contractors bidding on public work of the State.

Third: The desirability of reduction or entire elimination of the convict road camps of the State under present economic conditions.

Fourth: A recommendation that as an unemployment relief measure, the State expedite actual construction during the working season.

For many months it has been the feeling of the Associated General Contractors that one of the most important matters before the public is that of a proper adjustment of the public works wage scale in conformity with the adjustments taking place in private industry. Burdened as we are with a State law which provides that the wage scale shall be determined in advance by the public official awarding the contract or carrying on any public work, the determination and adjustment of the wage scale, therefore, becomes a purely political question.

When the State's prevailing wage scale became effective in August, 1931, there was before our State officials complete and detailed information regarding the prevailing wage being paid throughout the State, together with a definite recommendation as to the rates of wages which should be paid by the State on its various types of public construction work. The wage scales which were fixed

at that time by the State were somewhat higher than the recommended scales and considerably higher than were actually being paid in private industry.

Since that time further radical economic readjustments have taken place which have reduced the cost of living with parallel reductions in all commodity-prices, including valuations in real property, rental rates, etc. To preserve the economic balance, the public wage scales should, of course, be adjusted in the same manner, and for several months past this has been urged on the State officials; but we have been met with the response that the State did not wish to take the lead in cutting wages.

The Associated General Contractors of America is on record, both nationally and locally, against any policy of exploitation of labor; but on the other hand, to close our eyes to an existing condition which works to the detriment of the responsible and legitimate operator and to the very great advantage of those who are unscrupulous and will circumvent any law, no matter how drastic, would be utter folly on our part.

We have, therefore, consistently urged the State officials and all local officials as well, to make the necessary wage adjustments which would place the responsible operator in a position to compete with the operator who pays no attention to wage laws or any other regulation.

Further than this, the funds which are being expended on public work belong to the tax payer and he is not only entitled to a fair measure of value for every dollar expended, but in addition, should not be penalized and compelled to pay a premium for the performance of public work when its costs are compared to similar private work. Any citizen of vision can also see in the continuance of such a policy the eventual drying up of sources of public works revenues because the tax payer will not forever consent to the carrying on of such an unequal burden.

For the past several months this matter of public works wage adjustments has been presented to many important civic and industrial groups and gradually action is being secured which will, we hope, eventually correct the condition. In the meantime, however, it was felt that in the case of the State the matter should be laid squarely before the Governor along with other subjects of major importance.

An invitation was extended to the Governor to attend a general members' meeting to be held in San Francisco at his convenience during the month of July, but his calendar of engagements was so full that it was impossible for him to attend such a meeting. Therefore, as a substitute a committee conference was arranged.

Acting as spokesman for the group, Mr. Clyde W. Wood, president of the Northern California Chapter, placed the subject before the Governor as briefly and concisely as possible, supplemented by brief remarks of other members of the delegation who were present.

Summarized, the conference resulted in the following:

Prevailing Wage Law

Governor Rolph stated that he did not know anything about wage rates and that he would have to call in his aides and get their recommendations regarding same. In the course of his remarks, he stated that at the time the law was passed, a contract was entered into with organized labor and that any adjustments and other matters in relation thereto should be taken up in conference with the

representatives of organized labor and that the particular group appearing before him should arrange such a conference. At the suggestion of the Governor, the delegation held another conference later in the day with Col. Garrison, director of public works, and Commissioners Reardon and Tetley, when a further discussion was had regarding this subject and others that were placed before the Governor.

Convict Road Camps

The Governor defended the use of convicts in road camps, both as a humanitarian project and as a matter of economics in the prison administration by the State. He declared that most of the inmates of these camps were ex-service men who were entitled to a chance of freedom while in prison. When his attention was called to the fact that the State was making heavy investments in equipment in the conduct of these camps to such an extent that there are an almost equal number of free men to the number of prisoners in each camp—which actually meant that the State was competing with private industry instead of carrying out the original plan of using hand labor entirely for convicts—he asked the Commissioners present the reason for this policy and they in turn declared that they did not know the equipment had been purchased.

At the conference with Col. Garrison and Highway Commissioners Reardon and Tetley, which immediately followed the conference with the Governor, the same subjects were again reviewed and additional data regarding wage scale and various other information of this character was submitted to Col. Garrison. An effort was made to impress upon these officials the importance of placing the State's wage scale in balance with private industry. Col. Garrison stated that his department had requested information regarding the official wage scales of each county and city from the proper official of each municipality and county and that the State scales were based thereon. It was pointed out to him that this was by no means a true index of wage scales in any locality and that on the other hand he should secure information regarding wages actually being paid by the employers, and every cooperation was offered by those present to help him secure complete information of this character.

The State's pre-qualification procedure regarding contractors was discussed with Col. Garrison and he advised that careful scrutiny was being given to the financial rating of every firm and to the ability of each of such firms to take on additional work.

Concerning the question of expediting construction work, the Colonel advised that their program was advancing just as rapidly as the income permitted, in fact they were somewhat ahead of schedule at this time.

The net result of these conferences may be said to be that they only served to further convince those who attended from this organization of the unworkability and undesirability of the law which fixes a political wage and which can be used in such a manner as to entirely disregard economic facts and sound public policy.

A floor coating containing a pigment three times harder than steel, insuring resistance against normal abrasion and wear on concrete and wood floors has been announced by the Medusa Products Co., Engineers Bldg., Cleveland, Ohio. Only one coat is required over previously painted surfaces or over Medusa primer, specified for use with the coating when applied to concrete floors not previously painted. The paint comes in light gray, dark gray, tile red, brown and black.

DEMAND FOR MUNICIPAL BONDS STIMULATED BY TAX EXEMPTION

*(Special Correspondence from National City Bank
of New York)*

The past month opened with a sharp rally in the bond market upon the announcement that the American Securities Investing Corporation, the so-called "bond pool" formed by leading New York banks and banking houses, had been incorporated and had begun to purchase securities. This corporation, which is authorized to issue \$120,000,000 of debentures, is in no sense a relief measure for the attempted support of the bond market in general or of particular issues, but was organized strictly as a profit-making undertaking for permanent investment in such securities as might appear to be selling currently below their real intrinsic values. In the minds of the public, the importance attached to the formation of the corporation was not based upon the direct effect which its purchases might have upon bond prices, but rather upon the confidence which was implied as to prospective recovery in the future.

Following this rally, and when it became apparent that the corporation had no intention of deliberately bidding securities to a higher range, the market quieted down, but the level of prices during the remainder of the month was fairly well sustained.

United States Government securities have fluctuated irregularly with the trend of developments at Washington on a number of important questions, but the market became increasingly strong when the legislation toward balancing the budget was fully adopted, the soldiers' bonus proposal defeated, and the loss of gold checked. Enactment of the higher income tax rates in the new law has likewise increased the demand for Governments, since the value of their tax exemption features to large investors is increased accordingly, but this artificial demand is at the expense of other divisions of the bond market, and diverts capital even for refunding purposes from the productive industries. The chief uncertainty for the future is the question of vast governmental relief projects, which, if enacted, will involve continuance on a great scale of the troublesome deficit financing of the past year or more.

Demand for municipal bonds, likewise stimulated by their tax exemptions, has been well sustained and has resulted in clearing virtually the entire floating supply from the market. Prices have remained firm, although they have not risen to any appreciable extent, as might have taken place if the available new capital coming into the investment market had not been so largely taken in financing the Federal Government deficit. Offerings of new municipal issues have been much smaller during the past year than for several years preceding, and have been below the amount of retirements through serial maturities and sinking fund purchases; consequently, the total outstanding municipal indebtedness has turned downward after having expanded continuously for many years.

New offerings during June included practically no corporate securities, and were largely confined to municipals, of which the largest issue was \$18,000,000 in bonds of the State of New Jersey, maturing serially from 1934 to 1967, which was very well received on an interest basis ranging from 3.50 to 4.35 per cent.

Convict Road Camp Operation of the State of California

ELSEWHERE in this issue we tell of a conference recently had with Governor Rolph, during which one of the subjects brought up was that of the convict road camps maintained by the State.

For the information of those who may not realize the magnitude of these operations, we publish herewith a tabulation showing the extent of this convict labor work for the calendar year 1931, and the year 1932 from January to May inclusive. This tabulation is taken from the official reports of the Department of Public Works, issued once each month.

It is interesting to note that the average cost per cubic yard for each yard of excavation for 1931 was \$.547, and for 1932 to date is \$.516. There are very few contract jobs going at any such price at this time. In fact, it is doubtful if there are any contracts at this time carrying a yardage cost equal to that of the most costly of the convict camps. The latest State report indicates the cost of the work at Indian Basin camp to be .82 per cu. yd. On going contracts excavation prices vary from .18 to .46, which compare very favorably with the convict camp average of .516 and .547.

Of further interest is the fact that two-fifths of the personnel in the camps are free men.

Just recently the State Department of Public Works purchased six new power shovels for use in these camps at a cost of \$104,578. In 1931 approximately 2,500,000 yards of material were moved. In 1932 the first five months show yardage in excess of 1,000,000; and with the new shovels available, the current year will probably show a higher yardage than in the previous year.

STATEMENT SHOWING CONVICT ROAD CAMP OPERATIONS, STATE OF CALIFORNIA

CALENDAR YEAR 1931

| No. of Camps | MONTH | No. of Convicts | No. of Free Men | Cu. Yds. of Material Moved | Average Cost Per Cu. Yd. |
|-----------------|-----------|-----------------|-----------------|----------------------------|--------------------------|
| 9 | January | 614 | | 183,410 | .553 |
| 9 | February | 582 | | 175,217 | .572 |
| 8 | March | 549 | | 210,620 | .572 |
| 8 | April | 571 | | 181,670 | .561 |
| 8 | May | 558 | | 174,040 | .552 |
| 9 | June | 568 | | 194,330 | .562 |
| 8 | July | 592 | | 182,320 | .544 |
| 8 | August | 615 | | 210,480 | .55 |
| 8 | September | 678 | 220 | 208,639 | .477 |
| 8 | October | 600 | 225 | 251,858 | .537 |
| 8 | November | 602 | 223 | 250,570 | .559 |
| 8 | December | 569 | 213 | 186,407 | .53 |
| Monthly Average | | 591 | 220 | 260,796 | .547 |
| Total Yardage | | | | 2,409,561 | |

CALENDAR YEAR 1932

| No. of Camps | MONTH | No. of Convicts | No. of Free Men | Cu. Yds. of Material Moved | Average Cost Per Cu. Yd. |
|-----------------|----------|-----------------|-----------------|----------------------------|--------------------------|
| 8 | January | 512 | 210 | 178,346 | .525 |
| 8 | February | 503 | 207 | 172,732 | .523 |
| 8 | March | 482 | 218 | 222,255 | .518 |
| 8 | April | 518 | 205 | 258,381 | .512 |
| 8 | May | 517 | 214 | 237,921 | .505 |
| Monthly Average | | 506 | 210 | 213,927 | .516 |
| Total Yardage | | | | 1,069,635 | |

LOCATIONS OF CAMPS—1931

| | |
|-----------------|-----------------|
| Indian Basin | Fresno County |
| Cedar Creek | Shasta County |
| Bear Creek | Colusa County |
| Point Gorda | Monterey County |
| Virgilia | Plumas County |
| West Branch | Butte County |
| Valdor | Trinity County |
| Anderson Canyon | Monterey County |
| Buckhorn | Shasta County |
| Little Sur | Monterey County |

1932

| | |
|-----------------|-----------------|
| Indian Basin | Fresno County |
| Cedar Creek | Shasta County |
| Bear Creek | Colusa County |
| Point Gorda | Monterey County |
| Virgilia | Plumas County |
| West Branch | Butte County |
| Valdor | Trinity County |
| Anderson Canyon | Monterey County |

METCALF PREVAILING WAGE BILL

WINS FINAL APPROVAL

By a vote of 117 to 81 the House of Representatives on June 8 approved of the Metcalf Bill (Senate Bill 3847), providing for predetermination of the prevailing rates of wages to be paid on all government construction work. The bill previously had passed the Senate in slightly modified form, and after agreement between the two houses will be sent to President Hoover for executive approval.

Passage of this bill culminates the most intensive national legislative fight ever waged by organized contractors throughout the country. The main purposes of the bill as passed are:

(1) To guarantee to laborers and mechanics on federal public works the payment of the prevailing rate of wages as made mandatory in the Davis-Bacon Act.

(2) Predetermination of the prevailing wage on contracts, so that the contractor may know definitely, in advance of submitting his bid, what his approximate labor cost will be.

(3) To provide a penalty upon the contractor for failure to pay not less than the prevailing rate of wages, and to place a penalty upon the contractor who shall require laborers or mechanics to refund or rebate any wages paid less than the prevailing rate of wages.

(4) To require the government to pay at least the prevailing rate of wages on construction work performed by the government with hired labor.

Blaw-Knox Co., Pittsburgh, has acquired exclusive manufacturing and sales rights of the Wiley concrete bucket, formerly manufactured and sold by the Dayton Whirley Co., Dayton, Ohio. The product will now be known as the Blaw-Knox concrete bucket. These buckets are made for derrick or cableway operations, but can also be used as floor hoppers for loading buggies, wheelbarrows or discharging into chutes. They are made in three standard sizes, 18, 33 and 63 cubic feet capacity, and larger buckets can be made to order.

"PERSONNEL RECORD" TO BE COMPILED BY CONTRACT BUREAU

The Bureau of Contract Information was organized for the purpose of cooperating with those responsible in the award of construction contracts, in order that the public may, in so far as possible, be assured of skill, integrity and responsibility in the performance of public and private construction work. The Bureau is a non-profit making, cooperative, fact finding institution. Its disclosure of information will be without recommendation, favor or prejudice. Headquarters are maintained in the Securities Building, 720 Fifteenth Street, N. W., Washington, D. C.—EDITOR.

What is considered one of the most important features of the Bureau of Contract Information, Inc., is its personnel record of individuals who, as individual contractors, members of co-partnerships, or officers and directors of corporations, make up the contracting element of the construction industry.

The Bureau is rapidly building complete records on defaults and failures in performance from those awarding construction contracts, writing contract bonds and extending credit to contracting organizations and responsible contractors themselves. Upon receipt of these definite notices, the original white card of a concern who has not filed its Performance Record with the Bureau is immediately withdrawn from the files and is replaced with a red card indicating and referring to unfavorable information on file.

On receiving the Performance Record from a contracting concern, the Bureau transfers to a blue personnel card the name of every individual appearing in the record, whether it is that of an official or director of a corporation, member of a co-partnership, or an individual contractor.

When notice of defaults or failures in performance, bankruptcies or other definite unfavorable information is received, the master card and all of the blue personnel cards, representing individuals connected with the concern upon whom information is reported, are withdrawn and replaced with the red card indicating trouble and referring to detailed information on file.

Experience shows that concerns who fail in the construction business, do not generally endeavor to meet their obligations and attempt to come back into the construction industry in the territory wherein they failed. However, in some other territory, a new concern appears among the bidders for construction work. Records of such concerns are usually difficult to secure. Therefore, in many cases they have not been ascertained until after the contracts have been awarded and frequently further trouble develops. This personnel record of the Bureau already contains the names of more than fifty thousand individuals making up contracting concerns. It is constantly increasing and is already performing a very important service to all concerned, including responsible contractors themselves, in identifying this class of contractors.

During the short existence of the Bureau, it has rendered to those responsible in the award of construction contracts, 12,000 individual reports on contracting concerns throughout the country. This has meant that the activities of the Bureau have already entered into the award of thousands of construction contracts and discouraged the award of hundreds of contracts to low bidders where irresponsibility was definitely established and disclosed by the Bureau.

BRANAGH, CONTRACTOR, IS FOUND GUILTY OF WAGE VIOLATIONS

Following investigation of complaints filed with T. A. Reardon, chief of the State Division of Labor Statistics and Law enforcement, J. E. Branagh, general contractor on the Veteran's Memorial Building at Santa Cruz, has been found guilty of thirty-two violations of the eight-hour law and one hundred and fifty violations of the Prevailing Rate of Wages Law, as applying to public works construction.

Reardon has requested the Santa Cruz supervisors to withhold from Branagh's payments on the project, \$320 for eight-hour law violations and \$1,500 under wage law violations, a total of \$1,820.

On June 16, Reardon declares, a public hearing was held before Arthur L. Johnson, attorney and deputy for the state department, to hear the testimony of three witnesses under oath. Branagh, Reardon says, failed to appear at this hearing although both he and his attorney were duly notified five days in advance that such a hearing would be held.

Branagh, however, asked for a further hearing in Santa Cruz which was granted. At this hearing, lasting a day and a half, the testimony of Branagh and five of his employees and former employees was taken under oath and the timebooks, payroll books and cancelled pay checks were investigated.

"Inasmuch as this is the first case in which a substantial penalty has been imposed, to our knowledge, under the Prevailing Rate and Wage Law, and which was recently upheld by the State Supreme Court, we trust that this case will serve as a warning to other contractors violating this law," says Reardon. "We intend to enforce fairly and impartially, and yet fearlessly, in order that the purposes intended by the Legislature may be accomplished. We are working on other cases in which penalties may be expected and are investigating all cases of alleged violations of this law called to our attention."

PROPORTIONING CONCRETE BY WEIGHT—

The feasibility and efficiency of proportioning concrete by weight has been strikingly proved by the record of the Toledo Aggregate Determination Auto-Gage used in the construction of the Koon Dam in Pennsylvania. The dam is 720 feet long and 90 feet high. When the job, involving approximately 81,000 barrels of concrete, was completed, the difference between records of materials received and cement used was only 4/10ths of 1%, including the usual waste in transportation. The electric recording device on the scale gave a complete record, (never before obtained on a concrete job), on each batch for future study by engineers. Although the equipment was in operation 24 hours a day, while concrete was being poured and weighed 360,000,000 pounds of concrete, the pivots and other parts of the scale, when inspected at the completion of the job showed no appreciable signs of wear.

**Phone TRinity 0241 for — Consolidated Rock
Rock-Sand-Gravel-Plaster
Cement-Mixed Mortar-Stucco
Lath-Lime Putty-Reinforcing Steel**

656 S. Los Angeles St.

Los Angeles, Calif.

Give Business Half a Chance, And Restore Prosperity, Says C. F. Abbott, Steel Chief

GIVE BUSINESS half a chance and its leaders can, through cooperative efforts, restore a measurable prosperity in this country, declared Charles F. Abbott, of New York, Executive Director of the American Institute of Steel Construction, before the roundtable discussion of the anti-trust laws held at Charlottesville, Virginia. Mr. Abbott's address was delivered under the auspices of the Institute of Public Affairs held by the University of Virginia.

He said: The profitable operation of our industries during the active period from 1922 to 1929, when volume was large, was even then a problem of serious importance. If profitable operation is impossible in periods of active demand, then we have no reason to be surprised at the dire distress we witness today.

During 1931 the steel industry, that consumes the most valuable of all natural resources, sold approximately twenty million tons of finished steel products and paid \$1.00 per ton for the privilege of doing so. More than twenty million dollars were lost. Similar large losses were absorbed by other important basic industries. Ours is an insane policy that permits the squandering of our resources either by price-cutting below a reasonable margin of profit or by over production in excess of known demand.

Business For Profit

Business exists for making profits. When profits disappear, business likewise disappears. The satisfaction of labor working for an adequate wage, of the consuming public for an adequate supply of goods at reasonable prices, of the investor for a return on his money, of the government for an unimpaired source of tax returns, are all dependent uniformly upon the profitable operation of business.

The Government depends for a large part of its income upon the profits made in industry and so does labor and community welfare. Take away the profits and who will lay the golden egg of prosperity? And yet the law that was enacted forty years ago says the competition must be free, that it is beneficial and that every advance of price is an injury to the country.

Price Cutting

Unless price-cutting can be stopped and prices advanced to the point where they will show a reasonable profit, then wages must be further reduced, increasing the volume of unemployment. Wage scales cannot be maintained and the unemployment problem cannot be solved unless profits can be realized. Prosperity and destructive price-cutting competition have no relationship one with the other. We cannot rebuild our prosperity in a market of declining prices.

It is not the lawful reduction of prices that I condemn. We must recognize the ethical distinction between necessary price reductions and price-cutting which is inspired by a selfish desire to obtain more than a reasonable proportion of business.

Prices that are reduced to dispose of excess inventories or to meet emergency conditions confronting a producer would not, and should not, be classified as illegal price-cutting.

On the other hand, prices that are cut for the purpose of taking business away from others who may be entitled to it, is an objectionable form of price-cutting. Under the spirit of the Clayton Act such practices, I firmly believe, are illegal. Cut prices to obtain more than one's share of business or to obtain business on a price basis alone is another form of price-cutting that is reprehensible.

Clayton Act Cited

The Clayton Act plainly condemns price discriminations which are designed for the purpose of lessening competition. The idea behind the Federal Law is in line with what we all believe in, and I feel confident that we could cure the evils of price-cutting today were we not likely to lose our way in the morass of legal technicality that so often follows when we depend entirely upon the courts to correct economic evils.

Industry must understand and accept the theory of rationalized output. It must recognize the folly of attempting to operate a plant on a basis of 100 per cent capacity output when statistics indicate but 50 per cent demand.

Despite the tendency toward large plant operation, the bulk of business of all kinds is still being carried on by relatively small concerns. The moderate sized plant remains the typical unit. In spite of the rapid growth of chain stores, department stores and mail order houses, these groups combined are reported to be handling only about 30 per cent of the total retail business.

We can do much through co-operation, through coming together and honestly discussing our problems. Around a conference table, in trade association meetings, this education is possible and without circumscribing the rights of individuals.

Need For Trade Bodies

The only known relief from our present difficulties is through the activities of our Industrial Trade Associations. They, alone, through cooperative effort hold the key to a better business. It is through the trade organizations that industries must be aroused and their leaders organized for definite action. It is the only way effective work can be accomplished.

We have been forced to adopt trade associations out of economic necessity. Such organizations prior to the war were largely social and but rarely economic.

Trade organizations, however, took a new turn in 1919. After the war the country was faced with the necessity of reverting to peace-time industries. Excess war capacities in some industries made many technical changes necessary. At the invitation of Herbert Hoover, then Secretary of Commerce, industries were requested to organize for the purpose of standardizing their product, eliminating unessential models, styles and sizes, and in

Contractors Machinery Exchange

Rentals a Specialty

1135 - 57th Avenue

OAKLAND, CALIF.

FRUITVALE 0715

general to reduce their industrial waste that amounts to billions of dollars annually in misfit goods.

It was this standardization of product and the elimination of waste which did much toward alleviating the business distress of 1920. The movement was started too late and was too new to forestall the depression entirely. Industrial co-ordination proved its worth in that instance, and during the ten years since efforts have been made to perfect the science of trade organization and improve the art of management.

Industrial associations are not only essential in promoting progress, but they are a necessary benefit to members, to customers and to the public. Most of the problems that confront the individual business man are shared equally with his competitors, his customers and his public. He cannot solve them alone. Success will depend upon the co-operation of all interests involved.

There was never a time when the important function of the trade organization has been so seriously needed as at present. Its stabilizing influences have been constantly at work during the period of recent depression and to a large extent it has prevented what might have been a far more serious situation. The results of its efforts have not always been such as could be widely advertised, yet their contributions, have been direct and effective. Those associations which have been guided by able counsel and efficient management have established records of outstanding merit.

What has been done so far is merely an indication of the good work that can be done if these potential powers of co-operative effort are extended to their logical conclusions. They offer the only means by which each industry could take the initiative in cleaning its own house, and thereby guard against what otherwise might prove to be, forced governmental interference.

Federal Opposition

The Department of Justice has not always been friendly toward the ambitions of the organizers, and neither has the Federal Trade Commission. There have also been some bad leaders who sought to erect, under the cover of a trade association, a price maintenance scheme of un-economic purposes. Co-operation, we have learned, is successful only when it runs with and not counter to basic economic law. We cannot, merely because we desire it, hold up prices to a fictitious height, nor can any trade or industry for long exploit its consumers to the enrichment of its treasuries.

Certainly no fair-minded business man wants to encourage any interference with the economic law of supply and demand during normal times. Price regulation or restraint of competition is not to be desired, but when business sinks to the low levels of the past two and a half years then there are grounds for exceptions. Public welfare becomes involved and it is far better to apply war-time measures of relief if in doing so our business interests can be saved and employment preserved.

It is recognized as the inherent right of the American consumers to have full liberty in purchasing such goods as they think they have need for. We have no right to deny those goods to anyone who wishes to buy, and neither have we any right under the law to prevent the mark-

eting of goods by any competitor. A monopoly is considered prima facie evidence as a restraint of trade because its intentions are believed to be for the purpose of curtailing production, and of depriving the public of something that it may have need of.

A manufacturer has just as much right to legal protection as has the consumer. He should be accorded as much protection from the vicious acts of his competitors as are consumers.

The principal complaint of business men against the Anti-Trust Laws is the fear of prosecution and the penalties that can be inflicted. If business could first present plans for approval or consult with authorities that could render decisions as to the legality of their proposals and obtain dependable advice, then the principal objections would be removed.

Under present conditions no one knows what can or cannot be done. The custom seems to be to put a plan in operation, then obtain decisions following legal suits and Supreme Court decisions.

This procedure is both expensive and embarrassing.

Need Of Stabilization

Under present day conditions industry is unable to initiate practical plans to stabilize conditions. On the other hand, the government refuses to accept any responsibility to promote any plans that might offer relief to business in distress.

Conditions become intolerable when nothing can be done but float along in a trade doldrum.

Stabilization of our basic industries would conserve our natural resources and would undoubtedly develop a constructive influence over all other business enterprises.

One of these days the Government will be called upon to decide whether co-operation between individual business concerns in an industry looking toward stability, based upon reasonable prices violates the Sherman Anti-Trust Law or the Clayton Act.

There are many who feel that it should be illegal to sell below the cost of production and particularly for the purpose of injuring a competitor, and that more flexibility be incorporated in existing laws to apply in time of depression or national emergencies.

Rationalizing production among as many plants as possible to spread out employment and give more men work is a sound suggestion that could be practically applied under a quota system. Stabilization of our basic industries would conserve our natural resources and would undoubtedly develop a constructive influence over all other business enterprises. Some of the plans permit of trade agreements among members of an industry to remove unfair practices. To do so successfully the acceptance of the majority of an industry should enable enforcement mea-

(Continued on Page 14)

NOrmandie 4303

NOrmandie 7715

LEO HONEK

EXCAVATING CONTRACTOR
CONCRETE PAVEMENT BREAKING

Compressed Air Equipment

2941 Denby Avenue

Los Angeles, Calif.

Pacific Clay Products

General Offices: 650 Chamber of Commerce Bldg.,
1151 SOUTH BROADWAY
Los Angeles, Calif.

SMITH BROS. TRUCK CO.

"TRANSPORTATION SPECIALISTS"

Portable Crane Service—Rigging

1704 E. 16th St.

Los Angeles

WEstmore 3271

"To Market To Market To Buy--"

By J. F. MISPLEY, *State Purchasing Agent*

THE function of the Bureau of Purchases is to serve the various departments and institutions of the State in securing materials and supplies necessary in the performance of the duties assigned to them under the law.



J. F. MISPLEY

The problems encountered in the procuring of supplies and equipment are interesting and varied. An average of 5300 requisitions are received monthly, covering almost every known commodity. When you consider the requirements of the hospitals, prisons, reformatories, convict camps, departments, boards and commissions, you will realize the many kinds of commodities handled. We purchase for nine state hospitals, two prisons, two reform schools, school for the deaf and school for the blind; California Polytechnic school, Industrial Home for the Adult Blind, Industrial Workshop for the blind, and seven State Teacher's Colleges.

Each of the State institutions may be compared to a small city of 3000 to 4000 inhabitants, who must be fed, clothed, hospitalized and otherwise maintained.

The Division of Highways presents an endless variety of purchases, from small hand tools to graders, tractors, power shovels, snow plows and trucks. In their maintenance and construction work they require many tons of rock, sand, gravel, explosives, road oils and paints.

On account of the large variety and volume of purchases, it is obvious that the purchasing must be properly divided among buyers who specialize in certain lines. It would be too much to expect that a buyer could mentally jump from adhesive plaster to asphalt, from bacon to batteries, from laboratory supplies to lumber, from razor blades to roofing paper. Our purchasing is divided into six groups, each under the direction of a trained buyer, whose duty it is to specialize in certain particular commodities, such as—

Group 1—General supervision over all contracts, specializing in paper and printing supplies, carpets, linoleum and furniture, and special equipment.

Group 2—Food supplies. Hay, grain and feed. Tobacco. Coal and fuel oil. Soap and laundry supplies. Trees, seeds and plants. Poultry and livestock.

Group 3—Clothing and dry goods. Shoes and boots. Mechanical rubber goods. Tires and tubes. Paints and oils—glass. Laboratory, dental and hospital supplies and equipment. Photographic equipment and supplies.

Group 4—Hardware and electrical supplies. Pumps, motors, shop machinery. Laundry and kitchen equipment. Batteries and motors. Radios and musical instruments.

Group 5—Stationery and office supplies and equipment. Janitorial supplies. Crockery and glassware, cutlery.

Group 6—Road machinery. Automobiles and trucks. Explosives. Rock, sand and gravel. Road oils and asphalt. Lumber.

Each buyer has on file catalogs and other descriptive literature pertaining to his particular group, also a list of bidders representing the available sources of supply.

Annual contracts are made on commodities which are in general use, such as tires and tubes, fuel oil, gasoline and lubricating oils, liquid soap, cement, lumber, batteries,

electric fans and many other items. On account of these contracts, the smallest department or institution may participate in the savings due to large quantity purchases.

When requisitions are received, after approval as to available funds, they are referred to the proper buyer. Bids are solicited from the best sources; then a tabulation sheet is prepared, showing description, price, delivery and discount terms, of each bidder. Thus far it is a matter of office routine. Now, the various offerings must be carefully analyzed; first, to see that specifications are fully met, prices compared, and the award is made to the lowest bidder complying with the specifications and time of delivery.

In case the delivery is not up to specification or sample, the goods are returned at vendor's expense and replacement with satisfactory shipment is secured. In checking the deliveries, the fullest cooperation of the department or institution receiving the merchandise is required. A prompt report of any delivery that appears to be defective will secure prompt action.

In preparing our specifications we have at our service the Bureau of Standards at Washington, the Testing Laboratory of the Department of Public Works, the Bureau of Food and Drugs Laboratory at Berkeley, and many national associations pertaining to the various manufacturers. These agencies are continually striving to improve the standards of merchandise.

The records and the experience of this bureau are available to all State departments and much valuable information is at their service whenever a purchase is contemplated. Here is gathered a record of performance on many items of materials and supplies.

The Bureau of Purchases maintains branch offices in San Francisco and Los Angeles. The San Francisco branch purchases for the State Harbor Commission and other State Agencies in the bay district. To our Los Angeles branch we forward requisitions so that local needs of Southern California institutions and departments may be better served.

I have been attempting to describe our bureau and its workings particularly to demonstrate that we are here to serve the other departments of the State and that we are qualified to perform that service. We are part of the Division of Service and Supply, of the Department of Finance, and desire to make that division all that its name implies. In the present stress of decreased revenues by the State, it should be the aim of every State Agency to conserve their funds and to see that the dollar covers as much territory as it possibly can. The full cooperation with the Bureau of Purchases will aid materially to that end.

A brief summary of the volume of our purchases may be interesting. Since July 1, 1931, we have received 42,531 requisitions, placed 49,700 purchase orders, to the value of \$8,473,099.00.

The extravagant claims made by salesmen and manufacturers must be carefully weighed and sifted. With the assistance of the testing laboratory we are assured that the State receives its money's worth. Many laboratory tests are made, both before and after the orders are placed. The laboratory of the Bureau of Food and Drugs at the University of California has been called on many times to test deliveries of footstuff, such as flour, extracts, syrup, etc. It may be easy to fool the eye, but no one can fool the microscope and the test tube in the hands of a competent chemist.

CO-OPERATIVE CONSTRUCTION CREDIT

CONSTRUCTION INDUSTRIES' CREDIT BUREAU

(A non-profit, membership owned and operated association affiliated with the National Association of Credit Men)

333 MONTGOMERY STREET, SAN FRANCISCO

F. H. Eichler, Chairman

A. J. McGarry, Mgr.

Mr. Contractor:

Off your feed?

Troubled with insomnia?

Shivers run up and down your spine?

An indescribable something troubling your subconscious mind?

Do your ears burn?

No, this is not a treatise on materia medica, nor is it a

new hypothesis of the physiological effects of the so-called depression, although the business slump has played its part in causing a number of contractors one or more of the above ailments.

When times were good and money easy to get, contractors almost invariably were able to finance even the larger jobs to the entire satisfaction of all parties concerned, but as business slowed down, frozen or shrunken

capital plus tight money caused an increasing number of contractors to take advantage of the competition between business-hungry material supply men. These suppliers financed the job by putting the material "on the cuff" with little, if any, investigation as to where, how or when they were to get their money. The result occasioned the appropriate coinage of the phrase, "Construction Angels."

At the outset, the material men were all too willing. Sales kept up, merchandise kept moving, but the other side of the picture was an ever-mounting accounts receivable volume, much of which was of questionable collectivity.

It is an axiom of the credit man that a sale is not a sale until the money is in the till. The material man of today will testify as to the correctness of this contention. Many have cracked under the strain and "folded their tents like the Arabs and silently stole away," while others, better financed, have weathered the storm, but with the full realization that it is just a matter of how long their resources can hold out.

In the Bay Region they are taking definite steps toward self-preservation. Through the facilities of the Construction Industries' Credit Bureau suppliers in kindred lines are forming into groups for mutual protection. One such unit, the Engineering and Construction Chapter, was organized July 1, 1931, by a small number of suppliers to discuss such problems as overdue accounts and how those accounts ever got on the books.

The value of this interchange of ideas, knowledge and experience is best demonstrated by the fact that in one

short year this group (one of several similar Chapters) has grown from a handful to 52 enthusiastic firms representing steel suppliers, cement manufacturers, construction equipment dealers, the major oil companies and a number of bonding and surety companies.

The idea is hardly more than started. New members are coming into the fold daily and other groups are being started.

These Chapters meet regularly, and members come to the meetings prepared to freely disclose details of their knowledge of each account. Uniform unsatisfactory experiences result in recommendations of C. O. D. or adequate security, while an undesirable report is fully investigated.

The Construction Industries' Credit Bureau is no longer an idea—it is now an actuality. It has unqualifiedly justified its existence. It has proven to its members:

(A) That their own interests are best served through cooperative use of sound credit ethics and practices.

(B) That since its formation their percentage of past due and doubtful accounts receivable have steadily decreased.

(C) That harmony has been created within the various crafts themselves—a harmony so vital for successful operation, yet so woefully lacking prior to the formation of the Construction Industries' Credit Bureau and the Chapter idea.

Now, Mr. Contractor, so far, this plan has appeared to assist only the supplier. Further analysis, however, discloses a definite benefit to you as a contractor. No thinking person can deny that the business slump has affected the construction industry most severely, but the very condition of business has fostered the growth of an evil, threatening to undermine the very foundation of your profession.

We refer to the "fly-by-night" contractor, the man without capital, without equipment, without experience, without scruples, who, with everything to gain and nothing to lose, can and does so far underbid any price you make that you shudder to think what would happen to your bank roll if you received the job at his figure.

It is hardly necessary to add that he is enabled to carry on his spurious practices through the abuse of such privileges as junior financing and long credit terms, permitting him to step out, leaving others "holding the sack." He is not a constructor, but rather a destructor.

Since the formation of these Credit Chapters, through the Construction Industries' Credit Bureau, the spotlight of publicity is thrown on such gentry, and the industry as a whole is learning to know them for what they are.

The result will, obviously, redound to the profit of the responsible and legitimate contractor.

KILLS HIGHWAY FUND DIVERSION—On the closing day of the recent legislative session, the Massachusetts Senate, by a vote of 23 to 17, rejected the bill that had already passed the House and provided for a diversion of \$2,000,000 from the highway fund to the cities and towns for welfare purposes. This completed the downfall of the entire program recently advocated by the Governor, as the House had previously acted adversely on all items except the highway fund diversion.



F. H. EICHLER, Credit Mgr., American Smelting & Refining Co., Chairman Construction Industries' Credit Bureau Committee.

GIVE BUSINESS HALF A CHANCE

(Continued from Page 10)

tures upon the small minority who refuse to abide by the opinions of the majority.

If the public welfare is at stake then a planned industry should receive universal support. It should be obvious to all thinking people that a plan that would promote more rational operation of an industry would be of decided benefit to labor and to the public.

The public are demanding that industry produce plans that will preserve employment and that calls for some system of stabilizing output.

Under the control of the Federal Trade Commission or some other governmental agency, there is no doubt but what progress could be made in removing much of the destructive competition that has ruined prices and profits and created a toll of waste that is against the best interests of the public.

Code of Trade Practice

Some relief was expected from the Code of Trade Practice movement, but the only benefits that seem possible, are of an indirect moral character because of an apparent lack of enforcement. The relief experienced as a result of all these activities is somewhat indirect, although the programs have resulted in some constructive benefits. But when it comes to the real problem of profitable operation it is difficult to advance any claim for improvement.

The Swope plan in its demand for compulsory membership in a trade association, the proposed National Economic Council, and other similar movements are all indicative of public thinking. The handwriting on the wall is clearly visible for those who wish to observe and heed its message.

During the recent decline in business, trade associations have been subject to a critical test. There are too many companies who have been inclined to withdraw their support in order to reduce individual expense or because of some imaginary personal grievances. Such short-sighted attitudes have invited criticism of failure to assert and maintain industrial leadership. It has been largely responsible for a drifting attitude and a disregard of the real responsibilities imposed upon all our industries.

If there was ever a time when trade associations should receive united moral and financial support it is during periods of distress. It is then that the combined energies of an industry should be set in motion and move forward aggressively. It is no time to retire or withhold support. It is folly for anyone to believe that individuals can prosper at the expense of their industry. The interests of each are so closely related that one depends upon the other. Those who withhold support are actually the ones who are preventing the progress in which they themselves are most concerned.

The danger rests with the current spirit of indifference which, if continued, may lead to a condition approaching industrial chaos.

Federal Relief

Congress can furnish some relief; it can permit industries to stabilize their business under intelligent planning and with adequate governmental safe-guards to protect public interest from monopoly control. But business unorganized and left alone will fail to cure itself.

When business men will give heed to the obvious way out of their difficulties they will be in a better position to plan intelligently. When industry holds fast to the fundamental law of profitable business it will become profit-minded, and that is a long way toward the goal of success. There is no substitute, however, for individual

responsibility, and no hope of effective co-operation without it.

The challenge to industry today is whether we are going to meet this issue and solve it effectively, or whether we are going to invite the Government to do it for us. You have witnessed what happened in Italy. Extreme individualism in industry and trade has been replaced by a state dictator. Russia is doing the same, only through a different political method.

The people of the United States have declared for a democracy and American industry is confronted with the serious necessity of proving that these economic emergencies can be successfully coped with under a democracy, that these business problems can be solved through co-operative effort and without recourse to governmental interference. This is certainly a time when we should all be willing to submerge our wilful desires, our selfish ambitions for the betterment of our industries and traders and thus prove our ability to co-operate for progress.

TENTH ANNUAL MEETING OF ASPHALT PAVING CONFERENCE TO BE HELD AT NEW ORLEANS

The Tenth Annual Asphalt Paving Conference will be held at New Orleans during the last week of November or the first week in December, it is announced by the New York office of the Asphalt Institute, the national official organization of the asphalt producers.

After considering invitations from many of the larger cities including one from Los Angeles, the directors at a recent meeting, in keeping with their custom of rotating the place of meeting, made the selection as announced.

The Association of Asphalt Paving Technologists will, as usual, meet in conjunction with the paving conference.

Recognizing the general interest in economic studies, it is planned to participate in discussions devoted largely to phases of low-cost road construction, the major subjects to be covered including:

1. The salvaging of all pavements which are in need of resurfacing or replacement, by utilizing inexpensive types.
2. The serious economic aspect of tax diversion and tax evasion of highway revenues.
3. The urgent necessity of designing roads in proportion to their importance—eliminating the "overdesigning" evil.

The activities of The Asphalt Institute, west of the Rocky Mountains, are under the special jurisdiction of a managing committee composed of J. A. Blood, chairman, and W. N. Morse of the Standard Oil Company of California; E. Whitehead and Karl E. Kneiss of the Associated Oil Company, W. G. Julier and Howard N. Loy of the Gilmore Oil Company, Ltd., John F. McSwain and Raymond Harsch of the Shell Oil Company, and Lawrence Wolff and F. P. Smith, Jr., of the Union Oil Company of California.

SCRIP FOR CONSTRUCTION—Issuance of scrip by the various counties to finance a construction program in the interest of unemployment relief is suggested by J. E. Bennett, state senator of Multnomah County, Oregon. Under Bennett's plan workmen on the relief construction program would be paid in county scrip, the workmen in turn exchanging the scrip for produce or other necessities, the scrip in the end being redeemed by the county in payment of delinquent taxes.

Building Cities With New Materials

By GUY WILFRID HAYLER, Associate Member Am. Soc. C. E.—City Planning Engineer

FOR thousands of years the materials of which man has made his habitations have remained unchanged and it has only been within the last fifty years that any decided differences have come. What this has meant to building is apparent at once to anyone who looks around at the altering appearance of cities and the conditions surrounding the use of the buildings themselves. Scientific advances hesitant of their power half a century ago are now completely master of the situation in accommodating themselves to the demands of a new epoch. It is obvious that they have not exceeded the economic trends of the times for speed, facility and convenience. That they must continue to march abreast seems equally logical. The construction industry is therefore likely to meet with continuous necessity of adapting itself to the modern movements. It must take up this challenge and face the actual sweeping away, in many cases, of the old familiar mediums in which it has hitherto worked. New building materials and methods are here and will come in still greater volume with the advances of science and research.

Concrete And Steel

A glance backward is interesting and helps to better comprehend the picture. When Portland Cement was introduced in 1843 and steel in 1854 two tremendous events in the history of building occurred. In itself concrete had its limitations but steel balanced these because of the exact knowledge of its capabilities that was possible. Of no other building material could this be said. In 1883 when the first skyscraper was built for the Home Insurance Company in Chicago, steel commenced its upward climb, but not until 1903 when the pioneer reinforced concrete Ingalls Building in Cincinnati was built that the complete combination of steel and concrete was achieved. The World War, responsible for so much modern change, was responsible for what has followed, in that it provided the opportunity which forced on development. Designers unable to obtain the materials for commoner types of construction turned to concrete and steel which were available without costly manufacture and fabrication at local points. They were surprised at their success in design and also at the financial savings in construction. The 16-story skyscraper in Cincinnati became the forerunner of a galaxy of monumental skyscrapers throughout America. There are now 4,778 buildings 10 to 20 stories in height and 377 over 20 stories in height in our cities to-day. Whereas forty years ago a 10-story building was thought of as a building miracle, 1930 witnessed the erection of the Empire State Building in New York 86 stories in height. Simultaneous with the advent of the huge skyscraper has come the legal enforcement of Height Zoning which has greatly influenced the aspect of the mass design. It is generally conceded that this stupendous construction now so thoroughly understood in its engineering economics and capable of increasing artistry of design is the most impressive contribution to architecture since the Renaissance. Structural engineers assure us that buildings may be safely built to a height almost twice that of the Empire State Building and it is an elementary statement that the use of these two comparatively new building materials—steel and concrete—offer astonishing scope for new types of construction in our evolving cities.

Other Materials

Though concrete and steel stand in a class of their own there are other new building materials being introduced with equally revolutionary effects though not so noticeable. We are witnessing today the eclipse of wood in the

modern building at least as a fundamental. In keeping with the machine age the metals are being more and more utilized. Steel, copper, aluminum, zinc and bronze are being widely used. Increased strength is necessary together with fireproof qualities not alone for safety reasons but because the formerly prevailing dimensions of length and width of buildings have given way in importance to that of height. Knowledge of strength is synonymous to this new third dimension. Then again glass is increasingly important as height is achieved and probably no other material is likely to be so extensively adapted to future construction in methods peculiarly its own. There are other natural materials like slate, asbestos, rubber, etc., which are readily usable for many phases of structural work. Trades working in 40 or more different materials are now entering building construction. A mechanical civilization is certain to vastly increase this number even within the present generation. The catalogs of a large number of the 3,500 producers of building materials doing a national business in America emphasize the changing conditions now in progress through the endless increase in new materials.

Results

What will be the effect of it all? A rather meaningless question yet suggestive of the perspective necessary for the new epoch ahead. Architectural design draws its impetus from the material in which it works. Egypt with granite developed a style where solidity was expressed by heavy columns and lintels. Greece with marble produced an elegant classic design. The Gothic architects fashioned their masterpieces out of soft sandstone. The Asiatics, theirs out of cedar and carved wood. Dependability in every case rested on inherent faith and to that extent use was restricted by simple human observations. The new building materials of today and tomorrow rely upon entirely new standards. Their strength, plasticity, durability, elasticity and uniformity are controlled by Man who can now calculate their properties to fractions of mathematics. An exactitude is now possible which will allow of the widest use of many materials and is rapidly being worked out for many more. This establishes a maximum of reliability which will be the real starting point of the new architecture.

The forsaking of traditional design is apparent in the new modernistic atmosphere of present-day structures. The predominance of the vertical line and the general mass effect bring out the essential values and make effective the simplicity of design. New materials have conspired to bring this about together with a greater appreciation of color and the use of lights and shades. The aesthetic qualities of buildings are capable of increased cultivation as the variety of building materials increases. Cities gray and dull may take on the plumage of tropical lands and shine with astounding splendor. A boundless opportunity to re-mould our cities on new and better lines seems in the making with us now.

Harvey Wiley Corbett, the modernist architect of New York City says "Let us take full advantage of all we know, all that this great country has developed, all the scientific ideas, the use of steel, the use of the elevated railroad, the subways, motors and the other things. Let us apply intelligent rational reasoning to those things and bring our communists to the realization that they have got to grow intelligently. Put intelligent direction at their heads then go forward and make America the finest and the greatest and the most beautiful country in the world."



Here To There And Back Again



HUNGER 'MIDST PLENTY

We are seriously thinking of the tomorrows. Paradoxical as it may seem, we are a people in want, hunger and economic fear, walking through a land of Plenty! Wheat is rotting in storage—crops go unharvested—our People hunger for bread!!

* * *

We have been misled, robbed and cheated. With few exceptions our leaders fall into two classes: Fools and idiots on one hand and thieves and crooks on the other. That is the past, and we are seriously thinking of the tomorrow.

¶ ¶ ¶

We call this "a depression" and we have many causes advanced. There is only one cause for our present economic position. **OUR EXPENSES WERE MORE THAN OUR INCOME.** Some fifteen years ago we were propagandized into a war **WHEN IT BECAME APPARENT THAT THE INTEREST OF INTERNATIONAL BANKERS WAS JEOPARDIZED!**

* * *

Not only did we muscle our way in this war which was purely an economic trade war—but we insisted on spending money like the proverbial drunken sailor. All necessary for a Nation to say they were our Allies in The Great Cause, then drive a truck under the spout and load it up with gold.

* * *

The day of reckoning has arrived! We have bought ice-cream and fire-crackers for the whole world on a spree—and now we wake up with a headache and the craving for a sandwich!

* * *

During this War-to-end-all-Wars, we made loans to our Allies totalling tens of **BILLIONS** of dollars. **AFTER THE WAR HAD ENDED WE CONTINUED TO SHOVEL OUT LOANS BY THE BILLIONS!**

* * *

NOW GET THIS:The loans we made **DURING** the war have **ALREADY** been wiped out during the process of previous reparation settlements. The loans Europe is **NOW** calling War Loans—and arranging for us to cancel—**ARE NOT WAR LOANS**, but represent in the main money loaned **AFTER** the signing of the Armistice.

* * *

Europe will not repudiate these loans, we will cancel them. We will cancel them because we haven't developed Leadership with the type of high moral courage to stand up and demand the justice and protection our People are entitled to!

* * *

The leaven of International Selfishness has worked. Our Economists have unconsciously "sold out" to a manufactured idea. Our best minds have become involved in a finely spun skein of theory—and we have completely lost our ability to correctly value fundamentals.

We have been able to develop only two thoughts: **First—solve the World Problem by cancelling the so-**

called War Debt. Second—Solve our Domestic Problem BY A BOND ISSUE!!!

* * *

*Mark this: The entire Wealth of this Country has been Mortgaged to protect the **TAX EXEMPT** securities held by our Financial Aristocracy!—that sounds a little Socialistic or Communistic—or "red" if you please—but think it over!*

There **IS** a solution—and a way out—which we will **NOT** take because it runs contrary to the interest of the **FIRST FEW FINANCIAL FAMILIES.** In this Country where 95 per cent of the wealth is owned by 1 per cent of the population, there are a few families who count their holdings by the billions.

* * *

To illustrate the imponderable amount of **ONE billion:** One minute is a small, disregarded unit of Time. **Less than ONE BILLION MINUTES AGO** Jesus Christ, Paul, Matthew, Mark, Luke and John were living men here on this earth! (Oh yes, and don't forget Judas Iscariot—even in those days they had boys who "sold out.")

¶ ¶ ¶

A WAY OUT.

There is a solution—to which there are two objections. **First:** It's simplicity is an objection. We prefer to forget fundamentals, and float around in a vague fog of idealistic theory. **Second:** This solution runs contrary to the interest of the above mentioned Financial Aristocracy.

* * *

There are two parts to this plan, two things involved: **FIRST:** Enact that **NO TAX-FREE Securities** will ever again be issued.

SECOND: Determine the total of **ALL PUBLIC DEBTS—ALL** School, Highway, County, Municipal, State and Government Bonds and Public Obligations and **PUBLIC DEBTS** of all nature. **PRINT THIS AMOUNT OF MONEY AND PAY ALL PUBLIC DEBTS AT ONCE—regardless of maturity date.**

Immediately there is a howl of "Fiat Money," "Inflated Currency" and "Abandonment of Gold Standard".—But stop and think for ten minutes before you start shooting!

* * *

Inflated Currency—Yes! And the natural wealth and resources of the Country would take up that slack in a reasonable length of time. Doesn't matter whether we inflate the currency by printing more money—or **DILUTE THE VALUE** by **ANOTHER Bond Issue.**

GOLD STANDARD FETISH: Permitting the expressive profanity—The Gold Standard is **ALREADY** shot to hell! Each additional Bond Issue makes it more so!

* * *

In so many ways we are stupid. We have cold chills when anyone suggests "inflation of the currency"—yet we don't hesitate to dilute values by ever increasing bonded indebtedness. These two things are identical!

Think it over. Here is a chance to start all over—wiping out our reckless extravagance, mistakes and utter damned foolishness. True, we inflate our money to some extent, and ask the Future to develop our natural resources to the point the slack is taken up. IS THIS ANY DIFFERENT from issuing Bonds and Obligations which we ask the Future to pay?

THE THING ACCOMPLISHED: We would have busted open safety deposit boxes in which are stored billions of dollars in INTEREST-EARNING, TAX-EXEMPT SECURITIES. This money would be thrown in the public market. It would go into commerce and industry—much of it would return to Public Improvement use—but without the sirenistic influence of Tax-Exemption!

Now, a word for those who turn to this page for a smile or change of subject—here is a thought, even though it is a little bitter-sweet:

One of our First Financial Families—our leading International Banker—a person who has floated Foreign Loans by the billions, sold uncounted millions of securities—some good—much of questionable value or worthless. This "Big Shot" has a sea-going yacht named "CORSAIR."

Look up "Corsair" in any standard dictionary. It is a pirate, buccaneer or freebooter—or the vessel belonging to a pirate!



AMERICAN STEEL PRODUCERS ARE IN NEED OF PROTECTION

"If there ever was a time when the American steel producers and American labor employed by the steel industry, needed every reasonable protection, it is now," Charles F. Abbott, executive director of the American Institute of Steel Construction, stated in an interview in the "American Metal Market."

"Imported steel is selling from \$6 to \$12 a ton below American published mill prices. It is this disparity in price that is inviting many to purchase foreign steel as a means of reducing their own costs in order to meet the destructive competition that exists in some of the distributing industries. This is a short-sighted policy. By patronizing American mills relief would be extended to the present depressing conditions and the essential aid offered to the unemployed.

"There should be no opposition to the importation of foreign materials provided prices are comparable with those being quoted by American producers. But when foreign producers dump goods in this country American industry and labor should receive protection against such unethical practices.

"Investigation would undoubtedly develop the fact that foreign producers are not including in their quotations, their overhead charges or even direct production costs.

Under such circumstances competition is reduced to a point where it is unfair and unethical.

"American-made steel is more reliable and more uniform in quality. Therefore, we should not undervalue the superior service that is possible through the use of domestic made steel.

"All importations of foreign steel should be clearly marked with the point of origin in order that foreign importations may be distinguished from domestic production. This would be advisable in order that buyers or ultimate consumers may know exactly what kind of steel is being used in their structures, whether of domestic or foreign production.

"This is a time when American labor and American industry should receive all reasonable and fair support that would enable more stabilized conditions and assist in meeting the complicated problems that have been presented due to the temporary period of business depression.

"The structural steel industry, as a rule, has been very loyal to American-made steel, but unless the buyers of fabricated structural steel will discontinue the unfair practice of bid peddling and other means of pounding down prices, then the structural steel industry may be forced, as a matter of necessity and in self-defense, to increase their purchases of foreign made steel even though this is against their judgment and desire. The efficient steel constructor is well aware of all of the advantages to be found in the use of American-made steel and they prefer to use it in all of their important structures because of better service and greater reliability.

"There is considerable activity in connection with the proposed public works program to include self-sustaining enterprises and if such a program is to be advanced American-made products should be used in preference to imported materials that are dumped into this country by foreign producers. The principal motive behind the public works program is to supply work for the unemployed and to increase the purchasing power and thereby enable industry to work its way out of its present difficulties. If dumping is to continue the full advantages of a public works program would not bring the result that would otherwise be the case.

"Labor enters very largely into the production of steel and other American-made commodities and any material reduction in prices of foreign-made products to be followed by increased consumption would strike directly and more forcibly upon the labor situation than anywhere else.

"These are times when American people should recognize the need of consuming American-made goods and in just the same manner that England is promoting the slogan 'Buy British' and for the same reasons."

CONTRACT HAULING CASE SETTLED—The recent decision by the Supreme Court of Oregon that contract haulers should pay a double license caused a lot of commotion among contractors who do their own hauling. An interpretation has been made of this to the effect that a contractor doing his own hauling or hauling on his own work is not a contract hauler. A contract hauler is distinguished from a common carrier hauler by the fact that both are in the transportation business but one takes all business offered and one takes special business offered by special contract with the consignor. Supportive efforts to solve this through law suit were found ineffective and a few hours' conference conducted by the Associated General Contractors of America settled the status of the matter, at least for its own members, as no other cases were taken up.

**MENACE TO HIGHWAY SYSTEM
SEEN IN FUND CURTAILMENT**

Motordom's huge investment in highways today faces a grave menace in the sharp curtailment of funds for maintenance, and unless the situation is recognized and immediately corrected, a return to primitive road conditions is inevitable, according to a warning sounded by the American Road Builders' Association. Reports to headquarters of the organization from all parts of the country clearly reveal that the contraction in state, county and city budgets not only has affected new highway construction, but portends serious destruction for those already built.

In launching a campaign to bring the threatening condition to the attention of the nation's motorists, T. H. Cutler, president of the American Road Builders' Association, points out that the situation already has reached a stage of acuteness which dictates that the Federal Government may be forced to maintain Federal-aid highways in some states.

The profits of adequate investment in maintenance of present highways are too great to be ignored, regardless of the situation of economic stress which unquestionably exists at the present time, says Mr. Cutler.

"For one thing," he declares, "highway maintenance is a natural field for the absorption of local unemployment in all parts of the country. These workers can be recruited from virtually all classes of those now out of work, for the field is one that primarily requires energy and aptitude.

"The value of sound maintenance to transportation should be sufficiently obvious to require no elaboration. With the cost of traffic accidents estimated at \$900,000,000 yearly, we are in an excellent way to increase it by reducing highway maintenance expenditures, which can only mean an increase in operating hazards due to inferior road conditions. We never will reduce our tremendous accident cost by allowing our highways to deteriorate.

"Those clamoring for a reduction in highway expenditures overlook the fact that other and greater expenditures will be demanded of motorists as a result," says Mr. Cutler.

"Bad roads, and that is precisely what we shall return to without adequate maintenance, cannot fail to add to the nation's motoring bill. They will bring increased tire and vehicle repair costs. They will increase the individual car owner's outlay for fuel and lubricants and

necessitate a larger investment of his time in any kind of motor trip which he may take."

Any deterioration in highways is bound to be costly in still other ways, the statement points out. Among these are listed inefficiency in truck transportation, increased farm costs, a vastly reduced volume of motor touring which has built up a new industry within the past decade, and an adverse effect upon public education which has benefited enormously in recent years as a result of road construction which has made school consolidations possible.

"Present conditions demand that we look the issue squarely in the face," says Mr. Cutler. "The clamor for economy easily can be carried too far, and as it applies to road maintenance monies, it already has created an acute situation. If we allow it to continue unchecked our highway system faces the prospect of being set back years in its development.

"Some states may be obliged to postpone construction, but the public's investment in highways must always be protected by adequate maintenance."

**SAN FRANCISCO PROPOSES TO ISSUE
BONDS TO AID UNEMPLOYED**

A \$6,000,000 bond issue for direct unemployment relief, to meet San Francisco's mounting needs, was unanimously recommended at a mayor's conference of city officials, Community Chest heads and civic leaders.

A proposal to drop the \$1,000,000 unemployment aid provided in the city budget and to seek a \$6,000,000 fund through a bond election August 31 was adopted by the conference after Chas. M. Wollenberg, director of city relief, declared the additional funds would be required.

City relief funds already have been overdrawn \$250,000 and emergency legislation by the supervisors was urged to keep the jobs in food and clothing.

Relief demands threaten to require \$5,000,000 in addition to the \$1,000,000 provided in the budget, \$1,500,000 expected from city employes and \$2,500,000 from the Community Chest, Wollenberg told the mayor's conference.

The new tax rate could be slashed at least 10c, it was suggested, by dropping unemployment relief from the budget and raising \$6,000,000 for direct aid by bonds.

The conference went on record as favoring passage of the bond issue at the senatorial primary election August 31.

TRIAL
SUBSCRIPTION BLANK

PACIFIC
QUALITY CREDIT RESPONSIBILITY
CONSTRUCTOR

Daily
Construction Reports

PACIFIC CONSTRUCTOR,
545 Mission Street,
San Francisco, Calif.

Dear Sirs:

Send me **WITHOUT COST** for a period of one week, sample copies of **PACIFIC CONSTRUCTOR DAILY NEWS SERVICE** covering up-to-the-minute tips on work contemplated, bids wanted, bids opened and contracts awarded for all types of engineering construction, materials and equipment.

Name.....

Address.....

City.....

.....1932

Daily Construction Report Service

offering the best for less

CONTRACTORS—EQUIPMENT DEALERS—
MATERIALMEN — Pacific Constructor Daily
News Service, published in connection with the official A.G.C. magazine, offers complete and up-to-the-minute information on all types of Engineering Construction in California and the major projects in the Western States.

It is compiled by the most complete staff ever assembled on a service of its kind on the Pacific Coast, and assures its users of only authentic and reliable reports.

If you have not yet received a copy of this service, send for a few days' samples (no charge), and be convinced that it is the most complete Engineering Report Service in the West.

Subscription price is \$5.00 per month, or \$50.00 a year when paid in advance, which includes semi-monthly issues of magazine.

FREE TO ADVERTISERS

PUBLISHED BY
STARK-RATH PUB. CO.

PACIFIC
INTEGRITY  RESPONSIBILITY
CONSTRUCTOR

547 MISSION STREET
SAN FRANCISCO

DAILY NEWS SERVICE

DISTRICT MEETINGS TO REPLACE ANNUAL MEETING OF P. C. B. O. C.

Due to the fact that present business conditions would prevent the majority of Conference members from attending the 11th Annual Meeting of the Pacific Coast Building Officials' Conference, previously announced for Vancouver this year, the Executive Committee has voted not to hold an annual meeting this year but to defer the Vancouver convention until next year, it is announced by David H. Merrill, managing secretary-treasurer of the Conference.

In place of the annual meeting three two-day district meetings are being arranged, so that the indispensable and more important activities of the Conference may be carried on. These activities may be summed up as follows: Code maintenance work, educational papers and discussions, and code enforcement discussions.

The dates and locations for these district meetings are the following:

Southern District—Long Beach, Calif., August 15, and 16, in new Municipal Auditorium, presided over by District Chairman C. D. Wailes, Jr., of Long Beach, president of the Conference.

Central District—Oakland, Calif., August 18 and 19, with District Chairman W. A. Curtis, of Stockton, Calif., vice-president of the Conference, presiding. (Meeting place to be announced later.)

Northern District—Tacoma, Wash., August 22 and 23, presided over by District Chairman Arthur J. Bird, of Vancouver, B. C., vice-president of the Conference. (Meeting place to be announced later.)

The general program will be identical for each meeting. Reports of the standing and special committees will be read and suitable action taken. The code changes voted as tentative at the 1931 convention, and all changes proposed since that time, will be acted upon by the Conference in general business session. Shortness of time will prevent the usual code committee work and extended deliberations and will confine the consideration of code changes to several open business sessions. Changes of a controversial nature either will be thrown out entirely or held over until next year.

The code discussion breakfast feature, considered by most Conference members to be "the meat" of the annual gathering, will be held as usual on the morning of the second day. It will be conducted with the customary question-box and discussion on code enforcement and interpretation.

Two papers, the same for each meeting, are scheduled. "Foundations and Soil-bearing Values" will be discussed by O. C. Struthers, district manager, Raymond Concrete Pile Co., Los Angeles, who is president of the California State Branch, Associated General Contractors of America. Mr. Struthers has had considerable experience in soil research and explorations for foundation purposes. The second subject, "Proportioning of Concrete Mixtures from a Practical Standpoint" will be delivered by Samuel Hobbs, engineer, Portland Cement Association, Los Angeles.

A Conference dinner, corresponding in idea to the annual banquet, will be held on the evening of the first day, with both delegates and their wives in attendance. Other than this event, entertainment features have been eliminated almost entirely, and no tree planting ceremonies will take place, because the emphasis at these brief district meetings will be upon the essential business of the Conference.

PROFITABLE INVESTMENT

Good roads are a good investment.

How very good may be seen in the fact that, based on a saving of one and one-quarter cents per mile in reduced fuel and motor vehicle operating costs, California's State highways, up to June 30, 1930, after deducting all maintenance, interest and depreciation charges, earned \$54,000,000 on a capital investment of \$172,000,000.

Dollar for dollar, what constructive enterprise in the country can make a better showing?

But these figures, as taken from the current issue of California Highways and Public Works, official organ of the State Department of Public Works, tell only a part of the story.

They do not include the tourist income so largely increased by the publicity given to our network of smooth, broad State highways, which are themselves an additional attraction to the scenic beauties of California.

Good roads are good tourist business, which means good business for everybody.

The more smooth highways the more holiday visitors, and the visiting vacationist pays ready cash.

In southern California in the year 1928-29 he spent no less than \$317,000,00.

In 1930 in the ten southern California counties he paid State gasoline tax to the tune of \$3,196,000.

But for our good roads he would have come as an explorer or as single spies.

With good roads he comes in whole battalions.

They are a good investment.—*Los Angeles Examiner.*

CEMENT OUTPUT IN MAY—The portland cement industry in May, 1932, produced 6,917,000 barrels, shipped 8,048,000 barrels from the mills and had in stock at the end of the month 25,365,000 barrels. Production of portland cement in May, 1932, showed a decrease of 50.6 per cent and shipments a decrease of 48.3 per cent as compared with May, 1931. Portland cement stocks at the mills were 14.2 per cent lower than a year ago.

These statistics are compiled from reports for May, received by the Bureau of Mines from all manufacturing plants except four, for which estimates have been included in lieu of actual returns.

In the following statement of relation of production to capacity the total output of finished cement is compared with the estimated capacity of 165 plants both at the close of May, 1932, and of May, 1931. The estimates include increased capacity due to extensions and improvements during the period.

| | Month | Year |
|----------------------|-------|------|
| | Pct. | Pct. |
| May, 1931 | 62.8 | 56.5 |
| May, 1932 | 30.2 | 38.9 |
| April, 1932 | 24.8 | 41.7 |
| March, 1932 | 21.3 | 43.8 |
| February, 1932 | 18.7 | 45.2 |

COMPENSATION CASE DECIDED—The Oklahoma Supreme Court had to decide a compensation case involving an employee collecting notes and accounts when his car overturned. The issue came on whether the job was a risk within the law. The Court commented that "while driving a Ford automobile might be regarded as a hazardous occupation," nevertheless the work performed could not be so considered and the man was not given benefits.

UNIT BID SUMMARY

Compiled from the Daily News Service of Pacific Constructor

GRADE—CONCRETE PAVEMENT, ETC.—LOS ANGELES

LOS ANGELES, Cal.—Geo. R. Curtis Paving Co., 2440 E 26th St., submitted low bid to the board of public works at \$19,794.86 for improving Marmon Way, bet. Monte Vista St. and Museum Drive, Cash Contract, involving:

- (1) grading complete, includ. removal of existing improvements;
- (2) 86,402 sq. ft. 8-in. conc. paving;
- (3) 340 sq. ft. 4-in. asph. conc. wearing surface;
- (4) 5486 ft. reinf. integral curb;
- (5) 2 ft. unplastered heavy curb;
- (6) 23 ft. unplastered light curb;

- (7) 1053 sq. ft. 3-in. walk;
- (8) 270 sq. ft. 6-in. walk (driveways)
- (9) sanitary sewer;
- (10) 620 ft. 8-in. house sewers;
- (11) storm drain complete;
- (12) loose rubble wall complete;
- (13) concrete piers complete;
- (14) 60 ft. galvanized iron pipe guard rail.

The bids were:

- (A) Geo. R. Curtis Paving Co., \$19,794.86.
- (B) W. E. Mays, \$19,980.81.
- (C) Geo. H. Oswald, \$20,620.83.
- (D) Campbell-Reichert Co., \$20,677.90.

- (E) Martter & Bock, \$20,983.47.
- (F) John Papac, \$21,187.86.
- (G) Griffith Company, \$21,406.77.
- (H) John Topich, \$21,575.60.
- (I) F. W. Teschke, \$22,005.85.
- (J) Los Angeles Paving Co., \$22,428.72.
- (K) Schuck Const. Co. Ltd., \$22,851.57.
- (L) Bob Bosko, \$23,225.82.
- (M) Chutuk, Kordich & Vukojevich, \$24,597.91.
- (N) T. E. Sherlock, \$27,007.24.
- (O) J. C. Hickey, \$29,679.19.
- (P) Engineer's estimate, \$21,050.42.

Unit bids follow:

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) |
|-----|-----------|--------|--------|--------|--------|--------|--------|--------|-----------|--------|-----------|----------|----------|--------|
| (A) | \$1300.00 | \$1.15 | \$1.12 | \$3.36 | \$5.50 | \$5.50 | \$1.10 | \$2.20 | \$1080.00 | \$6.60 | \$1650.00 | \$100.00 | \$115.00 | \$1.50 |
| (B) | 1798.00 | .145 | .20 | .40 | 1.00 | .50 | .09 | .12 | 1254.00 | .80 | 1383.45 | 75.00 | 39.00 | 1.40 |
| (C) | 1500.00 | .15 | .11 | .40 | .60 | .50 | .11 | .16 | 1575.00 | .80 | 1550.00 | 95.00 | 40.00 | 1.35 |
| (D) | 1750.00 | .154 | .09 | .35 | .45 | .34 | .09 | .12 | 1250.00 | .77 | 1650.00 | 100.00 | 30.00 | 1.75 |
| (E) | 1500.00 | .16 | .16 | .35 | .40 | .35 | .10 | .15 | 1100.00 | .75 | 1800.00 | 60.00 | 60.00 | 2.00 |
| (F) | 1600.00 | .15 | .20 | .425 | .425 | .425 | .13 | .15 | 1750.00 | 1.00 | 1475.00 | 125.00 | 50.00 | 2.00 |
| (G) | 1240.00 | .155 | .12 | .45 | .00 | .60 | .12 | .14 | 1750.00 | 1.25 | 1500.00 | 50.00 | 20.00 | 1.75 |
| (H) | 2350.00 | .15 | .20 | .53 | .50 | .50 | .09 | .13 | 1500.00 | .63 | 1650.00 | 100.00 | 25.00 | 2.00 |
| (J) | 1206.00 | .17 | .12 | .42 | .50 | .40 | .13 | .15 | 1200.00 | 1.00 | 1600.00 | 40.00 | 75.00 | 2.50 |
| (J) | 1260.00 | .17 | .13 | .42 | 1.00 | .50 | .12 | .16 | 1100.00 | .50 | 2000.00 | 120.00 | 193.00 | 2.00 |
| (K) | 3000.00 | .15 | .20 | .50 | .40 | .40 | .09 | .15 | 2000.00 | .90 | 1300.00 | 55.00 | 22.00 | 1.50 |
| (L) | 1150.00 | .173 | .18 | .44 | .50 | .40 | .11 | .17 | 1700.00 | 1.07 | 1810.00 | 70.00 | 165.00 | 3.00 |
| (M) | 1600.00 | .185 | .16 | .42 | .60 | .35 | .09 | .16 | 1797.80 | 1.00 | 2000.00 | 85.00 | 15.00 | 1.50 |
| (N) | 1205.00 | .16 | .20 | .37 | .50 | .50 | .10 | .16 | 1980.00 | 1.33 | 1760.00 | 40.00 | 27.50 | 86.00 |
| (O) | 1300.00 | .22 | .16 | .65 | 1.00 | 1.00 | .15 | .25 | 2200.00 | 1.00 | 2200.00 | 300.00 | 100.00 | 3.00 |
| (P) | 1190.00 | .159 | .12 | .40 | 1.00 | .50 | .10 | .15 | 1157.00 | .80 | 1915.00 | 100.00 | 20.00 | 2.00 |

SAN DIEGO CO.—REINF. CONC. BRIDGE—STATE

SAN DIEGO COUNTY, Cal.—Byerts & Dunn, 7908 Santa Monica Blvd., Los Angeles, at \$107,652.50 submitted low bid July 13 to State Highway Commission. Sacramento to construct reinforced concrete girder bridge over The Atchison, Topeka and Santa Fe Railway about two miles south of Del Mar, consisting of two 53-ft. spans, two 43-ft. 4-in. spans, and nine 40-ft. spans on concrete bents, involving:

- (1) 5000 cu. yds. struc. excav.;
- (2) 5900 lin. ft. reinf. conc. piles, incl. test piles;
- (3) 2490 cu. yds. Class "A" Port. cem. conc. (struct.);
- (4) 40 cu. yds. Class "E" Port. cem. conc.;
- (5) 820 cu. yds. Class "A" Port. cem. conc. (footing blocks);
- (6) 660,000 lbs. reinf. steel;
- (7) 14,300 lbs. cast steel rockers and bearings;
- (8) 180 lin. ft. 8-in. corr. metal pipe;
- (9) 1 lot misc. items of work.

State will furnish corrugated metal pipe and spillway assemblies.

Previous call for bids in connection with this project, originally set for opening June 29, was withdrawn and this new date, July 13, set.

Complete bids follow:

- (A) Byerts and Dunn, Los Angeles, \$107,652.50.
- (B) M. H. Golden, San Diego, \$108,250.50.
- (C) B. O. Larsen Co., San Diego, \$108,768.00.
- (D) Johnson Contr. Co., Los Angeles, \$109,533.10.
- (E) Oberg Bros., Los Angeles, \$114,447.50.
- (F) Sharp & Fellows, Los Angeles, \$116,846.00.
- (G) Frank Doran, San Diego, \$117,352.00.
- (H) Bodenhamer Const. Co., Oakland, \$118,020.00.
- (I) Gist & Bell, Arcadia, \$121,333.00.
- (J) W. A. Kier Contr. Co., San Diego, \$125,356.50.
- (K) Fredrickson & Watson, Oakland, \$126,019.00.
- (L) Weymouth Crowell Co., Los Angeles, \$126,135.50.
- (M) Jarbo Const. Co., San Diego, \$139,828.50.
- (N) Howser & Garnett, Glendale, \$143,631.00.

Unit bids follow:

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
|-----|--------|--------|---------|---------|---------|---------|--------|--------|----------|
| (A) | \$1.00 | \$2.40 | \$13.75 | \$50.00 | \$ 9.00 | \$ 0.35 | \$ 1.0 | \$1.00 | \$645.00 |
| (B) | 1.50 | 3.00 | 14.25 | 55.00 | 8.20 | .33 | .10 | .50 | 1012.00 |
| (C) | 1.50 | 2.40 | 13.40 | 30.00 | 13.20 | .33 | .13 | .05 | 3000.00 |
| (D) | .85 | 2.42 | 15.49 | 70.00 | 9.25 | .3285 | .10 | 1.00 | 1250.00 |
| (E) | 1.65 | 2.20 | 17.45 | 50.00 | 8.35 | .381 | .10 | .50 | 1490.00 |
| (F) | .82 | 2.53 | 17.30 | 41.40 | 11.55 | .3275 | .10 | .25 | 90.00 |
| (G) | 1.00 | 2.75 | 15.80 | 60.00 | 13.00 | .385 | .15 | 1.00 | 2500.00 |
| (H) | 1.10 | 2.75 | 15.50 | 50.00 | 14.00 | .34 | .10 | .50 | 800.00 |
| (I) | 2.80 | 2.40 | 16.40 | 50.00 | 11.00 | .385 | .09 | .50 | 500.60 |
| (J) | .63 | 2.74 | 19.60 | 18.00 | 11.65 | .3876 | .115 | .85 | 750.00 |
| (K) | 2.20 | 2.70 | 18.50 | 35.00 | 10.00 | .334 | .10 | .30 | 500.09 |
| (L) | 2.174 | 2.61 | 18.74 | 55.00 | 6.60 | .3368 | .094 | .50 | 1130.00 |
| (M) | 3.50 | 3.07 | 18.51 | 50.00 | 11.83 | .3371 | .10 | 1.00 | 1819.00 |
| (N) | 3.25 | 3.50 | 18.60 | 50.00 | 13.10 | .34 | .10 | .25 | 1200.00 |

BIDS OPENED

SAN FRANCISCO.—Eaton & Smith, 715 Ocean Ave., at \$18,317.50, under Proposition No. 1 and at \$16,567.50 under Proposition No. 2 to resurface Mission St. from Silver Ave. to the county line, involving:

- Proposition No. 1
- (1) 200,000 sq. ft. asph. concrete wearing surface, remove and replace.
- Proposition No. 2
- (1) 200,000 sq. ft. asph. concrete wearing surface, removed to depth of 1-in. by heating and replaced;
- (2) 50 tons asphalt concrete binder;
- (3) 200 ft. granite curb to be reset.

Complete bids follow:

| | (A) | (B) | (C) |
|------------------------------|-----------------|---------------|------------|
| (A) Eaton & Smith..... | (1) \$18,317.50 | (2) 16,567.50 | (3) no bid |
| (B) Dept. of Pub. Works..... | (1) no bid | (2) 17,271.00 | (3) no bid |
| (C) Fay Imp. Co..... | (1) \$27,176.00 | (2) 20,726.00 | (3) no bid |
| Proposition No. 1 | (A) | (B) | (C) |
| | \$ 0.615 | no bid | \$ 0.895 |
| Proposition No. 2 | (A) | (B) | (C) |
| (1)..... | \$.054 | \$.0562 | \$.068 |
| (2)..... | 5.75 | 5.10 | 5.00 |
| (3)..... | .40 | .78 | .38 |
| | | | 28 |

BIDS OPENED

OAKLAND, Alameda Co. Cal.—Heafey Moore Co., 344 High St., Oakland, at \$1.85 per ton, submitted low bid to City Council for 2000 tons of birdseye stone screening. Following is a complete list of bids:

| | Per Ton |
|------------------------------------|---------|
| Heafey Moore Co., Oakland..... | \$1.35 |
| 37th Avenue Bunker..... | |
| Hutchinson Co., Oakland..... | 1.38 |
| Seventh Avenue Bunker..... | 1.63 |
| Makin & Kennedy, Oakland..... | 1.63 |
| Melrose Bldg. Co., Melrose..... | 1.65 |
| Transit Concrete Co., Oakland..... | 1.75 |

Bids held under advisement.

RECONSTRUCT 21.41 MILES—NEVADA STATE

BIDS OPENED

LANDER COUNTY, Nev.—As previously reported, J. N. Tedford, Fallon, Nev., at \$34,376.14 awarded contract by Nevada State Highway Commission to reconstruct 21.41 miles between Railroad Pass and Austin, involving:

- (1) 102,400 cu. yds. rdwy. excav.
- (2) 1,760 cu. yds. struct. excav.
- (3) 41,934 cu. yds. sel. borrow excav. in place.
- (4) 80,932 yds. sta. overhaul.
- (5) 21.39 mi. sub-grade.
- (6) 50 demolish headwalls.
- (7) 74,200 cu. yds. crushed rock or crushed grav. surf. in place.
- (8) Furnish water equip.
- (9) 5,089 M. gals. apply. water.
- (10) 8 cu. yds. class "A" conc.
- (11) 112 cu. yds. class "B" conc.
- (12) 736 lin. ft. 15-in. corr. metal pipe in place.
- (13) 1,588 lin. ft. 24-in. do.
- (14) 160 lin. ft. 36-in. do.
- (15) 188 lin. ft. 48-in. do.
- (16) 207.5 lin. ft. 24-in. pipe in place.
- (17) 214 lin. ft. remov. pipe culverts.
- (18) 206 lin. ft. remove and reset pipe culverts.
- (19) 54 corr. metal pipe culvert extnsions.

- (20) 90 cu. yds. rip-rap.
- (21) 100 monuments.
- (22) 3,190 lbs. reinf. steel.
- (23) 1 Fed. aid marker.
- (24) 21.41 mi. finish. roadway.
- (25) 10.1 m. ft. b. m. rem. Umber.
- (26) 5.8 m. ft. b. m. remove and replace timber.
- (27) 19.9 m. ft. b. m. timber in place (Douglas fir).
- (28) 3.3 m. ft. b. m. timber in place (redwood).
- (29) 396 lin. ft. furnish creosoted timber piles.
- (30) 324 lin. ft. driv. timber piles.

Complete list of total bids follows:
 (A) J. N. Tedford, Fallon, Nev., \$34,376.14.
 (B) Nevada Rock and Sand Co., Inc., Reno, Nev., \$86,565.25.
 (C) A. D. Drum, Jr., Fallon, Nevada, \$96,559.90.
 (D) Dodge Bros., Inc., Fallon, Nevada \$96,605.80.
 (E) Utah Const. Co., Ogden, Utah, \$99,853.02.
 (F) Isbell Const. Co., Carson City, \$124,172.02.
 (G) Engineer's estimate, \$113,203.74.

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) |
|------|---------|---------|---------|---------|--------|--------|--------|
| (1) | \$.16 | \$.15 | \$.17 | \$.17 | \$.20 | \$.24 | \$.20 |
| (2) | .75 | .45 | 1.00 | .50 | .45 | .80 | .75 |
| (3) | .20 | .34 | .44 | .47 | .40 | .45 | .45 |
| (4) | .02 | .02 | .02 | .01 | .01 | .01 | .02 |
| (5) | 5.00 | 25.00 | 50.00 | 50.00 | 40.00 | 50.00 | 100.00 |
| (6) | 3.50 | 2.50 | 5.00 | 2.50 | 4.00 | 3.00 | 5.00 |
| (7) | .44 | .44 | .49 | .49 | .52 | .72 | .60 |
| (8) | 1000.00 | 1000.00 | 1000.00 | 1000.00 | 300.00 | 500.00 | 500.00 |
| (9) | .50 | 1.00 | .50 | 1.00 | 1.00 | 1.50 | 1.50 |
| (10) | 26.00 | 24.00 | 30.00 | 25.00 | 25.00 | 25.00 | 30.00 |
| (11) | 26.00 | 24.00 | 28.00 | 22.00 | 22.00 | 25.00 | 25.00 |
| (12) | 1.30 | 1.50 | 1.25 | 1.30 | 1.10 | 1.30 | 1.40 |
| (13) | 2.00 | 2.00 | 2.00 | 1.80 | 2.00 | 1.85 | 2.00 |
| (14) | 3.50 | 3.60 | 3.50 | 3.50 | 4.00 | 3.50 | 3.50 |
| (15) | 6.50 | 6.50 | 6.00 | 6.00 | 6.20 | 5.85 | 6.50 |
| (16) | 4.00 | 3.00 | 4.00 | 3.00 | 3.20 | 3.00 | 3.00 |
| (17) | .40 | .50 | .50 | .50 | .50 | .50 | .50 |
| (18) | .75 | 1.00 | .50 | .75 | .80 | .75 | 1.00 |
| (19) | 20.00 | 18.00 | 15.00 | 18.30 | 20.00 | 21.00 | 20.00 |
| (20) | 2.50 | 5.00 | 3.00 | 2.50 | 1.50 | 3.50 | 4.00 |
| (21) | 2.50 | 2.50 | 3.00 | 2.00 | 2.25 | 3.00 | 3.00 |
| (22) | .06 | .07 | .07 | .05 | .08 | .05 | .06 |
| (23) | 5.00 | 5.00 | 10.00 | 5.00 | 5.00 | 5.00 | 5.00 |
| (24) | 50.00 | 50.00 | 50.00 | 50.00 | 70.00 | 50.00 | 50.00 |
| (25) | 5.00 | 20.00 | 20.00 | 10.00 | 15.00 | 12.00 | 15.00 |
| (26) | 15.00 | 40.00 | 25.00 | 30.00 | 30.00 | 24.00 | 15.00 |
| (27) | 60.00 | 70.00 | 75.00 | 70.00 | 60.00 | 76.00 | 60.00 |
| (28) | 120.00 | 130.00 | 150.00 | 125.00 | 165.00 | 110.00 | 100.00 |
| (29) | 1.00 | 1.00 | 1.00 | 1.00 | .90 | .80 | 1.00 |
| (30) | 1.50 | 1.00 | 1.50 | 1.00 | .80 | 1.10 | .75 |

HUMBOLDT COUNTY, Cal.—Hemstreet & Bell, 11th and E Sts., Marysville, at \$38,667 submitted low bid to U. S. Bureau of Public Roads July 14 for 1,992 miles of highway grading and structures, Federal Lands Project No. 1, grading unit 2-B Hoopa Valley, Indian Reservation, Humboldt County, involving:
 (1) 17 acres clearing;
 (2) 90,000 cu. yds. unclass. excav.;
 (3) 700 cu. yds. unclass. excav. (struc.)
 (4) \$2,200 sta. yds. overhaul;
 (5) 1,992 mi. finish earth graded road;
 (6) 305 cu. yds. Class A concrete;
 (7) 6 cu. yds. Class B concrete;
 (8) 21,100 lbs. reinf. steel;
 (9) 120 lin. ft. 8-in. corr. metal pipe perforated;
 (10) 896 lin. ft. 18-in. do;
 (11) 250 lin. ft. 24-in. do;
 (12) 170 cu. yds. handlad rock embankment;
 (13) 9.3 MFEMJ timber cribbing;
 (14) 23 cu. yds. crushed rock or gravel
 (15) E.W. move and repair telephone line.

Complete bids follow:
 (A) Hemstreet and Bell, Marysville, \$38,667.
 (B) Young & Son, Berkeley, \$41,108.
 (C) Meyer Rosenberg, S. F., \$48,169.
 (D) Engineer's estimate, \$56,514.
 Unit bids follow:

| | (A) | (B) | (C) | (D) |
|------|----------|----------|----------|----------|
| (1) | \$100.00 | \$150.00 | \$ 50.00 | \$175.00 |
| (2) | .26 | .275 | .36 | .40 |
| (3) | 1.50 | 1.50 | 1.00 | 1.50 |
| (4) | .01 | .01 | .015 | .015 |
| (5) | 200.00 | 350.00 | 200.00 | 250.00 |
| (6) | 22.00 | 20.00 | 22.00 | 30.00 |
| (7) | 22.00 | 20.00 | 22.00 | 25.00 |
| (8) | .05 | .065 | .06 | .07 |
| (9) | .90 | .85 | 1.50 | 1.00 |
| (10) | 1.40 | 1.35 | 2.00 | 1.40 |
| (11) | 2.00 | 1.85 | 2.50 | 2.00 |
| (12) | 1.50 | 3.00 | 2.50 | 3.50 |
| (13) | 60.00 | 60.00 | 70.00 | 70.00 |
| (14) | 5.00 | 2.00 | 4.00 | 2.00 |
| (15) | 100.00 | 100.00 | 100.00 | 100.00 |

Award recommended to Hemstreet & Bell. 28

BIDS OPENED

SAN FRANCISCO.—Eaton & Smith, 715 Ocean Ave., at \$8,647 under Proposition No. 1 2nd Department of Public Works at 7,538 under Proposition No. 2, submitted low bids to the Department of Public Works to resurface Bosworth St. between Mission and Elk streets, involving:

Proposition No. 1
 (1) 133,000 sq. ft. asphalt conc. wearing surface, removed and replaced by same, 2-in thick.

Proposition No. 2
 (1) 133,000 sq. ft. asphalt conc. wearing surface, removed to depth of 1-in. by heating and replaced;
 (2) 50 tons asphalt conc. binder course;
 (3) 200 ft. granite curb reset;
 (4) 100 ft. concrete curb reset;
 (5) 100 ft. asphalt. conc. curb.

Complete bids follow:
 (A) Eaton & Smith, (1) \$8,647; (2) \$7,649.50.
 (B) Department of Public Works (1) \$11,139; (2) \$7,538.
 (C) Pay Imp. Co., (1) \$9,937.50 (2) \$7,942.50.

| Proposition No. 1 | | |
|-------------------|---------|---------|
| (A) | (B) | (C) |
| \$.0695 | \$.08 | \$0.715 |
| Proposition No. 2 | | |
| (A) | (B) | (C) |
| \$.054 | \$.053 | \$.05 |
| 5.75 | 4.80 | 5.00 |
| .40 | .78 | .38 |
| .70 | .65 | .64 |
| .30 | .28 | .35 |

IMPROVE SIXTEENTH STREET—SAN FRANCISCO

SAN FRANCISCO.—Eaton & Smith, 715 Ocean Ave., at \$3150 submitted low bid to Dept. of Public Works, to improve Sixteenth Avenue at its north termination. Estimated cost \$6500. Project involves:

- (1) 600 cu. yds. embankment;
- (2) 700 sq. ft. asphalt. conc. pavement;
- (3) 1800 sq. ft. basalt block pavement
- (4) 135 cu. yds. Class "B" concrete retaining walls;
- (5) 18,000 lbs. reinforcing steel;
- (6) Drainage structures (dump sum);
- (7) 3000 sq. ft. planting ice plants.

Complete bids follow:
 (A) Eaton & Smith.....\$4150
 (B) M. J. Lynch.....1432
 (C) Love & Haun.....4715
 (D) C. L. Harney.....4830
 (E) E. J. Treacy.....5142
 (F) M. Bertolino.....6099
 Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) |
|-----|--------|--------|--------|--------|--------|--------|
| (1) | \$.50 | \$.75 | \$.75 | \$.50 | \$.40 | .75 |
| (2) | .20 | .21 | .25 | .30 | .22 | .40 |
| (3) | .12 | .20 | .20 | .30 | .08 | .25 |
| (4) | 18.40 | 19.00 | 20.00 | 20.00 | 26.70 | 25.00 |
| (5) | .0425 | .0375 | .04 | .05 | .04 | .045 |
| (6) | 200.00 | 175.00 | 250.00 | 150.00 | 220.00 | 425.00 |
| (7) | .015 | .02 | .02 | .01 | .02 | .01 |

Bids held under advisement.

RESERVOIRS—SANTA CLARA—CITY

UNIT BID LISTING

SANTA CLARA, Santa Clara Co., Calif.—H. C. Miller, P. O. Box 497, Santa Clara, at \$22,414 for Type B concrete tanks, submitted low bid to city council to construct two 1,000,000-gallon reservoirs for municipal water system, under lump sum bids for the following items:

- (1) two 1,000,000-gal. steel tanks;
 - (2) two 1,000,000-gal. conc. tanks, type A;
 - (3) two do; do; type B;
 - (4) two do; do; type C;
 - (5) two 1,000,000-gallon redwood tank with concrete bottom.
- Bidders follow:
(A) H. C. Miller, Santa Clara.

| | (1) | (2) | (3) | (4) | (5) |
|-----------|-------------|-------------|-------------|-------------|-------------|
| (A) | \$29,485.00 | \$29,981.00 | \$22,414.00 | \$24,287.00 | \$19,895.00 |
| (B) | 23,625.00 | | | | |
| (C) | 25,480.00 | | | | |
| (D) | | 14,890.00 | 15,240.00 | 12,700.00 | |
| (E) | | 27,651.00 | 24,578.00 | 23,442.00 | |
| (F) | | 29,810.00 | | | |
| (G) | | 26,999.00 | 25,065.00 | | |
| (H) | | 30,230.00 | 25,740.00 | 26,460.00 | 18,900.00 |
| (I) | 34,992.00 | | | | |
| (J) | 27,150.00 | | | | |
| (K) | | 25,320.00 | 24,467.10 | 21,500 | |
| (L) | | | | | 16,584.00 |
| (M) | 26,700.00 | | | | |
| (N) | 29,250.00 | | | | |
| (O) | | 27,980.00 | 25,700.00 | 24,600.00 | 19,290.00 |
| (P) | | 30,444.00 | 30,441.60 | 28,468.24 | 20,232.60 |
| (Q) | 29,776.00 | | | | |

- (B) Pittsburgh-Des Moines Co.
 - (C) Chicago Bridge & Iron Works.
 - (D) L. C. Seidel, Oakland.
 - (E) John D. Carlson, San Jose.
 - (F) Thermotie Const. Co., San Jose
 - (G) Barrett & Hilp, San Francisco.
 - (H) G. A. Graham, Bakersfield.
 - (I) California Steel Products Co.
 - (J) Western Pipe & Steel Co.
 - (K) Carl W. Swenson, San Jose.
 - (L) W. C. Phillips Co.
 - (M) McClinton-Marshall Co.
 - (N) Berkeley Steel Const. Co.
 - (O) E. W. Williams Co.
 - (P) Cataline & Amadio.
 - (Q) Boiler Tank & Pipe Co.
- Complete bids follow:

COLUSA COUNTY, Calif.—As previously reported, A. Teichert & Son, P. O. Box 1118, Sacramento, at \$5919.70 submitted low bid to District Engineer, State Highway Commission, Sacramento, to grade and surface with bituminous treated crushed gravel or stone about 0.25 mile at Arbutuck, involving:

- (1) 5 sta. yds. clear and grub;
- (2) 200 cu. yds. road excavation;
- (3) 1600 cu. yds. selected imp. borrow
- (4) 100 cu. yds. struc. excavation;
- (5) 700 tons untreated crushed stone and gravel base;
- (6) 570 tons crushed gravel and stone surfacing;
- (7) 30 tons cut-back asphalt;
- (8) 20 barrels light fuel oil;
- (9) 105 M. gals. water;
- (10) 3 cu. yds. Class A Port. cement concrete (struc.);
- (11) 5 cu. yds. Class A do (sidewalks and curbs);
- (12) 100 lbs. bar reinf. steel;
- (13) 14 lin. ft. 12-in. corr. metal pipe
- (14) 160 lin. ft. 18-in. do;
- (15) 0.1 mile property fence move and reset;
- (16) 2 monuments, move and reset;
- (17) 10 cu. yds. Port. cement concrete remove and dispose of from existing struc.;
- (18) 10 sta. finish roadway;
- (19) 4 monuments.

Complete bids follow:
(A) A. Teichert & Son, Sacramento \$5919.70.
(B) Hemstreet & Bell, Marysville, \$6546.25.

Unit bids follow:

| | (A) | (B) |
|------------|---------|---------|
| (1) | \$ 5.00 | \$ 5.00 |
| (2) | .30 | .50 |
| (3) | .50 | .60 |
| (4) | .75 | .75 |
| (5) | 2.55 | 2.70 |
| (6) | 4.05 | 4.25 |
| (7) | 10.00 | 12.00 |
| (8) | 4.00 | 4.00 |
| (9) | 1.00 | 1.75 |
| (10) | 25.00 | 25.00 |
| (11) | 20.00 | 25.00 |
| (12) | .06 | .06 |
| (13) | .30 | .50 |
| (14) | .40 | .60 |
| (15) | 350.00 | 500.00 |
| (16) | 2.50 | 2.00 |
| (17) | 3.00 | 2.50 |
| (18) | 5.00 | 5.00 |
| (19) | 3.00 | 3.00 |

Bids held under advisement.

BIDS OPENED

SACRAMENTO, Cal.—A. Teichert & Sons, P. O. Box 1118, Sacramento, at \$7728.95 submitted low bid to county supervisors to construct a cut-back asphalt pavement on the Elk Grove Road, involving:

- (1) 2050 cut-back pavement;
- (2) 9540 lin. ft. header-board;
- (3) 700 cu. yds. earth fill;
- (4) 357 tons road rock.

Complete bids follow:

- (A) A. Teichert & Sons, Sacramento, \$7,728.95.
- (B) McGillivray Const. Co., Sacramento, \$8,020.70.
- (C) Clark & Henery, S. F., \$9,673.80.

Unit bids follow:

| | (1) | (2) | (3) | (4) |
|-----------|--------|-------|--------|--------|
| (A) | \$3.20 | \$0.5 | \$3.30 | \$1.35 |
| (B) | 3.04 | .10 | .30 | 1.75 |
| (C) | 3.70 | .07 | .50 | 3.00 |

Bids held under advisement.

SANTA ANA REGISTER — There are few things which would help all lines of business, more than the knowledge on the part of all property owners that there would be a substantial reduction in the costs of government.

GRADING—MONTEREY COUNTY—BIDS OPENED

SALINAS, Monterey Co., Cal.—J. L. Connor and K. Kristich, P. O. Box 86, Monterey, at \$6012.25 submitted low bid to county supervisors to grade a portion of San Miguel Canyon Road from Lake School to State Highway at Prunedale, in Supervisor District No. 1, Monterey County, involving:

- (1) 29,800 cu. yds. excavation;
- (2) 5,400 sta. yds. overhaul;
- (3) 30 struc. excav. for pipe;
- (4) 88 lin. ft. 12-in. culvert;
- (5) 207 lin. ft. 15-in. do;
- (6) 92 lin. ft. 18-in. do;
- (7) 64 lin. ft. 36-in. do;
- (8) 62 lin. ft. 48-in. do;
- (9) 2,000 cu. yds. local rock on road. County will furnish all culvert.

Complete bids follow:
(A) Connor & Kristich, Monterey, \$6,012.25.

- (B) Smith Bros., Campbell, \$6613.30.
- (C) W. A. Dontanville, Salinas, \$6,678.10.
- (D) Granite Const. Co., Watsonville, \$6885.25.
- (E) Peninsula Paving Co., San Francisco, \$6974.85.
- (F) Owl Truck Co., Los Angeles, \$6,984.90.
- (G) Karstedt & Karstedt, Watsonville, \$6994.10.
- (H) Meyer Rosenberg, San Francisco, \$7031.95.
- (I) Young & Son, Berkeley, \$7216.35.
- (J) W. C. Farnham, \$7595.75.
- (K) Lee J. Immel, Berkeley, \$8102.80.
- (L) Fred Nighbert, Bakersfield, \$12,387.00.

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) |
|-----------|--------|--------|--------|--------|--------|---------|-------|-------|-------|-------|-------|-------|
| (1) | \$.175 | \$.155 | \$1.18 | \$.175 | \$.205 | \$.1975 | \$.20 | \$.21 | \$.20 | \$.18 | \$.22 | \$.37 |
| (2) | .01 | .02 | .05 | .01 | .01 | .75 | .01 | .50 | 1.00 | .05 | .75 | 1.00 |
| (3) | .50 | 1.00 | 1.50 | .70 | .80 | 1.00 | .60 | 1.00 | .75 | 1.00 | .70 | 1.00 |
| (4) | .25 | .40 | .40 | .35 | .15 | .35 | .30 | .15 | .25 | .75 | .30 | .50 |
| (5) | .25 | .50 | .40 | .35 | .15 | .40 | .30 | .15 | .25 | .75 | .30 | .50 |
| (6) | .25 | .50 | .50 | .35 | .20 | .40 | .30 | .15 | .30 | .75 | .30 | .50 |
| (7) | .25 | .60 | .90 | .45 | .20 | .50 | 1.00 | .15 | .50 | 1.00 | .50 | 1.00 |
| (8) | .25 | .60 | 1.25 | .50 | .20 | .75 | 1.00 | .15 | .75 | 1.25 | .60 | 1.00 |
| (9) | .30 | .35 | .35 | .70 | .35 | .40 | .36 | .32 | .50 | .75 | .65 | .50 |

CONCRETE PAVE.—SAN MATEO COUNTY—STATE

SAN MATEO COUNTY, Cal.—Hanrahan Co., Hobart Bldg., San Francisco, at \$22,978.50 submitted low bid to State Highway Commission, Sacramento, to pave with concrete about .6 mile between Sierra Point and South San Francisco, involving:

- (1) 3150 cu. yds. roadside borrow.
- (2) 2365 tons crusher run base.
- (3) 3360 cu. yds. cushion course.
- (4) 2600 cu. yds. Class "A" conc. (pave.).
- (5) 760 tons cru. gravel or stone (bit. treated surf.).

- (6) 38 tons cut back asphalt (bit. treated surf.).
 - (7) 80 bbls. light fuel oil (shoulders).
 - (8) 60 tons screenings (shoulders).
 - (9) 30 sta. finish roadway.
- State will furnish cement.

Complete bids follow:

- (A) Hanrahan Co., San Francisco, \$22,978.50.
 - (B) Eaton & Smith, San Francisco, \$26,638.50.
 - (C) C. W. Wood, Stockton, \$26,817.00.
 - (D) S. M. McGaw, Stockton, \$29,382.25
- Unit bids follow:

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
|-----------|--------|--------|--------|--------|--------|---------|--------|--------|--------|
| (A) | \$3.30 | \$2.10 | \$1.70 | \$5.50 | \$3.00 | \$10.00 | \$1.50 | \$2.00 | \$3.00 |
| (B) | .50 | 1.50 | .60 | 6.00 | 3.00 | 10.00 | 2.00 | 3.00 | 5.00 |
| (C) | .40 | 1.80 | .50 | 6.00 | 3.00 | 10.00 | 2.00 | 2.50 | 5.00 |
| (D) | .55 | 1.75 | 1.50 | 5.50 | 3.00 | 12.00 | 2.50 | 2.00 | 8.00 |

GRADE—GRAVEL SURFACE—NEVADA STATE

WASHOE COUNTY Nev.—As previously reported, Dodge Bros., Fallon, Nev. at \$14,002.09 awarded contract by State Highway Commission to grade and gravel surface 3.39 miles between Brown's and foot of Geiger Grade, involving:

- (1) 12,700 cu. yds. rdwy. excav.;
- (2) 800 cu. yds. struc. excav.;
- (3) 7,819 cu. yds. sel. borrow excav. in place;
- (4) 23,567 yd. sta. overhaul;
- (5) 3.39 miles subgrade;
- (6) 4 demolish headwalls;
- (7) 6,400 cu. yds. crushed gravel or crushed rock surface;
- (8) 29 cu. yds. Class A concrete;
- (9) 25 cu. yds. Class B concrete;
- (10) 300 lin. ft. 18-in. corr. metal pipe in place;
- (11) 330 lin. ft. 24-in. do;
- (12) 112 lin. ft. 30-in. do;
- (13) 126 lin. ft. 36-in. do;
- (14) 39 lin. ft. remove pipe culverts;
- (15) remove timber bridge;

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) |
|------|--------|--------|--------|--------|--------|--------|--------|
| (1) | .18 | \$.24 | \$.30 | \$.26 | \$.25 | \$.30 | \$.25 |
| (2) | .50 | 1.00 | 1.00 | .75 | 1.00 | 1.25 | 1.00 |
| (3) | .25 | .22 | .25 | .30 | .30 | .30 | .25 |
| (4) | .02 | .02 | .02 | .03 | .04 | .005 | .01 |
| (5) | 100.00 | 50.00 | 50.00 | 60.00 | 100.00 | 420.00 | 100.00 |
| (6) | 5.00 | 10.00 | 5.00 | 5.00 | 5.00 | 6.00 | 5.00 |
| (7) | .55 | .50 | .55 | .60 | .55 | 1.25 | .65 |
| (8) | 25.00 | 30.00 | 22.00 | 26.00 | 27.00 | 29.00 | 26.00 |
| (9) | 25.00 | 30.00 | 22.00 | 25.00 | 26.00 | 19.00 | 26.00 |
| (10) | 1.25 | 1.50 | 1.20 | 1.10 | 1.50 | 1.40 | 1.25 |
| (11) | 1.75 | 2.00 | 1.75 | 1.70 | 2.00 | 2.20 | 2.00 |
| (12) | 2.25 | 2.50 | 2.25 | 2.25 | 2.50 | 3.06 | 2.50 |
| (13) | 5.25 | 4.60 | 3.50 | 3.50 | 3.50 | 4.50 | 3.50 |
| (14) | .50 | .50 | 1.00 | .50 | .50 | .50 | .50 |
| (15) | 25.00 | 50.00 | 10.00 | 25.00 | 100.00 | 50.00 | 25.00 |
| (16) | 250.00 | 100.00 | 165.00 | 200.00 | 200.00 | 250.00 | 150.00 |
| (17) | .05 | .06 | .05 | .06 | .06 | .05 | .06 |
| (18) | 250.00 | 200.00 | 50.00 | 125.00 | 50.00 | 500.00 | 100.00 |
| (19) | 20.00 | 25.00 | 15.00 | 20.00 | 20.00 | 15.00 | 20.00 |
| (20) | 60.00 | 70.00 | 75.00 | 70.00 | 80.00 | 40.00 | 50.00 |
| (21) | .19 | .05 | .05 | .06 | .10 | .08 | .10 |
| (22) | .05 | .05 | .02 | .04 | .05 | .02 | .05 |
| (23) | 3.00 | 3.00 | 3.00 | 3.00 | 3.06 | 2.50 | 4.00 |
| (24) | 100.00 | 50.00 | 50.00 | 100.00 | 100.00 | 150.00 | 50.00 |

GRADING—SEQUOIA NATIONAL PARK—GOV'T

TULARE COUNTY, Cal.—Contoules Const. Co., Hearst Bldg., San Francisco, at \$157,706 submitted low bid to U. S. Bureau of Public Roads to grade 2.881 miles Section D-3 of Route 1, The Generals Highway, Sequoia National Park, involving:

- (1) 20 acres clearing;
- (2) 75,008 cu. yds. unclass. excav. Sta. 456-510 plus 20, 567 plus 95, 647 plus 80;
- (3) 51,200 cu. yds. unclass. excav. Sta. 510 plus 20, 567 plus 95;
- (4) 570 cu. yds. excav. for struc.;
- (5) 40,000 sta. yds. overhaul;
- (6) 2,881 miles finishing;
- (7) 2,500 cu. yds. mi. haul material for backfill;
- (8) 47 cu. yds. masonry;
- (9) 92 lin. ft. 8-in. corr. metal pipe (asphalt dipped);
- (10) 906 lin. ft. 18-in. corr. metal pipe
- (11) 1,098 lin. ft. 24-in. do;

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) |
|------|----------|----------|----------|----------|----------|----------|----------|----------|
| (1) | \$400.00 | \$450.00 | \$600.00 | \$650.00 | \$425.00 | \$500.00 | \$555.00 | \$600.00 |
| (2) | .92 | .80 | .86 | .85 | 1.00 | 1.10 | .81 | .95 |
| (3) | 1.10 | 1.38 | 1.36 | 1.40 | 1.35 | 1.27 | 1.65 | 1.50 |
| (4) | 1.50 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| (5) | .03 | .04 | .02 | .02 | .02 | .02 | .02 | .03 |
| (6) | 300.00 | 350.00 | 300.00 | 400.00 | 300.00 | 500.00 | 300.00 | 400.00 |
| (7) | .10 | .20 | .15 | .20 | .20 | .20 | .25 | .40 |
| (8) | 22.00 | 20.00 | 16.00 | 16.00 | 15.00 | 25.00 | 23.00 | 25.00 |
| (9) | 1.00 | 1.00 | .60 | 1.25 | 1.75 | 1.00 | 1.50 | 1.00 |
| (10) | 1.65 | 1.75 | 1.25 | 2.35 | 2.00 | 2.00 | 2.50 | 2.00 |
| (11) | 2.50 | 2.50 | 2.00 | 3.35 | 2.50 | 2.56 | 3.60 | 2.75 |
| (12) | 2.75 | 3.50 | 2.50 | 4.25 | 4.00 | 3.56 | 4.25 | 3.75 |
| (13) | 5.00 | 5.00 | 3.00 | 4.00 | 4.00 | 3.00 | 5.00 | 4.00 |
| (14) | 30.00 | 15.00 | 20.00 | 18.00 | 15.00 | 15.00 | 25.00 | 10.50 |
| (15) | 4.00 | 2.75 | 3.20 | 3.50 | 4.50 | 4.00 | 4.00 | 4.00 |
| (16) | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 |

- (16) remove timber and steel bridge;
- (17) 4,000 lbs. reinf. steel;
- (18) erect struc. steel;
- (19) 3.1 M. ft. b.m. place salv. timber;
- (20) 7.2 M. ft. b.m. timber in place (Douglas fir);
- (21) 1,870 lin. ft. remove and reset fence;
- (22) 680 lin. ft. remove fence;
- (23) 50 monuments;
- (24) 3.39 miles finish rdwy.

Complete bids follow:
 (A) Dodge Bros., Inc., Fallon, \$14,002.09.
 (B) A. D. Drumm, Jr., Fallon, \$14,699.52.
 (C) Isbell Con. Co., Carson City, \$15,188.19.
 (D) Nevada Construction Co., Fallon, \$15,958.15.
 (E) Nevada Rock & Sand Co., Reno, \$16,562.88.
 (F) Fredrickson & Watson, Oakland, \$20,575.73.
 (G) Engineer's Estimate, \$15,525.92.

Unit bids follow:
 (A) \$1.00
 (B) 1.00
 (C) 1.00
 (D) 1.50
 (E)95
 (F) 1.50
 (G) 1.00
 (H) 1.25
 (I) 1.50
 (J) 1.50

COMPLETE BID LISTING

MENDOCINO COUNTY, Calif.—As previously reported, A. T. Howe, 111 Stanford St., Santa Rosa, at \$1,305 submitted low bid to H. S. Conly, district engineer, State Highway Commission, Eureka, to construct a Portland cement concrete retaining wall in town of Willits, involving:

- (1) 40 cu. yds. struc. excavation;
 - (2) 110 cu. yds. Class C cem. conc.
- Complete bids follow:
 (A) A. T. Howe, Santa Rosa..... \$1,305.00
 (B) Chas. Whited, Willits..... 1525.00
 (C) H. Sneed, Berkeley..... 1563.50
 (D) E. B. Bishop, Sacto..... 1572.50
 (E) A. O. Lightfoot, Willits..... 1572.50
 (F) Whited & Whited, Santa Rosa..... 1615.40
 (G) Mercer-Praser, Eureka..... 1635.00
 (H) Sam Sciarino, Cloverdale..... 1700.00
 (I) R. E. Shaw, Eureka..... 1765.00
 (J) F. Maurer & Son, Eureka..... 1572.50

Unit bids follow:

| | (1) | (2) |
|-----|--------|---------|
| (A) | \$1.00 | \$11.50 |
| (B) | 1.00 | 13.50 |
| (C) | 1.00 | 13.85 |
| (D) | 1.50 | 13.75 |
| (E) | .95 | 13.95 |
| (F) | 1.50 | 14.14 |
| (G) | 1.00 | 14.50 |
| (H) | 1.25 | 15.00 |
| (I) | 1.50 | 15.50 |
| (J) | 1.50 | 17.00 |

Bids held under advisement.

BIDS OPENED

SAN FRANCISCO.—C. L. Harney, 74 New Montgomery St., at \$50,160 submitted low bid to Public Utilities Commission to repave all streets or sidewalk openings where the paving has been removed for the purposes of the San Francisco Water Department during the fiscal year ending June 30, 1933, involving:

- (1) 120,000 lin. ft. light traffic conc. pave. base;
- (2) 100 lin. ft. heavy concrete;
- (3) 27,000 lin. ft. 6-in. Class E conc. pavement;
- (4) 500 lin. ft. brick pavement;
- (5) 100 lin. ft. asphalt concrete 3/4-in. base;
- (6) 400 lin. ft. basalt blocks on conc.;
- (7) 5,000 do. on sand;
- (8) 47,000 lin. ft. sidewalk;
- (9) 1,000 lin. ft. 2-in. sheet asphalt wearing surface;
- (10) 100 lin. ft. 6-in. Class F concrete base;
- (11) 60,000 lin. ft. asph. conc. 6-inch base;
- (12) 100 lin. ft. asph. conc. 8-in. base.

Complete bids follow:

| | |
|--------------------------------|----------|
| (A) C. L. Harney..... | \$50,160 |
| (B) Pacific Pavements..... | 51,811 |
| (C) Meyer Rosenberg..... | 56,859 |
| (D) Dept. of Public Works..... | 57,192 |
| (E) J. O'Shea..... | 62,585 |

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) |
|------|-------|-------|-------|-------|-------|
| (1) | \$.20 | \$.22 | \$.21 | \$.24 | \$.23 |
| (2) | .30 | .25 | .22 | .28 | .30 |
| (3) | .20 | 18 | 15 | 18 | 15 |
| (4) | .54 | 25 | .20 | .24 | .40 |
| (5) | .20 | .22 | .20 | .20 | .25 |
| (6) | .50 | 20 | .16 | .30 | .06 |
| (7) | .30 | .08 | .05 | .06 | .06 |
| (8) | .14 | 14 | .14 | .18 | .18 |
| (9) | .10 | .08 | .12 | .10 | .14 |
| (10) | .25 | .14 | .12 | .12 | .10 |
| (11) | .20 | .22 | .24 | .24 | .26 |
| (12) | .30 | .25 | .25 | .28 | .50 |

Bids held under advisement.

Universal Atlas Cement Co., a subsidiary of the United States Steel Corp., announces the election as vice-president of F. L. Stone, general sales manager, and Paul C. VanZandt, assistant to the president in connection with operations and engineering.

CEMENT CONCRETE PAVE.—SAN DIEGO CO.—STATE

- SAN DIEGO COUNTY, Cal.—E. G. Carroll, 4396 Maryland St., San Diego, at \$84,899.05 submitted low bid to State Highway Commission, Sacramento, to Portland cement concrete pave, about 1.4 miles between Rose Canyon and Sorrento Creek, involving:
- (1) Clear, and grub right-of-way.
 - (2) 11,000 cu. yds. rdwy. excav. un-class.
 - (3) 10,000 cu. yds. slide excav.
 - (4) 105,000 sta. yds. overhaul (slides).
 - (5) 110 cu. yds. struc. excav.
 - (6) 48,500 sq. yds. sub-grade for pave.
 - (7) 10,150 cu. yds. Class "A" Port. cem. conc. (pave).
 - (8) 2.5 cu. yds. Class "A" Port. cem. conc. (struc.).
 - (9) 227,000 lbs. bar reinf. steel (pave. and struc.).
 - (10) 100 lin. ft. 18-in. corr. met. pipe.
 - (11) 700 cu. yds. Port. cem. conc. removed from exist. pave.
 - (12) 870 lbs. miscel. iron and steel (struc.).

| | (A) | (B) | (C) | (D) |
|------|----------|----------|----------|----------|
| (1) | \$200.00 | \$300.00 | \$100.00 | \$500.00 |
| (2) | .185 | .25 | .29 | .35 |
| (3) | .005 | .17 | .01 | .18 |
| (4) | .001 | .005 | .001 | .002 |
| (5) | .35 | .60 | .70 | .80 |
| (6) | .051 | .06 | .085 | .07 |
| (7) | 6.83 | 6.80 | 7.05 | 7.09 |
| (8) | 15.00 | 25.00 | 20.00 | 15.00 |
| (9) | .0399 | .04 | .04 | .04 |
| (10) | .50 | 2.00 | .35 | .50 |
| (11) | .61 | 1.90 | 1.10 | 1.00 |
| (12) | .065 | .08 | .07 | .06 |
| (13) | 2.00 | 2.00 | 1.75 | 1.75 |
| (14) | 4.00 | 4.00 | 4.00 | 3.00 |

CHERRY FLAT RESERVOIR—SAN JOSE

SAN JOSE, Santa Clara Co., Cal.—Earl W. Heple, 494 Delmas Ave., San Jose, at \$46,367.60 (engineer's total) awarded contract by city council to construct Cherry Flat Reservoir in the vicinity of Alum Rock Park, under the following units:

ADD OR DEDUCT

- (A) Drill grout holes in foundation.
- (B) Grout foundation.
- (C) Construct additional reinforced cut-off walls.
- (D) Extend type A material section of dam into north abutment and/or extend said type A section for a greater depth below channel by excavating portions of creek channels and north abutment and replace same with type material where such work deviates from that indicated on the plan.
- (E) Extend type A material section of dam into the south abutment be-

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) |
|------|--------|---------|--------|-------|--------|--------|-------------|
| (1) | \$.50 | \$50.00 | \$.80 | \$.75 | \$6.00 | \$1.50 | \$44,945.00 |
| (2) | 1.50 | 27.00 | 1.50 | 1.00 | .80 | 3.00 | 43,600.00 |
| (3) | 10.00 | 51.50 | .90 | .58 | .58 | 1.60 | 47,939.00 |
| (4) | 1.50 | 20.00 | 2.00 | .80 | .60 | 10.00 | 40,035.00 |
| (5) | 1.00 | 12.00 | 1.60 | .60 | .60 | 3.60 | 48,586.00 |
| (6) | 1.00 | 30.00 | 1.25 | .75 | .75 | 5.00 | 47,690.00 |
| (7) | 1.00 | 70.00 | 2.24 | .55 | .50 | 5.00 | 47,700.00 |
| (8) | .50 | 20.00 | 1.00 | .65 | .70 | 2.00 | 54,982.50 |
| (9) | .25 | 150.00 | 2.20 | 1.10 | 1.00 | 5.00 | 57,310.00 |
| (10) | .60 | 30.00 | 3.00 | 1.05 | .95 | 4.58 | 69,282.45 |

M. O. Sylliaasen has been appointed city engineer of Seattle, Wash., by Mayor John F. Dore. Sylliaasen is a graduate of the University of Washington, class of 1913, and has lived in Seattle for the past 32 years. Following his graduation he accepted a position as engineer inspector for the city streets and sewers department, but was soon made bridge designer in the city engineer's office and during his work in this department worked on the design of the Ballard, Eastlake and Fremont bridges.

- (13) 30 culvert markers.
- (14) 241 sta. finish. rdwy. State will furnish corrugated metal pipe.
- Complete bids follow:
- (A) B. G. Carroll, San Diego, \$84,899.05.
- (B) Griffith Co., Los Angeles, \$87,007.10.
- (C) Walter Trepte, San Diego, \$90,277.40.
- (D) Kovacevich & Price, South Gate, \$91,568.20.
- (E) E. Paul Ford, San Diego, \$93,028.00.
- (F) R. E. Hazzard Constr. Co., San Diego, \$94,467.50.
- (G) United Concrete Pipe Co., Los Angeles, \$94,777.00.
- (H) Jahn & Bressi, Los Angeles, \$95,376.50.
- (I) Sharp & Fellows, Los Angeles, \$99,826.10.

Unit bids follow:

| | (E) | (F) | (G) | (H) | (I) |
|----------|----------|----------|----------|----------|----------|
| \$100.00 | \$250.00 | \$100.00 | \$100.00 | \$100.00 | \$100.00 |
| .20 | .30 | .30 | .20 | .20 | .35 |
| .20 | .05 | .15 | .15 | .10 | .10 |
| .005 | .005 | .007 | .005 | .005 | .001 |
| .50 | .50 | .40 | .50 | 1.00 | 1.00 |
| .06 | .05 | .06 | .05 | .10 | .10 |
| 7.22 | 7.55 | 7.38 | 7.60 | 7.65 | 7.65 |
| 30.00 | 30.00 | 20.00 | 20.00 | 30.00 | 30.00 |
| .053 | .04 | .04 | .035 | .042 | .042 |
| 1.00 | .50 | .30 | .50 | .60 | .60 |
| 1.00 | 1.00 | 1.40 | 1.25 | 1.50 | 1.50 |
| .20 | .10 | .10 | .15 | .08 | .08 |
| 2.00 | 2.00 | 3.00 | 2.50 | 2.00 | 2.00 |
| 5.00 | 3.00 | 4.00 | 5.00 | 5.00 | 5.00 |

yond the limit indicated on the plan by additional excavation and replacement with type A material.

(F) Construct concrete key in the south abutment upstream from end of existing upper tunnel.

(G) Total for project. Complete bids follow (engineer's total).

- (1) E. W. Heple, San Jose, \$46,357.60
- (2) Lord & Bishop, Sacto., 46,376.00
- (3) Neves and Harp, Santa Clara, 49,686.20
- (4) W. O. Tyson, Redwood City, 50,955.00
- (5) Porter Bros., S. F., 52,517.20
- (6) L. C. Seidel, Oakland, 53,150.00
- (7) W. E. Lyons, Oakland, 53,160.00
- (8) A. J. Raisch, San Jose, 57,166.50
- (9) Delta Dredging Co., 62,770.00
- (10) Meyer Rosenberg, S. F., 74,283.81

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) |
|------|--------|---------|--------|-------|--------|--------|-------------|
| (1) | \$.50 | \$50.00 | \$.80 | \$.75 | \$6.00 | \$1.50 | \$44,945.00 |
| (2) | 1.50 | 27.00 | 1.50 | 1.00 | .80 | 3.00 | 43,600.00 |
| (3) | 10.00 | 51.50 | .90 | .58 | .58 | 1.60 | 47,939.00 |
| (4) | 1.50 | 20.00 | 2.00 | .80 | .60 | 10.00 | 40,035.00 |
| (5) | 1.00 | 12.00 | 1.60 | .60 | .60 | 3.60 | 48,586.00 |
| (6) | 1.00 | 30.00 | 1.25 | .75 | .75 | 5.00 | 47,690.00 |
| (7) | 1.00 | 70.00 | 2.24 | .55 | .50 | 5.00 | 47,700.00 |
| (8) | .50 | 20.00 | 1.00 | .65 | .70 | 2.00 | 54,982.50 |
| (9) | .25 | 150.00 | 2.20 | 1.10 | 1.00 | 5.00 | 57,310.00 |
| (10) | .60 | 30.00 | 3.00 | 1.05 | .95 | 4.58 | 69,282.45 |

"Nickel Steel Topics" is the title of a new bi-monthly paper devoted to the interests of users and fabricators of nickel alloy steels, published by the International Nickel Co., Inc., 67 Wall St., New York City. The new publication is an illustrated miniature newspaper containing technical, semi-technical and news articles dealing with the production, treatment and uses of these steels in the rolled, forged and cast form, as well as editorials, questions and answers and other special features.

NATIONAL ELECTRIC CODE REVISION CITED

An interim revision of the National Electrical Code, covering non-metallic surface extensions, has been adopted under the interim revision procedure of the sectional committee having the code in charge. The new section, to be known as Section 511, reads as follows:

Section 511. Non-metallic surface extensions.

(a) Semi-portable two-wire assemblies approved for the purpose may be used as extensions to existing convenience outlets or lighting and/or appliance branch circuits only in exposed dry locations in residence or office occupancies.

(b) Attachment of such extensions to existing convenience outlets shall be by plug connectors approved for the purpose.

(c) Such extensions shall be attached only to the surface of interior woodwork or plaster finish and shall not be installed as concealed wiring or run through floors or partitions or be installed where subject to moisture or corrosive vapors, nor be installed in contact with any piping metal work, or other conductive material.

(d) Such extensions shall be made on circuits of over 150 volts.

(e) Individual extensions shall not run more than 20 feet in either direction from the existing outlet, and may contain a maximum of three receptacles provided that the total outlets on the branch circuit including those on the extension are not over 12.

(f) Such assemblies shall be secured between outlets to the surface wired over by tacks, screws, small nails or other approved means at intervals of not more than 6 inches, except that the assembly shall not be secured within 6 inches of a connector. The heads of such nails or screws shall not exceed in width one-half the space between the conductors in the assembly.

(g) Receptacles and other fittings shall be of approved type and be secured to the surface wired over by suitable screws. The end of the assembly on such an extension shall terminate in an approved receptacle which covers the ends of the wires in the assembly. All angle bands which reduce the space between conductors shall be covered by an approved cap securely attached to the surface wired over.

(h) Such extensions shall be made in continuous lengths without joint, splice, or tap, or exposed bare conductors.

Steel prices held steady during June, in some instances showing slight increases, in the face of the lowest production figures for years, according to Engineering News-Record. Output has dropped at the present to 15 per cent of capacity. Structural shapes and plates increased 10c to \$1.60 per 100 lb. base at Pittsburgh. Hot-rolled sheets advanced 15c per 100 lb. at Birmingham to \$1.55.

The first major change in scales for fire years has been agreed upon at Peoria, Ill., with general reductions in all trades. The new scales, effective for one year, are: bricklayers, plasterers, \$1.25; carpenters, lathers, hoisting engineers, \$1.00; structural steel workers, plumbers, electricians, \$1.00; laborers, 65c.

ENGINEERING NEWS

BRIDGES

KING COUNTY, Wash.—Until July 26, 10 A. M., bids will be received by Samuel J. Huses, State Director of Highways, Olympia, to construct reinforced concrete undercrossing at 63rd St. on the route of State Road No. 1, Aurora Ave., Seattle, King County, involving:

- (1) 800 cu. yds. excavation;
- (2) 171,000 lbs. reinf. steel;
- (3) 895 cu. yds. concrete

an other items.

Specifications obtainable from above office and from office of County Engineer, King County. Certified check 5% payable to State Treasurer required with bid.

SACRAMENTO, Cal.—Lord & Bishop, Naive Sons Bldg., Sacramento, at \$966 awarded contract by County Supervisors to construct a bridge on Sylvan Road.

STOCKTON, San Joaquin Co., Cal.—Until July 25, 11 A. M., bids will be received by Eugene Graham, County Clerk, to construct concrete underpass beneath an approach to the new Garwood Ferry Bridge. Estimated cost \$34,000. Project involves:

- (1) 157.8 cu. yds. concrete;
 - (2) 12,075 lbs. struc. steel;
 - (3) 10,740 lbs. reinf. steel.
- Plans obtainable from Julius B. Manthey, county surveyor.

SAN JOSE, Santa Clara Co., Cal.—City Council authorized City Engineer W. L. Popp to prepare plans and specifications for two reinforced concrete bridges, one on Julian Street over the Coyote River; the other on Hamline St. over the Guadalupe River. Estimated cost above \$20,000.

VENTURA COUNTY, Calif.—M. E. McGowan, 74 New Montgomery Street, San Francisco, at \$169,247 awarded contract by State Highway Commission, Sacramento, to construct two reinforced concrete girder bridges near Ventura, and to grade and pave with Portland cement concrete about 814 lin. ft. of roadway approaches.

Complete bids published in issue of June 30.

LOS ANGELES, Cal.—See "Dredging, Harbor Works and Excavations." in this issue. Bridge planned in connection with Wilshire Blvd. extension. Estimated cost \$650,000.

LOS ANGELES, Calif.—Lynch-Cannon Eng. Co., 5653 Wilshire Blvd., Los Angeles, awarded contract by the Board of Public Works at \$59,986.76 to construct West Blvd. bridge across Venice Blvd. and the tracks of the Pacific Electric Ry. bet. Victoria Park Drive and 16th Place, under Cash Contract. This structure will be a reinforced concrete, rigid frame type bridge, 526 ft. in length, with a 30-ft. roadway and one 5-ft. sidewalk, making an overall width of 39 ft. The main spans will be as follows: Over Venice Blvd., 65 ft. in length; over the Pacific Electric Ry. tracks, 49 ft. in length. The work will include a pedestrian subway along the bridge south of the Pacific Electric tracks, under Venice Blvd. and a stairway (part of bridge structure) north of the tracks leading from the bridge to the railway right of way.

PETALUMA Sonoma Co., Cal.—Engineer L. H. Nishkian, 525 Market St., San Francisco, has completed plans and bids will be asked by the city council about July 19, to be opened about August 8, to construct a concrete and steel bascule bridge near D Street, Petaluma, over the Petaluma River. The proposed structure will consist of one 80-ft. single-leaf bascule span and a 40-ft. concrete approach on concrete piers. The construction will require 110 tons structural steel, 1300 cu. yds. concrete, asphalt pavement and electrical equipment (the latter estimated to cost \$7500). The estimated cost is \$80,000.

FAIRFIELD, Solano Co., Calif.—As previously reported, until August 1, 11 A. M., bids will be received by G. G. Halliday, county clerk, to construct draw bridge over Miner Slough at the north end of Ryer Island. Bridge to be steel draw bridge with trestle approach. Structure will have steel draw span 194 ft. long and trestle approach 170 ft. long. Certified check or bond 10% required with bid. Plans obtainable from S. A. Steiger, county surveyor, on deposit of \$10, returnable to bidders.

IDAHO STATE.—C. F. Dinsmore, Ogden, Utah, submitted low bid to Commissioner of Public Works, G. E. McKelvey, Boise, July 8, at \$105,300 to construct State Bridge, F. A. P. 86-A, a concrete arch bridge 378.5 ft. long, over the Boise river, a 44.5 ft. concrete bridge over Boise river slough and approaches on 0.591 mile of Old Oregon Highway, Ada County.

IDAHO STATE.—C. F. Dinsmore & Co., Ogden, Utah, at \$105,300 awarded contract by the Department of Public Works, Boise, to construct a concrete arch bridge 378.5 ft. long over Boise River a 44.5-ft. concrete bridge over the Boise River Slough and approaches on 0.591 mile of the Old Oregon Trail in Ada County, F. A. P. 86-A, Reop. and Ext. Complete bids follow: C. F. Dinsmore & Co., Ogden, \$105,390.00.

Morrison-Knudsen Co., Boise, \$107,096.00.

James J. Burke & Co., Salt Lake City, \$107,203.00.

Tom Willebo, Reedsport, Ore., \$112,509.50.

McLaughlin Con. Co., Livingston, Mont., \$121,255.00.

Engineer's estimate, \$109,146.75.

SKILSAW Portable Electric Hand Saws (four models)

SKILSAW Portable Electric Sander

SKILSAW Radial Arm Attachments

SYNTRON Portable Electric Hammers (four models, motorless)

MALL Flexible Shaft Machines (50 models).

Electric Drills, Grinders, Buffers, Routers, Lock Mortisers.

Peter H. Nelson

Labor Saving Portable Electric Tools

1246 Mission St., San Francisco

Underhill 7662

SALES : SERVICE : RENTALS

MERCED COUNTY, Cal.—Until Aug. 3, 2 P. M., bids will be received by the State Highway Commission, Sacramento, to construct a concrete and steel bridge across Merced river 1.4 miles north of Livingston, consisting of three 77-ft. deck plate girder spans on concrete piers with pile foundation and twenty-three 44.5-ft. steel beam spans on concrete pile bents, involving:

- (1) 1,400 cu. yds. struc. excav.;
- (2) 4,690 lin. ft. furnish Douglas fir piles, includ. test piles;
- (3) 166 drive Douglas fir piles, includ. test piles;
- (4) 5,800 lin. ft. reinf. conc. piles, includ. test piles;
- (5) 340 cu. yds. Clas A Port. cem. conc. (footing blocks);
- (6) 1,540 cu. yds. Class A Port. cem. conc. (struc.);
- (7) 205,000 lbs. bar reinf. steel;
- (8) 1,050,000 lbs. struc. steel;
- (9) 10,300 lbs. cast steel;
- (10) 1 existing bridge removed;
- (11) 1 lot misc. items of work.

SAN JOAQUIN COUNTY, Cal.—Until August 3, 2 P. M., bids will be received by State Highway Commission, Sacramento, to construct a bridge across Paradise Cut about 6.2 miles east of Tracy, consisting of ten 44-ft. steel stringer spans with concrete deck on concrete pile bents and approaches to be paved with Portland cement concrete, involving:

- (1) 300 cu. yds. struc. excav.;
- (2) 6,200 cu. yds. rdway. excav., unclassified;
- (3) 3,800 sta. yds. rdhaul;
- (4) 3,900 cu. yds. imp. borrow;
- (5) 480 tons untreated crushed stone or gravel surf. (detour);
- (6) 30 M. gals. water applied to surf. and borders;
- (7) 1 timber detour bridge;
- (8) 1 existing bridge removed;
- (9) 2,700 lin. ft. reinf. concrete piles, includ. test piles;
- (10) 500 cu. yds. Class A Port. cem. conc. (struc.);
- (11) 88 cu. yds. Class A Port. cement conc. (pave.);
- (12) 30 cu. yds. Class A Port. cement conc. (slope paving);
- (13) 81,700 lbs. bar reinf. steel (pave. and struc.);
- (14) 445,000 lbs. structural steel;
- (15) 1,670 lbs. cast steel;
- (16) 100 cu. yds. salvage surf. (borders);
- (17) 18 bbls. light fuel oil;
- (18) 6 bbls. heavy fuel oil;
- (19) 450 sq yds. subgrade for pave.;
- (20) 27 sta. finish roadway;
- (21) 0.13 ml. move and reset property files;
- (22) 1 lot misc. items of work.

Previous call for bids on this project, to be opened July 20, published in our issue of June 30. Bid call was cancelled July 7.

WASHINGTON STATE.—L. Romano Engineering Corp., Thompson Bldg., Seattle, at \$52,825 submitted low bid to State Highway Commission to Construct a bridge 445 ft. long over the South Fork of the Skykomish River, bet. Gold Bar and Index, on State Rd. No. 15 in Snohomish County, consisting of one 240-ft. through steel truss and four 50-ft. concrete girder approach spans with 24-ft. roadway and one 5-ft. sidewalk.

West Coast Const. Co., Seattle, second low at \$53,912. Bids held under advisement.

WASHINGTON STATE.—Arnevik Const. Co., Seattle, at \$20,340 awarded contract by State Highway Commission to construct a bridge 180 ft. long over Pilchuck River on Island School, North Section of State Road No. 1 in Snohomish County, consisting of one 90-ft. and two 45-ft. steel girder spans with 24-ft. roadway and one 4-ft. sidewalk.

DREDGING, HARBOR WORKS & EXCAVATIONS

PACIFIC COAST—See "Government Work and Supplies" in this issue. Construction contemplated by the Bureau of Yards and Docks, Navy Department, Washington, D. C., in connection with Pacific Coast Navy Yards and Stations.

SACRAMENTO, Cal.—State Department of Finance has purchased a \$278,000 block of bonds of the American River Flood Control District and bids for various units of the contemplated construction will be started at once. The work will be carried on under the supervision of the California Debris Commission, an agency of the Federal government. 21

LOS ANGELES, Cal.—Bids will be asked at once by the Board of Public Works to construct a dirt-fill roadway around the north edge of the lake to carry Wilshire Blvd. across Westlake Park. Dirt for the fill is to be obtained from cuts in Wilshire Blvd. between Figueroa St. and Alvarado St. where approximately 55,000 cu. yds. will be available. The total amount required is roughly estimated at 75,000 yds. The fill for the roadway is an alternative proposal preferred over the proposed bridge across the lake by reason of the high cost of the latter project. The bridge is estimated to cost \$650,000.

SANTA MONICA, Los Angeles Co., Cal.—City Commissioners have authorized the city attorney to prepare an ordinance to authorize the advertising for bids for the construction of the proposed harbor breakwater. The awarding of the contract will be subject to the sale of the \$50,000 bond issue voted last September. A description of the breakwater was published in the issue of July 7.

COLUSA, Colusa Co., Cal.—Plans being prepared by U. S. Engineer Office, California Fruit Bldg., Sacramento, for a wier 1½ mi. above Colusa. Crest, 1650 ft. long, along the easterly bank of the river, providing an outlet from river to Butte Basin. Will be of reinforced concrete construction, part of which is to form a bridge, and there will be new levees 2 mi. long erected in connection with this construction. Project involves approximately:

120,000 cu. yds. excav.;
4500 cu. yds. concrete,
17,000 sq. ft. interlocking steel sheet piling,
11,000 sq. ft. wooden sheet piling,
550,000 lbs. reinf. steel,
67,000 lbs. structural steel;
4200 lbs. bronze plate,
5000 cu. yds. gravel,
25,000 cu. yds. cobblestones,
5000 lin. ft. 16- and 18-in. concrete pile.

MARYSVILLE, Yuba Co., Calif.—Plans approved by U. S. Engineer Office, California Fruit Building, Sacramento, to extend levee along Western Pacific Railroad north of Marysville, raise back levee of Reclamation Dis-

trict No. 10, involving approximately 107,000 cu. yds. earth work. Half of the cost is to be borne by the State of California.

LOS ANGELES, Cal.—Low bids on the three proposals for the construction of flood control works on the Los Angeles river, between 52nd St. and Cerritos Trestle, submitted to County Supervisors July 11, were:

PROPOSAL NO. 1, Mittry Bros. Construction Co., 5531 Downey Road, at \$10,281.25.

PROPOSAL NO. 2—Shannahan Bros. Inc., 6181 Eastern Ave., \$105,940.

PROPOSAL NO. 3—Herbert M. Baruch Corp., Ltd., 625 So. Olive St., \$104,650.

The bids were taken as follows:

PROPOSAL NO. 1
(1) 175,900 cu. yds. excavation and construction of levees complete.

PROPOSAL NO. 2
(1) 12,200 lin. ft. laying railroad track on top of levees, complete;

(2) 90,900 tons furnishing and placing of rock rip-rap on levee slopes, district to pay freight.

PROPOSAL NO. 3
(1) 175,000 cu. yds. excavation and construction of levees;

(2) 12,200 lin. ft. laying railroad track on top of levees;

(3) 90,000 tons furnish and place rock rip-rap on levee slopes, district to pay freight.

E. C. Eaton, 202 N. Broadway, Flood Control Engineer.

The unit bids were:

PROPOSAL NO. 1
Mittry Bros. Constr. Co. (1) \$0.5875; total, \$10,281.25.

Martin Bros. Trucking Co., (1) \$0.067; total, \$11,725.

T. G. Smith, (1) \$0.675; total, \$11,812.50.

Silveria & Robbins, (1) \$0.68; total, \$11,900.

Ray Schweitzer & Co., (1) \$0.75; total, \$13,125.

Oberg Bros., (1) \$0.789; total, \$13,807.50.

Gist & Bell, (1) \$0.83; total \$14,525.

Leo Miletich, (1) \$0.94; total, \$16,450

Martter & Bock, Ltd., (1) \$0.94; total, \$16,450.

George Rowland, (1) \$1.00; total, \$17,500.

Karl B. Kumpe, Ltd., Ormond, (1) \$1.12; total, \$21,000.

PROPOSAL NO. 2
Shannahan Bros., Inc., Lang* (1) \$20, (2) \$1.15; total, \$105,940.

Karl B. Kumpe, Ltd., Ormond*, (1) \$10, (2) \$1.19; total, \$111,950.

Merritt-Chapman & Scott Corp., near So. Fontana*, San Bernardino County, (1) \$40, (2) \$1.23; total, \$115,550.

PROPOSAL NO. 3
Herbert M. Baruch Corp., Ltd.—Corona*, (1) \$0.84, (2) \$3.85, (3) \$9.46; total, \$104,650.

Shannahan Bros., Inc.—Lang*, (1) \$9.7, (2) \$20, (3) \$1.15; total, \$118,190.

Karl B. Kumpe, Ltd., Ormond, (1) \$1.15, (2) \$25, (3) \$1.19; total, \$131,495.

Hall-Johnson Co.—Fish Canyon*, (1) \$1.05, (2) \$50, (3) \$1.25; total, \$136,975.

Bates & Rogers Constr. Co. and Robinson-Roberts Co., Corona*, (1) \$12, (2) \$40, (3) \$1.25; total, \$138,350.

*Location of Quarry.

for movable equipment in connection with the Stockton Deep Water Project, including a locomotive crane, not more than three lumber carriers, a portable freight elevator or conveyor and not more than two lift trucks with 100 freight skids. Delivery to be made bet. October 1 and November 1. Specifications and further information obtainable from Col. B. C. Allin, city port director.

SACRAMENTO, Cal.—Contracts for purchase and delivery of six gas shovels awarded by the State Purchasing Agent follow:

Harnischfeger Sales Co., at \$18,750 each, net, for three Model 700B Harnischfeger Diesel gas shovels to be delivered to Orange Cove, Theralito and Grays Flat.

Al Young Machinery Co. at \$15,458 net for one Lima Model 101 Diesel gas shovel to be delivered to San Luis Obispo.

Northwest Engineering Co. at \$16,500 net for one Northwest Diesel gas shovel to be delivered to Monterey.

Smith Booth Usher Co. at \$13,340, discount 5%, for one Model 75B Lorain Diesel gas shovel to be delivered to Selma Creek Camp.

RAILROADS

PACIFIC COAST—See "Government Work and Supplies" in this issue. Construction contemplated by the Bureau of Yards and Docks, Navy Department, Washington, D. C., in connection with Pacific Coast Navy Yards and Stations.

RESERVOIRS AND DAMS

LOS ANGELES, Cal.—Sub-contracts on San Gabriel Dam No. 2, awarded by Macco-Lewis, Inc., general contractor, and approved by the Los Angeles board of supervisors, are:

Drilling of grout holes to Continental Diamond Drilling Co., Pacific National Bank Bldg., Los Angeles.

Hauling of rock from quarry to dam site to McCutchen Transportation Co. (P. R. McCutchen), 2109 E 25th St., Los Angeles.

BOULDER CITY, Nev.—Babcock & Wilcox Co., 85 Liberty St., New York City, at \$10,908,000 awarded contract by U. S. Reclamation Bureau, to furnish plate-steel outlet pipes for the Hoover Dam Power Plant and Appurtenant Works, under Specifications No. 534. Complete list of bids received for this project were published in our issue of June 21.

COLUSA, Colusa Co., Cal.—Plans being prepared by U. S. Engineer Office, California Fruit Bldg., Sacramento, for a wier 1½ mi. above Colusa. Crest, 1650 ft. long, along the easterly bank of the river, providing an outlet from river to Butte Basin. Will be of reinforced concrete construction, part of which is to form a bridge, and there will be new levees 2 mi. long erected in connection with this construction. Project involves approximately:

120,000 cu. yds. excav.;
4500 cu. yds. concrete,
17,000 sq. ft. interlocking steel sheet piling,
11,000 sq. ft. wooden sheet piling,
550,000 lbs. reinf. steel,
67,000 lbs. structural steel;
4200 lbs. bronze plate,
5000 cu. yds. gravel,
15,000 cu. yds. cobblestones,
5000 lin. ft. 16- and 18-in. concrete pile.

MACHINERY AND EQUIPMENT

STOCKTON, San Joaquin Co., Cal.—Until August 1, S. P. M. bids will be received by B. L. Trahern, city clerk,

CLE ELUM, Wash.—Sheffield Steel Corp., Kansas City, Mo., at \$17,852.60 awarded contract by U. S. Reclamation Bureau to furnish reinforcing bars for Cle Elum Dam.

30

SACRAMENTO, Cal.—Plans will be completed shortly by U. S. Engineer Office, California Fruit Bldg., Sacramento, to construct levee on American River in North Sacramento, involving 590,000 cu. yds. earth work. State of California has provided \$280,000 by the purchase of bonds from the local district, and the Federal Government will provide about half as much again.

PIPE LINES, WELLS, ETC.

LONG BEACH, Calif.—August 23 is the date set by the city council for a hearing on the proposed storm drain for Pump District No. 8, known as the Northeast District Storm Drain. The district covers the territory between California Ave. and Redondo Ave. and between the Newport line of the Pacific Electric Railway and the ocean, approximately 3.5 square miles. It contains approx. 13,000 parcels of land. The construction will involve 15 to 18 miles of sewer and the pipe will range from 10-in. cement pipe to 48-in. reinforced concrete. The monolith or semi-elliptic section will range from 4 ft. to 6 ft. 6 in. There will be approximately one mile of tunnel, 7 ft. 9 in. in diameter, with steel and Gunite lining. The estimated cost is about \$824,000.

GILROY, Santa Clara Co., Cal.—Until July 25, 8 P. M., bids will be received by E. F. Rogers, city clerk, to drill a water well. Specifications obtainable from office of Raymond W. Fisher, city engineer; certified check 10% required with bid, check payable to city of Gilroy.

TALMADGE, Mendocino Co., Cal.—R. L. Norris, 3975 8th Ave., Sacramento, at \$3,561 and \$400 for testing submitted low bid to State Department of Public Works, Sacramento, for an 18-in. water well at the Mendocino State Hospital. Only other bid was submitted by O. J. Pearson, Napa at \$4,420 and \$438 for testing. Bids held under advisement.

MENDOCINO COUNTY, Cal.—R. L. Norris, 3975 8th Ave., Sacramento, at \$3,561 and \$400 for testing awarded contract by State Department of Public Works, Sacramento, for an 18-in. water well at the Mendocino State Hospital. Only other bids was submitted by O. J. Pearson, Napa, at \$4,420 and \$438 for testing.

SEWERS AND SEWAGE DISPOSAL PLANTS

ROSEBURG, Oregon.—Construction Division, U. S. Veterans' Bureau, Washington, D. C., rejects bids to construct sewage treatment works at the U. S. Veterans' Home at Roseburg. New bids will be asked.

SAN FRANCISCO.—John J. Casey, city engineer, announces the following sewer improvements will be undertaken during the fiscal year 1932-33: 10 Fifteenth Street sewer in Division St. from Alameda to 10th Sts.; estimated cost, \$160,000. Glen Park sewer extension, estimated cost, \$8,000.

Miscellaneous smaller sewer projects, estimated cost, \$17,000.

VENTURA, Cal.—C. W. Pettit, county engineer, preparing plans for storm drain, about 0.5 mile in length, to be built between Barry Drive in the Glover-Dent Tract and the Ventura River. The estimate is \$17,000. Bids will be called in August.

33

SAN FRANCISCO.—E. J. Treacy, Call Bldg., at \$1,464.75 awarded contract by Department of Public Works to construct sewer in north side of Alemany Blvd. and parallel thereto through the Crocker Estate from Roscoe St. to Alemany Blvd.

PALO ALTO, Santa Clara Co., Cal.—City council plans to call an election to vote bonds of \$90,000 to finance sewer construction and to create a sinking fund for construction of a treatment plant. The sinking fund would accumulate from the yearly rentals from Stanford University for use of the system, plus an annual budgetary allowance of \$5000. The estimated total additions to the fund from this combined arrangement would be about \$7500. The cost of the treatment plant would be about \$65,000.

WATERWORKS

OAKLAND, Cal.—Until July 19, 5:30 P. M., bids will be received by John H. Kimball, secretary, East Bay Municipal Utility District, 512 16th St., Oakland, to furnish 1355 cast iron bell and spigot water pipe fittings, 4- to 3-in. Specification No. LS-83.

DENVER, Colo.—Byron-Jackson Co., Berkeley, at \$24,340 awarded contract by city pumping equipment to be installed in the University Park Pumping Station. Purchase of control equipment will be made from General Electric Co., at \$17,795.

LOS ANGELES, Cal.—Until 2 P. M., July 18, bids will be received by County Supervisors for furnishing of needle valves and gates valves for Pacifica Dam as follows:

PROPOSAL NO. 1.—NEEDLE VALVE (o.b. railroad cars, Los Angeles, (1) one 30-in. inlet by 30-in. outlet, straight flow, balanced plunger type, hydraulically operated needle valve.

PROPOSAL NO. 2.—GATE VALVES (1) two 30-in. gate valves. E. C. Eatonfi 202 N. Broadway, County Floor Control Engineer. Mame B. Beatty, 501 Hall of Records, Clerk of the Board.

FOREST GROVE, Oregon.—Oregon Electric Railway Co., a subsidiary of the Spokane, Portland Seattle Railway, Chamber of Commerce Building, Portland, has applied to the Interstate Commerce Commission for a permit to

construct eight miles of railroad from Forest Grove to the site of the Stimson Lumber Company at Seghers. A. S. Witchel is chief engineer for the railroad, with headquarters at Portland.

WHITTIER, Los Angeles Co., Cal.—Chicago Bridge & Iron Works, 116 New Montgomery St., San Francisco, at \$6,335 awarded contract by State Department of Public Works, Sacramento, for two steel water tanks to be constructed at Whittier, one to be 50,000-gallon capacity elevated, and one 50,000-gal. capacity, ground storage type.

SARANAP, Contra Costa Co., Cal.—Saranap Water District has voted to tie-in with the system of the East Bay Municipal Utility District. The Saranap District recently voted bonds of \$47,000 to finance installation of distributing system, involving the laying of approximately nine miles of 4- and 6-inch pipe.

35

SONOMA, Sonoma Co., Cal.—P. L. Burr, 320 Market St., San Francisco, awarded contract to install approximately 14,000 ft. 6- and 8-in. pipe in connection with extensions to distributing system of the Sonoma Valley Water and Irrigation Company. Pipe will be furnished by Pioneer Pipe Co., 634 Townsend St., San Francisco.

BLAINE, Wash.—F. G. Hunter, city clerk, has announced that the city council contemplates the replacement of 3000 ft. of pipe line from city reservoir. Prices are wanted on various kinds of pipe of 12-16- and 18-in. diameter.

35

SAN LUIS OBISPO, San Luis Obispo Co., Cal.—Until August 1, bids will be received by county supervisors to construct water system for Cambria district, for which bonds of \$13,000 were voted. Project involves the installation of pumps and distributing system. Plans obtainable from county clerk.

35

VALLEJO, Solano Co., Calif.—Until July 20, 11 A. M., bids will be received by Alf E. Edgumbe, city clerk to construct a water treatment plant at Fleming Hill reservoirs. Estimated cost, \$6000. Lump sum bids will be taken. T. D. Kilkenny, city engineer.

STREETS AND HIGHWAYS

IDAHO STATE.—Standard Asphalt Paving Co., Chronicle Bldg., Spokane, Wash., at \$11,221.71 awarded contract by State Department of Public Works, Boise, for road oiling on Idaho Federal Aid Project No. 20-A and Ext. Work consists of constructing a road mix oil mat on 16,929 miles of the North and South Highway bet. Bonners Ferry and the Bonner County line in Bannock County, involving:

- (1) 5.248 miles scarifying;
- (2) 71500 bbls. heat and apply oil;
- (3) 16.929 miles mix and finish;
- (4) 150 cu. yds. bit. treated surfacing in stockpile.

Completion of the work required on or before Sept. 1, 1932.

Complete bids follow: Standard Asphalt Paving Co., Spokane, \$11,221.71.

Arthur Velguth, Spirit Lake, Idaho, \$11,881.86.

Hargrave Const. Co., Spokane, \$15,283.03.

Engineer's estimate, \$13,046.94.

CAPITAL CITY TITLE COMPANY

J. C. PALEN,
Manager

914 Seventh Street

Sacramento :: California

SANTA ANA, Orange Co., Calif.—N. H. Neif, county engineer, authorized by county supervisors to prepare plans and specifications for grading 13 miles of mountain road on the Ortega Highway bet. San Juan Capistrano and Capistrano Hot Springs. The county has a fund of \$125,000 with which to carry on the work. The construction program will involve two bridges and surfacing will be done in 1933. 28

LOS ANGELES COUNTY, Calif.—Until August 3, 2 P. M., bids will be received by State Highway Commission, Sacramento, grade and pave with Portland cement concrete 6.2 miles between Brea Canyon and Pomona, involving:

- (1) 326 sta. clear and grub right of way;
 - (2) 227,000 cu. yds. rdwy. excav., unclass. (Location A);
 - (3) 165,100 cu. yds. do (Location B);
 - (4) 2,200,000 sta. yds. overhaul;
 - (5) 13,270 M. gals. water (embank.);
 - (6) 6,000 cu. yds. struc. excav.;
 - (7) 15,200 cu. yds. Class A Port. cem. conc. (pave);
 - (8) 985 cu. yds. Class A Port. cem. conc. (struc.);
 - (9) 445,000 lbs. bar reinf. steel (pave. and struc.);
 - (10) 16,000 cu. yds. sel. material;
 - (11) 71,330 sq. yds. subgrade for pave;
 - (12) 970 lin. ft. 8-in. corr. metal pipe
 - (13) 2,150 lin. ft. 24-in. do;
 - (14) 100 lin. ft. 30-in. do;
 - (15) 300 lin. ft. 36-in. do;
 - (16) 250 lin. ft. 48-in. do;
 - (17) 150 lin. ft. bank protection fence;
 - (18) 4.62 mi. Type A property fence;
 - (19) 1.88 mi. Type B do;
 - (20) 3.18 mi. Type C do;
 - (21) 24 gates complete in place;
 - (22) 70 culvert markers complete in place;
 - (23) 326 sta. finish roadway;
 - (24) 72 monuments complete in place.
- State will furnish corrugated metal pipe and spillway assemblies.

LOS ANGELES, Cal.—J. L. McClain 3542 W Slauson Avenue, at \$83,145 awarded contract by Board of Public Works to construct storm drains and improve Figueroa St. bet. Manchester and 153rd St., involving grading, concrete and asphalt paving, etc.

WASHINGTON STATE.—Following contracts awarded by the State Highway Commission:

Charles A. Power, 1703 Grand, Spokane, Wash. at \$75,624 for paving with Portland cement concrete about three miles of State Road No. 2, Davenport West, F. A. P. No. 7-C, in Lincoln County.

Standard Asphalt Paving Company, Chronicle Bldg., Spokane, at \$77,906 for constructing a bituminous surface on about 10.6 miles of State Road No. 2, Creston to Wilbur in Lincoln County and on about 17 miles of State Rd. No. 3, Barstow to Laurier in Ferry County.

MENDOCINO COUNTY, Calif.—A. T. Howe, 111 Stanford St., Santa Rosa at \$1,395 awarded contract by State Highway Commission to construct a Portland cement concrete retaining wall in town of Willits.

SAN FRANCISCO—Department of Public Works completes specifications to improve Sargent St., bet Brighton and Orizaba Aves., (where not already improved); estimated cost \$950. Project involves:

- (1) 155 ft. armored concrete curb;
- (2) 93 ft. 6-in. V.C.P. side sewer;
- (3) 2304 sq. ft. asphalt concrete pavement.

COCONINO COUNTY, Ariz.—Until August 4, 10 A. M., bids will be received at the office of the Park Superintendent, Grand Canyon, Ariz., to construct structures and approach fills at Cataract Canyon and Red Lake Wash, Section D of the South Approach to Grand Canyon National Park, Coconino County, involving:

- (1) 7,000 cu. yds. unclass. excav.;
- (2) 498 cu. yds. concrete;
- (3) 61,000 lbs. reinf. steel;
- (4) 380 cu. yds. struc. excav.;
- (5) 1,100 cu. yds. gravel base course;
- (6) 2,100 lin. ft. wood guard rail.

Specifications obtainable from Bureau of Public Roads, 802 Title & Trust Bldg., Phoenix, Ariz., on deposit of \$10, returnable. Certified check payable to Regional Fiscal Agent, U. S. Forest Service. J

SAN BENITO, Monterey, San Luis Obispo and Santa Barbara Counties, Cal.—Edwin Anderson, 542 Natoma St. San Francisco, awarded contract by State Highway Commission at \$1295 for traffic striping in San Benito, Monterey, San Luis Obispo and Santa Barbara counties, at various locations between the north boundary of San Benito County and south boundary of Santa Barbara County, and between San Juan Bautista and Hollister, about 259 miles of traffic stripe to be applied to pavement.

PLACER COUNTY, Cal.—Bid rejected and project will be readvertised by State Highway Commission, to pave with Portland cement concrete 0.03 mi. near Auburn. Only bid submitted July 6 by S. M. McGaw, Stockton, at \$2090.50.

LOS ANGELES, Cal.—Until 10 A. M. July 27, bids will be received by board of public works to improve Kingman Ave. and Entrada Drive Imp. District, Cash Contract, involving:

- (1) grading, complete;
- (2) 91,857 sq. ft. 6-in. asph. concrete paving (2-in. A. C. wearing surface on 4-in. A. C. base);
- (3) 1375 sq. ft. 4-in. asph. concrete wearing surface;
- (4) 240 sq. ft. resurf. with asph. conc. wearing surf. of varying thickness;
- (5) 179 sq. ft. Class C resurf. (4-in. thick);
- (6) 410 sq. ft. 3-in. walk;
- (7) 483 sq. ft. 4-in. walk (driveways)
- (8) 405 sq. ft. 6-in. do;
- (9) 1310 ft. unplastered light curb;
- (10) 3332 sq. reinf. integral curb with concrete gutter 1-ft. wide;
- (11) 1386 sq. ft. 6-in. conc. gutter;
- (12) sanitary sewer complete;
- (13) 460 ft. house sewers (9-ft. deep);
- (14) move and reset orn. light posts;
- (15) 182 type B traffic markers. 28

SAN RAFAEL, Marin Co., Cal.—Barrett & Hilp, 918 Harrison St., San Francisco, awarded the following sub-contracts in connection with their contract for road culverts and bridges on the "Hamilton Field" (Marin Meadows) Bombing Base project:

Reinforcing Steel—Walter Wilson & Co., San Rafael.

Cement—Pacific Portland Cement Co., 111 Sutter St., San Francisco.

As previously reported, road work awarded to J. V. Galbraith, Petaluma, structural steel to McClintic-Marshall Corp., 2050 Bryant St., S. F.; lumber to McCallum Lumber Co., 748 Bryant St., San Francisco.

SACRAMENTO, Cal.—The following contracts awarded by county supervisors:

McGillivray Const. Co., Folsom Blvd. and 65th St., Sacramento, at \$4518.30 to pave one-half mile of the Swanson road, involving excavation, fill, concrete pavement and headerboard.

A. Teichert & Son, P. O. Box 1118, Sacramento, at \$1900.50 to construct a road rock shoulder on the Rio Linda Road.

McGillivray Const. Co., at \$6762.96 to construct asphalt macadam shoulder on Greenback Lane, over 7.1 miles of shoulder. All above bids published complete in issue of June 28.

A. Teichert & Son, awarded the following contracts: at \$2549.40 to construct armor top asphalt surface on the Florin Road; at \$7728.95 to construct a cut-back asphalt pavement on the Elk Grove Road; at \$14,298.33 to re-surface Freepoint Blvd. from city limits to the Municipal Airport.

SAN FRANCISCO—Until July 27, 2.30 P. M., bids will be received by S. J. Hester, Secretary, Department of Public Works, to improve 17th Ave. north from Lake street along the Presidio Wall. Estimated cost \$1450. Lump sum bids are desired. Plans obtainable from office of John J. Casey, city engineer, 3rd Floor, City Hall.

GLENN COUNTY, Cal.—S. M. McGaw, 425 Lexington Ave., Stockton, at \$7,429.10 submitted low bid to District Engineer, State Highway Commission, Sacramento, for grading and surfacing with bituminous treated crushed stone or gravel about 0.03 mile, about one mile south of Orland. Project involves

- (1) 100 cu. yds. excavation;
- (2) 3,400 cu. yds. selected imp. bor.;
- (3) 50 cu. yds. struc. excav.;
- (4) 850 tons untreated crushed gravel or stone base;
- (5) 665 tons crushed gravel or stone surfacing;
- (6) 35 tons curbs asphalt;
- (7) 25 bbls. light fuel oil;
- (8) 2 cu. yds. Class A Port. cement for structure;
- (9) 100 lbs. bar reinforcing steel;
- (10) 114 lin. ft. 18-in. concrete metal pipe;
- (11) 48 lin. ft. existing corr. metal pipe to be removed and salvaged
- (12) 160,000 gal. water applied;
- (13) one-fourth mi. fence to be moved and reset;
- (14) 16 sta. finish roadway;
- (15) 11 monuments.

Total bids follow:
 (A) S. M. McGaw, Sacramento, \$7,429.10.
 (B) A. Teichert, Sacramento, \$7,748.85.
 (C) Hemstreet & Bell, Marysville, \$7,687.50.

Unit prices follow:

| | (A) | (B) | (C) |
|----------|--------|--------|--------|
| 1)..... | \$.30 | \$.50 | \$.50 |
| 2)..... | .47 | .55 | .50 |
| 3)..... | .75 | 1.00 | .75 |
| 4)..... | 2.55 | 2.38 | 2.60 |
| 5)..... | 4.00 | 4.11 | 4.00 |
| 6)..... | 10.00 | 11.00 | 10.00 |
| 7)..... | 4.00 | 4.20 | 4.00 |
| 8)..... | 25.00 | 25.00 | 25.00 |
| 9)..... | .06 | .06 | .06 |
| 10)..... | .40 | .50 | .50 |
| 11)..... | .50 | .40 | .50 |
| 12)..... | 1.00 | 1.25 | 1.50 |
| 13)..... | 350.00 | 350.00 | 400.00 |
| 14)..... | 5.00 | 5.00 | 5.00 |
| 15)..... | 3.00 | 3.00 | 3.00 |

PORT TOWNSEND, Wash.—Allan & Govan, Olympia, at \$25,989 awarded contract by Jefferson County Commissioners for clearing, grading and surfacing 2.06 miles of lateral highway No. 6.

WASHINGTON STATE—Following contracts awarded by State Highway Commission:

FERRY AND LINCOLN COUNTIES—Standard Asphalt Paving Company, Chronicle Bldg., Spokane, at \$26,651, to construct bit. surface on about 62 ml. State Road No. 4, as follows: Tonasket to Republic, 42 ml.; Republic to Forest Boundary, 12 ml., and Wilbur North, 8 ml.

YAKIMA COUNTY—Albertson & Cornell Bros., Inc., Tacoma, at \$74,512 to pave with Portland cement concrete 3.1 ml. State Road No. 5, Yakima to Nelson Bridge, No. 161-C.

SALINAS, Monterey Co., Cal.—J. L. Connor and K. Kristich, P. O. Box 56, Monterey, at \$6012.25 awarded contract by county supervisors to grade a portion of San Miguel Canyon road from Lake School to State Highway at Prunedale, in Supervisor District No. 1, Monterey County.

LAKE AND COLUSA COUNTIES, Cal.—Until August 3, 2 P. M., bids will be received by State Highway Commission, Sacramento, to apply about 18.9 miles of bituminous surface treatment between Abbott Mine and 5 miles west of Williams, involving:
 (1) 230 tons asphaltic road oil;
 (2) 3,300 tons rock screenings.

EUREKA, Mendocino Co., Cal.—Joe Carotin, Eureka, at \$2072.60 awarded contract by county supervisors to construct a new road from Bayside to Grotzman's Ranch. Complete bids follow:

| | |
|-------------------------|-----------|
| Joe Carotin | \$2072.60 |
| Buck Hanson | 2215.00 |
| H. Anderson | 2563.00 |
| J. C. Kier | 2658.00 |
| F. J. Maurer & Son..... | 2972.00 |
| Hemstreet & Bell | 3178.00 |

SANTA BARBARA, Cal.—Until 2 P. M., July 26, bids will be received by board of education, 1235 Chapala St., to construct sidewalks, curbs and gutters. Cashier's or certified check or bond for 5% must accompany each bid. Mildred D. McCaleb, clerk pro tem.

SAN FRANCISCO.—A conditional award of contract has been made to Chas. L. Harney, Call Bldg., at \$50,160 by the Public Utilities Commission, subject to the final approval of Manager Cahill to repave all streets or sidewalk openings where the paving has been removed for the purposes of the San Francisco Water Department during the fiscal year ending June 30, 1933.

SAN DIEGO COUNTY, Cal.—Griffith Co., 502 Los Angeles Railway Bldg., Los Angeles, at \$55,638 awarded contract by State Highway Commission, to pave with asphalt concrete about 2.1 miles between Rose Canyon and Torrey Pines Reservoir.

Complete bids published in issue of June 20.

NEVADA COUNTY, Calif.—Until July 27, 2 P. M., bids will be received by State Highway Commission to surface with untreated crushed gravel or stone and bituminous surface treatment applied on 11.7 miles between Nevada City and one mile west of Washington Road, involving:

- (1) 11,600 tons untreated crushed gravel or stone surfacing;
- (2) 520 M. gals. water applied to surf.;
- (3) 700 bbls. light fuel oil;
- (4) 1,450 tons rock screenings (bitum. surf. treatment);
- (5) 170 tons cut-back asphalt road oil (bitum. surf. treatment).

SAN MATEO, San Mateo Co., Cal.—City council resolves to grade and pave 24-ft. alley extending from El Camino Real to San Mateo Drive bet. Second and Third Avenues, involving:
 (1) 519 cu. yds. excavation;
 (2) 10,639 sq. ft. concrete paving;
 (3) 30 lin. ft. curb;
 (4) 450 sq. ft. concrete sidewalk.

Estimated cost, \$3000. Date of hearing, August 1, 8 P. M. E. P. Wilsey, city manager. E. W. Poster, city clerk.

OROVILLE, Butte Co., Cal.—Johnston Rock Co., Chico, Kaiser-Bechtel Pack Co., and Pacific Coast Aggregates, at \$12,897 under Schedule A submitted identical bids to the county supervisors to furnish 10,000 tons of crushed rock for use on the county roads. Under Schedule B, prices differed several hundred dollars. Schedule A provided for delivery at various points; Schedule B provided for delivery at the haulers.

OREGON STATE.—Until July 20, 10 A. M., bids will be received by State Highway Commission, Benson Hotel, Portland, for the following highway construction:

Clackamas County—Jennings Lodge Section, East Portland—Oregon City Highway. Construct 0.78 miles highway roadbed, involving 33,000 cu. yds. excavation.

Umatilla County—Vinson-Nye Section, Oregon—Washington Highway, and Nye-Lazinka Ranch Section, Pendleton—John Day Highway, 12,500 cu. yds. crushed rock in stockpile.

Yamhill County—Holdrede Section, Secondary Highway No. 154, 0.65 miles grading and surfacing, 8,500 cu. yds. excavation and 1,400 cu. yds. crushed gravel.

Specifications obtainable from State Highway Commission, Room 322, State Office Bldg., Salem, on deposit of \$5.

SKAMANIA COUNTY, Wash.—Sam Orino, Realty Bldg., Spokane, at \$122,298 submitted low bid to State Highway Commission for grading and surfacing about 3.2 miles of State Road No. 8, Wind River to Collins, No. 112-C, involving 23 acres clearing, 138,440 cu. yds. excavation, 14,280 cu. yds. crushed stone surfacing and other items. James Crick, Spokane, second low at \$123,912. Bids held under advisement until July 12.

TULARE COUNTY, Cal.—Award of contract has been recommended to Washington, D. C., by the U. S. Bureau of Public Roads, San Francisco, to counties Construction Co., Hearst Bldg., San Francisco, at \$157,706 to grade 2.81 miles of Section D-3 of Route 1, The Generals Highway in Sequoia National Park

KELSO, Wash.—Haskin and Brook, La Center, Wash., at \$36,502 awarded contract by Cowlitz county commissioners for clearing, grubbing, grading, draining and surfacing with crushed rock 3 miles of lateral highway No. 4.

SAN MATEO COUNTY, Cal.—Harrahan Co., Hobart Bldg., San Francisco, at \$22,378.50 awarded contract by State Highway Commission to pave with concrete about 0.6 mile between Sierra Point and South San Francisco. Complete bids published in issue of June 30.

SAN JUAN CAPISTRANO, Orange Co., Cal.—A. C. Fulmer, chief engineer, Ortega Joint Highway District, completed plans and specifications for

grading of thirteen miles of the Ortega Highway between San Juan Hot Springs and San Juan Capistrano, involving grading, re-alignment and construction of two bridges across San Juan Creek. Approximately \$135,000 is available but it has not been definitely determined whether this will be sufficient. Bids will probably be called by the board about August 8.

GLENN COUNTY, Cal.—S. M. McGaw, 425 Lexington Ave., Stockton, at \$7,429.10 awarded contract by State Highway Commission, Sacramento, to grade and surface with bituminous treated crushed stone or gravel about 0.03 mile, about one mile south of Orland.

COLUSA COUNTY, Calif.—A. Teichert & Son, P. O. Box 1113, Sacramento, at \$5319.70 awarded contract by State Highway Commission, Sacramento, to grade and surface with bituminous treated crushed gravel or stone about 0.25 mile at Arbutuckle.

SAN JOSE, Santa Clara Co., Cal.—Smith Brothers, Campbell, at \$24,180 awarded contract by county supervisors to improve Junipero Serra Blvd., Supervisor District No. 5, involving 41,130 cu. yds. excavation (bids to be lump sum). Complete list of bids follow:

| | |
|---------------------------------|----------|
| Smith Bros., Campbell..... | \$24,180 |
| Karstedt & Karstedt, San Jose | 29,263 |
| Earl W. Heple, Santa Clara..... | 29,848 |
| Meyer Rosenberg, S. F..... | 30,890 |
| John Jurkovich, Fresno..... | 31,824 |
| A. J. Reisch, San Jose..... | 33,600 |
| W. A. Donnanville, Salinas..... | 33,550 |
| Heafey-Moore, Berkeley..... | 33,950 |
| Pereira & Reed, Tracy..... | 35,285 |

SANTA CLARA COUNTY, Calif.—Standard Road Planning Co., San Luis Obispo, at \$497.60 (\$064) submitted only bid to District Engineer, State Highway Commission, San Francisco, to plane 10.9 miles existing asphalt concrete pavement between Morgan Hill and Sargent Overhead.

DALY CITY, San Mateo Co., Cal.—Until July 23, 8 P. M., bids will be received by W. J. Sweeney, clerk, Jefferson School District, to construct waterbound rock macadam base pavement 4-in. thick with sheet asphalt wearing surface 1-in. thick thereon in the playyard areas of the Pershing, Crocker, Woodrow Wilson, and Jefferson schools. Project involves approximately 35,150 square feet of pavement. Certified check 10% payable to clerk required with bid. Plans obtainable from Geo. A. Kneese, engineer, Stafford Bldg., Redwood City.

SAN JOSE, Santa Clara Co., Cal.—Until July 25, 11 A. M., bids will be received by Henry A. Pfister, county clerk, to improve Pollard, Burroughs and part of San Tomas Aquino Roads, involving 261,740 sq. ft. oil macadam paving. Specifications obtainable from office of Board of Supervisors. Robert Chandler, county surveyor.

UTAH STATE.—Knowlton & Rupert, Layton, Utah, at \$52,235.10 awarded contract by State Road Commission to construct a gravel surfaced road in Davis County, F. A. P. No. 112-A, bet. Bountiful and Farmington, 5.511 miles, involving:

- (1) 119,000 cu. yds. common excav.
 - (2) 15,000 cu. yds. gravel and sub-base
 - (3) 362 cu. yds. reinf. conc. in struc.
- Olof Nelson, Logan, Utah, second low at \$55,691.10 and W. W. Clyde & Co., Springville, Utah, third low, at \$58,285.35.

SAN LUIS OBISPO, Calif.—Walter Rosell, San Luis Obispo, submitted low bid to the county supervisors July 5 at \$990 to pave Broad Street from Islay Street to the city limits, involving 2000 tons asphaltic concrete at \$4.95 per ton. Santa Maria Const. Co. submitted only other bid at \$5.20 ton or a total of \$10,400. Bids were taken under advisement.

PIERCE COUNTY, Wash.—Un tilled July 22, 10 A. M., bids will be received by W. H. Lynch, District Engineer, U. S. Bureau of Public Roads, 316 New Postoffice Bldg., Portland, to construct and improve East Side Highway Project 5-B Clearing in Mt. Rainier National Park, 4.571 miles, involving:
(1) 36 acres clearing;
(2) 100 dangerous trees and snags.
Specifications obtainable from above on deposit of \$10, returnable. Guarantee 5%.

OREGON STATE.—Until July 20, 10 A. M., bids will be received by State Highway Commission, Benson Hotel, Portland, for 1.22 miles of grading and surfacing on Beaver Creek Section of Secondary State Highway No. 102 in Washington County, involving 20,000 cu. yds. excav., 1,500 cu. yds. crushed rock and 46 lin. ft. pile trestle. Specifications obtainable from State Highway Commission, Room 322, State Office Bldg., Salem, on deposit of \$5.

BAKERSFIELD, Kern Co., Cal.—Perry Britz, chairman of Kern County Board of Supervisors, announced that \$117,946 immediate possession bonds of the Golden State Ave. project through Bakersfield have been sold to the Bank of America at par, accrued interest at 7%. In connection with this improvement the state is preparing to start on the realignment project of the Golden State Highway entrance into Bakersfield, the program involving construction of a bridge across the Kern River south of Bakersfield and paving the highway to a width of 39 ft. The state will expend about \$1,000,000 on the work.

IDAHO STATE.—Arthur Velguth, Spirit Lake, Ida., at \$16,664.55 awarded contract by Department of Public Works, Boise, to construct a road mix oil mat on 30.343 miles of the Palouse Highway bet. Tensed and Mud Bay School House, in Benewah and Kootenai Counties, F. A. P. 101-BCDEG. Complete bids follow:

Arthur Velguth, Spirit Lake, Idaho, \$16,664.55.
Standard Asphalt Paving Co., Spokane, Wash., \$17,540.14.
Hargrave Const. Co., Spokane, \$18,451.37.
J. C. Compton, McMinnville, Ore., \$19,762.15.
Engineer's estimate, \$22,439.30.

CHURCHILL COUNTY, Nev.—Until August 24, approximate date, bids will be received by S. C. Durkee, State Highway Engineer, Carson City, to furnish, apply and mix asphaltic fuel oil with the roadway surface between Lahontan and Leteetville, eight miles. Specifications will be ready about Aug. 10 at above office, County Clerk's office at Fallon, and U. S. Bureau of Public Roads, 46 Market Street, San Francisco. Certified check 5% required with bid.

SAN FRANCISCO.—City Engineer John J. Casey completes plans to improve south half of Jefferson Street bet. Jones and Taylor Sts., and bet. Taylor and Mason Sts., including the south half of crossings in Jefferson

- St. at Jones and Mason Sts.; estimated cost, \$7,450. Project involves:
(1) 500 cu. yds. grading;
(2) 4 brick manholes;
(3) 1 brick catchbasin;
(4) 1 storm water inlet;
(5) 5 comb. manholes & catchbasins;
(6) 25 ft. 8-in. cast iron pipe culvert;
(7) 43 ft. 10-in. V.C.P. culvert;
(8) 41 ft. 10-in. V.C.P. sewer;
(9) 650 ft. 12-in. do;
(10) 5 10x6-in. wye branches;
(11) 13 12x6-in. do;
(12) 1 lamphole;
(13) 929 ft. armored concrete curb;
(14) 16,150 sq. ft. asphalt. conc. pave.;
(15) 1,000 sq. ft. asphalt. conc. conform pavement;
(16) 340 sq. ft. asphalt. conc. pave. (to be replaced);
(17) 660 sq. ft. 1-course concrete sidewalks;
(18) 1,100 sq. ft. basalt blocks.

IDAHO STATE.—J. A. Tertelling & Sons, 511 South St., Spokane, Wash., at \$49,866.50 awarded contract by the State Department of Public Works, Boise, to construct roadbed, drainage structures and crushed gravel surfacing on F. A. P. 140-H, 9.875 miles of the Roosevelt Highway bet. Irwin and Elk Creek in Bonneville County, involving:

- (1) 100,500 cu. yds. excav. unclass;
(2) 150 cu. yds. excav. unclass. for ditch and flume;
(3) 250 cu. yds. excav. struc.;
(4) 45,000 sq. yds. overhaul;
(5) 2900 mi. yd. haul on excav.;
(6) 22,000 cu. yds. cr. gravel surf. in place;
(7) 3290 cu. yds. binder;
(8) 6400 mi. yd. haul on binder;
(9) 470 mi. gal. sprinkling water;
(10) 250 cu. yds. cement conc. Class "A";
(11) 28,100 lbs. metal reinf.;
(12) 50,000 cu. yds. selected material;
(13) 8000 mi. yd. haul on sel. material;
(14) 490 lin. ft. 12-in. C.M. pipe, 15-H-P;
(15) 1950 lin. ft. 18-in. C.M. pipe, U-H-P;
(16) 400 lin. ft. 24-in. C.M. pipe, U-H-P;
(17) 80 lin. ft. 36-in. C.M. pipe, U-H-P
(18) 8000 lin. ft. constr. irrig. ditches;
(19) 140 cu. yds. gravel backfill;
(20) 0.30 MFMB lumber untreated;
(21) 1 moving metal flume;
(22) 800 cu. yds. maintenance gravel.

Complete bids follow:
J. A. Tertelling & Sons, Spokane \$49,866.50
Sutherland and Burns, Idaho Falls \$51,273.50
Morrison-Knudsen Co., Boise \$53,513.00
J. C. Maguire, Butte, Mont. \$53,677.00
Green River Lbr. Co., Green River, Wyo. \$56,669.50
Olof Nelson, Logan, Utah \$61,768.50
Robinson Const. Co., Twin Falls \$62,878.00
Triangle Const. Co., Boise \$69,965.50
Utah Const. Co., Ogden \$75,209.00
Union Const. Co., Ogden \$5,404.91
Wheeler & England, Moreland \$Irregular
Engineer's estimate \$76,522.00

IDAHO STATE.—J. C. Compton, McMinnville, Ore., at \$27,933.90 awarded contract by Department of Public Works, Boise to construct road mix oil mat on 37.786 miles of the Sawtooth Park Highway bet. Shoshone and Bellevue, 7.407 mi. of Sawtooth Highway bet. Jerome and Shoshone, and 10.645 miles of the Roosevelt Highway bet. Gooding and Shoshone in Lincoln, Blaine, Jerome and Gooding Counties, F. A. P. 120-B, 121-ABC, reop., 122-ABC, 125-AC.

IDAHO STATE.—J. C. Compton, McMinnville, Ore., at \$11,092.15 awarded contract by State Department of Public Works, Boise, for road oiling on State Aid Project No. 189-BD. Work consists of constructing a road mix oil mat on 20,549 miles of the Sawtooth Park Highway bet. Godwin and Rogerson in Twin Falls County, involving:
(1) 7800 bbls. heat and apply oil;
(2) 20,549 mi. mix and finish.
Completion of the work required on or before Sept. 1, 1932.

Complete bids follow:
J. C. Compton, McMinnville \$11,092.15
C. E. Lee, Boise, Idaho \$11,339.60
Wm. Hoops, Twin Falls \$11,605.87
Diesel Oil Sales Co., Seattle \$14,935.67
Hargrave Const. Co., Spokane \$15,981.95
Stevens Bros., St. Paul \$16,229.40
Engineer's estimate \$12,243.33

IDAHO STATE.—U. E. Lee, Boise, Idaho, and San Leandro, Calif., at \$8,651.24 awarded contract by State Department of Public Works, Boise, to construct a road oil mix mat on 14.201 miles of the Yellowstone Park Highway bet. St. Anthony and Ashton in Fremont County, involving:
(1) 14.201 miles scarifying;
(2) 7150 bbls. heat and apply oil;
(3) 14.201 miles mix and finish.

Complete bids follow:
U. E. Lee, Boise \$8,651.24
Quinn-Robbins Co., Boise \$9,962.00
Stevens Bros., St. Paul \$11,062.57
Hargrave Const. Co., Spokane Irregular
Engineer's estimate \$10,601.04

SAN JOAQUIN COUNTY, Cal.—W. Wood, Box 1435, Stockton, at \$5,017.60 submitted low bid to District Engineer, State Highway Commission, Sacramento, to surface with bituminous treated crushed gravel or stone 0.6 mile of roads within the State Hospital grounds at Stockton, involving:
(1) 1960 tons cut-back asphalt surfacing.

Complete bids follow:
C. W. Wood, Stockton \$2,56 \$5017.60
Geo. French, Stockton \$2,85 \$5366.00
S. M. McGaw, Stockton \$2,93 \$5742.80
Clark & Henry, S. F. \$3,00 \$5589.00
Bids held under advisement.

SAN DIEGO COUNTY, Cal.—B. G. Carroll, 4396 Maryland St., San Diego, at \$34,899.05 awarded contract by the State Highway Commission, Sacramento, to pave with Portland cement concrete about 4.4 miles between Rose Canyon and Sorrento Creek.

LOS ANGELES COUNTY, Calif.—Griffith Co., 502 Los Angeles Railway Building, Los Angeles, at \$290,932.80 awarded contract by State Highway Commission, Sacramento, to grade and pave with Portland cement concrete about 6 miles between Barranca St. and Pomona.

SPOKANE COUNTY, Wash.—Norris Brothers, Burlington, at \$199,816 awarded contract by State Highway Commission, Olympia, to pave with Portland cement concrete about 3.3 miles of State Road No. 3, Spokane to Whitworth, F. A. P. No. 94-C, and about 4.6 miles of State Road No. 6, Junction State Road No. 3 to Peone Creek, F. A. P. No. 186-A, both in Spokane County.

Chas. A. Power, Spokane, at \$203,296 submitted second low bid.

OROVILLE, Butte Co., Cal.—County supervisors reject bids to furnish 10,000 tons crushed rock and same will be purchased in the open market. J. E. Johnston, Chico; Pacific Coast Aggregates, Inc., and Bechtel-Kaiser Co. submitted identical bid at \$12.97. Jess Bungarner is county road engineer.

BUILDING NEWS

APARTMENTS

Contract Awarded.

APARTMENTS Cost, \$16,000
SAN FRANCISCO. S Chestnut St. E Stockton.

Three-story and basement frame and stucco apartments (6 apts.)

Owner—D. Devincenzi.
Plans by C. M. Baker, 155 Montgomery Street.

Contractor—R. Fiolitti, 949 Filbert St.

Bids Rejected.

APARTMENTS Cost, \$

OAKLAND, Alameda Co., Cal.

Two-story and basement brick and frame apartments (24-room apts.)

Owner—Agnes McCarthy.

Architect—E. L. Snyder, 2101 Addison St., Berkeley.

Whether plans will be revised and new bids asked is not determined at this time.

BONDS

KERN COUNTY, Cal.—Union Ave. Elementary School District, Kern Co. will hold an election on August 2, at which time it is proposed to vote bonds in the sum of \$5500 for school improvements. Alex McLean, John S. Butting and Aubrey B Cook are trustees of the district.

CHURCHES

Commissioned To Prepare Plans.

CHURCH Cost, \$10,000
VALLEJO, Solano Co., Cal. Florida and Napa Streets.

One-story frame and stucco church (Mission Spanish type).

Owner—Church of the Redeemer (1st Lutheran) Rev. W. E. Menzel, Cordelia, pastor.

Architect—Geo. P. Simonds, 1276 A St. Hayward.

FACTORIES AND WAREHOUSES

Plans Being Figured—Bids Close July 21st.

WAREHOUSE & MILL Cost, \$—
POMONA, Los Angeles Co., Cal. 695 E First Street.

One- and two-story and basement concrete and brick warehouse and mill building (160x60-ft.) concrete floor slab, steel sash, asbestos roof. Owner—Pomona Grain & Milling Co. Plans by Engineering Dept. of Union Pacific Railway.

Bids are being received by the Las Vegas Land and Water Co., Pacific Electric Bldg., Los Angeles.

Plans Being Figured—Bids Close Aug. 1, 8 P. M.

WAREHOUSES Cost, \$—
STOCKTON, San Joaquin Co., Cal. Stockton Channel.

Four warehouse units 100x150 ft. each; reinforced concrete floors, concrete, brick or hollow tile walls (alternate bids will be taken on each type of construction); roofing of 2x4-in. timber covering.

Owner—City of Stockton, E. L. Trahern, City Clerk.

Engineer—E. C. Allin, City Port Director.

Plans are obtainable from Col. B. C. Allin, City Port Director.

EXETER, Tulare Co., Cal.—Rosenberg Bros., Cherry and Broadway Sts., Fresno, will have plans prepared for a modern dehydrator to be constructed in the Fernersville district. The plant will cost \$40,000.

Contract Awarded.

FACTORY Cost, \$—
LONG BEACH, Los Angeles Co., Cal. No. 310 Santiago Avenue.

Iodine factory (56x130 ft.); corrugated iron sides and roofing, steel and wood trusses, wood & steel tanks, overhead trolley, pumps, etc.

Owner—Jones Chemical Co., Box 731, Long Beach.

Plans by Engr. Dept. of Dow Chemical Co., Midland, Michigan.

Contractor—J. D. Sherer & Son, 1865 E. Anaheim St., Long Beach.

LAS VEGAS, Nevada.—Babcock and Wilcox, Inc., 85 Liberty St., New York City, recently awarded the contract by the U. S. Bureau of Reclamation to furnish plate steel outlet pipes for the Hoover Dam and Appurtenant Works, will construct a steel assembly plant in the vicinity of Las Vegas, it is announced by Isaac Hartner, vice-president of the company. The contract price for the steel contract is \$10,908,000.

GOVERNMENT WORK AND SUPPLIES

WASHINGTON, D. C.—Following is a report of the status of plans and specifications in the office of the Supervising Architect, Treasury Department, Washington, D. C., in connection with Pacific Coast projects:

San Francisco—Courthouse, \$750,000. Drawing routed for correction.

Napa, Calif.—Post Office, \$140,000. Being signed for publication.

San Jose, Calif.—Post Office, \$455,000; 85% completed.

Vallejo, Calif.—Post Office, \$185,000. Drawings being corrected.

Teacate, Calif.—Border Station, \$59,000. Sketching stage.

Visalia, Calif.—Post Office, \$150,000. 95% completed.

Ventura, Calif.—Post Office, \$200,000. Drawings started.

Sweetgrass, Mont.—Border Station, \$61,000. Drawings routed for correction.

Weiser, Idaho—Post Office, \$110,000. Drawings being checked.

Beverly Hills, Calif.—Post Office, \$300,000. Architect correcting drawings.

Los Angeles.—Quarantine Station, \$70,000. Ready for sketches.

Marysville, Calif.—Post Office, \$150,000. Being mimeographed.

Oroville, Calif.—Post Office, \$145,000. Architect correcting drawings.

Palo Alto, Calif.—Post Office, \$210,000. Site acquired, drawings approved.

Porterville, Calif.—Post Office, \$150,000. Drawing 10% completed.

Redlands, Calif.—Post Office, \$170,000; 60% completed.

San Francisco.—Office Bldg., \$3,050,000; 50% completed.

Yuma, Ariz.—Post Office, \$190,000. Drawings approved.

Honolulu, T. H.—Immigration Station, \$415,000. Architect correcting drawings.

Cheyenne, Wyo.—Post Office, \$200,000. Specifications being mimeographed.

Chehalis, Wash.—Post Office, \$150,000. Drawing 88% completed.

Oregon City, Ore.—Post Office, \$115,000; 95% completed.

Bingham Canyon, Utah.—Post Office \$75,000. Architect correcting drawings.

Ogden, Utah.—Forest Service Bldg., \$300,000; 55% completed.

Silver City, Utah.—Post Office, \$115,000. Drawings routed for correction.

Gallup, Utah.—Post Office, \$125,000; 73% completed.

Ely, Nev.—Post Office, \$95,000. Specification stage awaiting title to site.

Merced, Calif.—Post Office, approved, ready to be signed.

Low Bidders.

GLENDALE, Los Angeles Co., Calif.

Two-story and basement reinforced concrete post office (100x230-ft.); exterior brick walls, granite base, and entrance steps, terra cotta tile partitions, bronze doors, etc.)

Owner—United States Government.

Architect—George M. Lindsay and E. P. Elden, Union Insurance Bldg., Los Angeles.

Low Bidder—Sarver & Zoss, 1015 W. 4th St., Los Angeles, \$265,400.

Robert McKee, Los Angeles, second low at \$276,000. Landis and Young, third, at \$283,000.

Complete list of bids will be published shortly.

Contract Awarded.

POST OFFICE Cont. Price, \$223,138
LAS VEGAS, Nevada.

Completion of Post Office (three-story and basement structure, 100x121 feet); steel frame and masonry construction, brick and terra cotta exterior composition and metal roof.

Owner—United States Government.

Plans by Supervising Architect, Treasury, Washington, D. C.

Contractor—Rosen & Fischel, 11 S. La Salle St., Chicago, Ill.

Bids To Be Asked Shortly.

POST OFFICE Cost, \$195,000
MODESTO, Stanislaus Co., Cal. 12th and I Streets.

Class A post office building.

Owner—United States Government.

Plans by Supervising Architect's Office, Treasury Dept., Washington, D. C.

Bids will be asked for this work shortly, to be opened about Aug. 1.

Contract Awarded.

POST OFFICE Cont. price, \$113,200
MONTREY, Monterey County, Calif.

Hartnell and Webster Streets.

One-story and basement Class A steel frame Spanish type post office (terra cotta exterior).

Owner—United States Government.

Architect—Wm. O. Raiguel, Del Monte

Contractor—K. E. Parker Co., 135 So. Park, San Francisco.

SAN FRANCISCO.—Until July 28, 2 P. M., bids will be received by Superintendent of Lighthouses, 425 Customhouse, for reconditioning boiler room and bunkers of Lightship No. 76 to provide for use of oil fuel; furnishing and installing two water tube boilers with oil burning equipment. Previous bid call providing that the Government furnish boilers has been withdrawn. Specifications obtainable from above office.

CLE ELUM, Wash.—Sheffield Steel Corp., Kansas City, Mo., at \$17,552.50 awarded contract by U. S. Reclamation Bureau to furnish reinforcing bars for Cle Elum Dam.

Bids Wanted—To Close Aug. 9.
POST OFFICE Cost, \$150,000
CEDAR CITY, Utah.

Class A post office.
Owner—United States Government.
Plans by Supervising Architect, Washington, D. C.

Bids Wanted—To Close August 23.
POST OFFICE Cost, \$75,000
TOOELE, Utah.

Class A post office.
Owner—United States Government.
Plans by Supervising Architect, Washington, D. C.

ALBUQUERQUE, N. M.—Until August 2, bids will be received by U. S. Veterans' Bureau, Arlington Building, Washington, D. C., to construct fence, wall and wire gate at the U. S. Veterans' Hospital at Albuquerque. Plans obtainable from above office. Previously reported to be opened August 10, which was in error.

SEATTLE, Wash.—Until August 17, 2 P. M., bids will be received by Supervising Architect, Treasury Department, Washington, D. C., to install transformers and electrical service, etc., at the U. S. Marine Hospital at Seattle. Plans obtainable from above office.

BILLINGS, Montana.—E. A. Moline, Jamestown, N. D., at \$143,025 submitted low bid to Supervising Architect, Treasury Department, Washington, D. C., to construct addition to and remodeling of the Billings postoffice. Bids previously received on this project were rejected, the lowest being submitted by Rosen and Fischel of Chicago at \$169,000. An appropriation of \$160,000 is available for construction. Complete list of bids follows:

E. A. Moline, Jamestown, North Dakota, \$143,025.
Geo. Griffiths Const. Co., St. Louis, \$147,677.
McGough Bros., St. Paul, Minn., \$152,042.

McCarthy Bros. Const. Co., St. Louis \$152,825.
Mead & Mount Const. Co., Denver, \$153,500.

Geo. A. Whitmeyer & Sons, Ogden, Utah, \$159,718.

Loving-Dongbotham Co., St. Paul, Minn., \$160,489.

Hiram Lloyd Bldg. & Const. Co., St. Louis, \$161,764.

Immel Const. Co., Fon du Lac, Wis., \$162,834.

S. W. Jonason & Co., Aberdeen, S. Dakota, \$162,380.

Schuler & McDonald, Oakland, Cal., \$170,844.

Chas. Weitz's Sons, Inc., Des Moines Iowa, \$171,340.

WASHINGTON, D. C.—Bids are being received by the Bureau of Supplies and Accounts, Navy Department, Washington, D. C., to furnish and deliver supplies and equipment for various Pacific Coast navy yards and stations, further information concerning the schedules listed being obtainable from the Navy Purchasing Office, 100 Harrison St., San Francisco.

Bids Close July 26

Mare Island, 12,000 lbs. manganese linoleate; sch. 8356.

Mare Island, 20,000 lbs. ester gum, and 5000 lbs. yucca gum; sch. 8359.

Mare Island, 10,000 lbs. wax; sch. 8358.

Mare Island, 12,100 lbs. corrosion resisting steel; sch. 8363.

Mare Island, 829 steam and water valves; sch. 8365.

Mare Island, screw type pump; sch. 8349.

Various yards, zinc, plate, sheet and slab; sch. 8321.

Mare Island, 1 panel body motor truck; sch. 8367.

Mare Island, 84,000 lbs. admiralty metal condenser tubes; sch. 8372.

Western yards, rods, welding, brass, iron and steel, etc.; sch. 8371.

Western yards, bar steel; sch. 8364.

Mare Island, 1 motor driven pipe cutting and threading machine and 6 sets spare brushes; Puget sound, do; sch. 8368.

Bids Close Aug. 2.

Mare Island, 90 gasoline torches; sch. 8373.

San Diego, 8 electric drills; Mare Island, 35 do; Puget Sound, 21 do; sch. 8375.

ALAMEDA, Alameda Co., Cal.—Healy Tibbitts Construction Co., 44 Pine St., San Francisco, at \$46,540 awarded contract by U. S. Bureau of Public Roads, for piling and foundation work for Units 12, 13, 14, 15, 16 and 17 on the 15 acre tract at Government Island, Alameda. Unit prices published in issue of June 10.

PACIFIC COAST—Plans and specifications are being prepared by the Bureau of Yards and Docks, Navy Department, Washington, D. C., for the following projects in connection with Pacific Coast Navy Yards and Stations:

Spec. 6960 Dredging Alirstrang, San Diego, Calif., \$5000.

Spec. 6959 Painting Bldgs., Cholias Heights, San Diego, Calif., \$3000.

Spec. 6957 Bakery and Galley Equipment, Sunnyvale, Calif., \$24,000.

Spec. 6956 Miscellaneous Facilities in hangar, Sunnyvale, \$150,000.

Spec. 6939 Officers' Quarters, Sunnyvale, \$100,000.

Spec. 6938 Wire Fencing, Lanuaulei, T. H., \$13,000.

Spec. 6935 Railroad Tracks, Sunnyvale, \$70,000.

Spec. 6922 Installing Boiler, Training Station, San Diego, \$6000.

Spec. 6895 Quarters, Roads and Services, Hospital, Balboa, C. Z., \$130,000.

Spec. 6857 Fuel Oil Tank, Mare Island, \$13,000.

Spec. 6852 Refrigerating Commissary Building, Sunnyvale, \$20,000.

Spec. 6841 Fencing Barracks, Training Station, San Diego, \$2700.

Spec. 6819 Partitions, Engineers Aircraft Building, Pearl Harbor, \$25,000.

Low Bidders.
BUILDINGS Cost, \$—
SUNNYVALE, Santa Clara Co., Cal.

Five buildings (aerological building, gate house, bachelor officers' quarters, cafe and recreation building); involving concrete work

stucco finish, pan and covered, the roofing, heating and electric work, lathing and plastering, plumbing, etc. Spec. No. 6874.

Owner—United States Government.
Plans by Bureau of Yards and Docks,

Navy Dept., Washington (D. C.)
Low Bidder — A. Nelson, 242 Ocean

Ave., San Francisco, at \$233,000.

Robert McKee, Los Angeles, second low at \$237,900; Lee Epp, San Francisco, third at \$238,000.

Complete list of bids will be published shortly.

(8775) 1st report June 2; 3rd June 11.

Contract Awarded.
POST OFFICE Cont. Price, \$169,000
LONGVIEW, Washington.

Class A post office.
Owner—United States Government.
Architect—Boeb & Gould, Hoge Bldg., Seattle.

Contractor—A. M. Lundberg, Railway Exchange Bldg., St. Louis.

SAN DIEGO, Cal.—Until July 26, 11 A. M., under Specification No. 6969, bids will be received by Public Works Officer, Eleventh Naval District, for insulating covering of two fuel oil heaters at the Naval Operating Base (Fuel Depot) San Diego. The work will include the removal of present insulated covering on two fuel oil heaters in place, and the provision and installation of new insulating covering to take the place of removed covering. Specifications obtainable from above office on deposit of \$10, returnable, checks for same to be made payable to Chief of the Bureau of Yards and Docks.

HALLS AND SOCIETY BUILDINGS

Plans To Be Prepared.
MEMORIAL Cost, \$—
SAN LEANDRO, Alameda Co., Cal.

Veterans' Memorial.
Owner—County of Alameda.
Architect—Henry H. Meyers, K o h l Bldg., San Francisco.

Plans Being Completed.
ALTERATIONS Cost, \$25,000
NAPA, Napa Co., Cal.

Alterations to second floor of Masonic Temple (banquet facilities will be provided).

Owner—Masonic Hall Association.
Architect—Reed & Corlett, Oakland Bank of Savings Bldg., Oakland.
Bids will be asked shortly.

Preparing Working Drawings.
LODGE BLDG. Cost, \$18,000
SANTA CRUZ, Santa Cruz Co., Cal.

No. 306 Pacific Ave.
Three-story reinforced concrete lodge building.

Owner—Royal Order of Moose (E. C. Kramer, Secretary), Santa Cruz.
Architect—Edwards & Schary, 550 Montgomery St., San Francisco.

Plans Completed.
CLUB HOUSE & STORE Cost, \$35,000
LOS ANGELES, Cal. 350 S Bonnie

Brae Street.

Two-story Class C brick club house and stores (84x95) 14 rooms, terra cotta bulkheads, cast stone trim, rondel glass, parquetry, etc.

Owner—Six-Twenty-One Building Club of Knights of Columbus.

Architect—Henry C. Newton and R. D. Murray, Architects' Bldg., Los Angeles.

HOSPITALS

STOCKTON, San Joaquin Co., Cal.—Until August 1, 11 A. M., bids will be received by Eugene D. Graham, county clerk, to furnish X-ray apparatus and accessories and install same at the San Joaquin General Hospital near French Camp. Certified check or surety bond 10% payable to Chairman of Board of Supervisors required with bid. Specifications obtainable from W. Y. Trettheway, county purchasing agent, on deposit of \$5, returnable.

Plans Being Completed.

HOSPITAL Cost, \$70,000
REDDING, Shasta Co., Cal.
 One and two-story reinforced concrete hospital (24x36 feet); two ward wings and composition roof, steam heating system.

Owner—County of Shasta.
 Architect—Otto Deichmann, 110 Sutter St., San Francisco.

HOTELS

LOS ANGELES, Cal.—County Mechanical Engineer Wm. Davidson has completed plans and bids will be asked shortly by the county supervisors for a 1-story and clerestory utility building to be erected at the County Farm at Hondo, near Downey. Contracts will be advertised as follows: (1) General; (2) Plumbing, gas-steam heating, and ventilating; (3) Electrical work. The building will be one-story, with clerestory, 101x33½ ft., with portico 13 ft. wide along the south side. Brick walls, Spanish tile roof.

Plans Being Figured—Bids Close Aug. 11 A. M.
MEDICAL BLDG. Total cost, \$600,000
SAN FRANCISCO, Second and Parnassus Avenues.
 Seven-story and basement steel frame and concrete medical building (340 ft. overall) steel beams, composition roof.

Owner—Regents of the University of California.
 Architect—Wm. C. Hays, Crocker 1st National Bank Bldg.
 Mechanical Engineer—Frank Walsh, care architect.
 Structural Engineer—W. L. Huber, 1 Montgomery Street.

ICE AND COLD STORAGE PLANTS

Steel Contract Awarded.
STORAGE PLANT Cost, \$—
SANTA ROSA, Sonoma Co., Cal. 9th and Wilson Streets.

Rebuild ice cold storage plant (concrete, steel and timber construction).

Owner—Grace Bros., Santa Rosa.
 Engineer—L. H. Nishkian, 525 Market St., San Francisco.

Structural Steel—Western Iron Works
 141 Beale St., San Francisco.
 Approximately 38 tons involved.
 Following is a list of steel bids:

| | |
|-------------------------------|---------|
| | Per Ton |
| Western Iron Works, S. F. | \$ 54 |
| Sims & Gray, San Francisco | 100 |
| Judson-Pacific Co., S. F. | 104 |
| McClintie Marshall Co., S. F. | 105 |

As previously reported, reinforcing steel awarded to Gunn, Cagle & Co., 20 Potrero Ave., S. F.; lumber to Rolando Lumber Co., 301 Berry St., S. F. Concrete is being done by day's labor.

POWER PLANTS

Contract Awarded.
TRANSFORMER STA. Cost, \$4100
ALAMEDA, Alameda Co., Cal. Government Island.
 Superstructure for two transformer stations (holow tile construction and brick facing).

Owner—United States Government.
 Plans by U. S. Bureau of Public Roads
 Contractor—C. Monson, 475 Sixth St., San Francisco.

ST. HELENS, Ore.—City contemplates municipally owned power plant, Diesel operated; estimated cost \$225,000 to \$300,000. A committee has been appointed to investigate the proposal.

LOS ANGELES, Cal.—Until 11 A. M. July 23, bids will be received by Thos. Oughton, City Purchasing Agent, 107 City Hall, for five 37,000-volt, outdoor type oil circuit breakers, f.o.b. cars or trucks, 1630 N Main St. Specification No. 2359.

PUBLIC BUILDINGS, FIRE HOUSES AND JAILS

PACIFIC COAST—See "Government Work and Supplies" in this issue. Construction contemplated by the Bureau of Yards and Docks, Navy Department, Washington, D. C., in connection with Pacific Coast Navy Yards and Stations.

RESIDENCES

To Ask Bids.
RESIDENCE Cost, \$—
RIVERSIDE, Riverside County, Calif. Prince Albert Drive.
 Two-story frame and stucco residence (11 rooms) knotty pine trim, pine and rubber tile floors, brass plumbing, landscaping, etc.
 Owner—Henry F. Keil, Jr.
 Architect—Garrett Van Pelt, Jr., 51 S Euclid Ave., Pasadena.

Contract Awarded.
RESIDENCE Cost, \$—
ALAMEDA, Alameda Co., Cal. Santa Clara Avenue.
 Two-story and basement frame and stucco residence (8 rooms and 3 baths). English type, shingle roof.
 Owner—Dr. D. D. Stafford.
 Architect—W. E. Schirmer, Financial Center Bldg., Oakland.
 Contractor—Jensen & Pedersen, 3443 Adeline St., Oakland, at \$6196.

Preparing Working Drawings.
RESIDENCE Cost, \$15,000
ROSS, Marin Co., Cal.
 Two-story and basement frame and white shakes residence (8 rooms, 4 baths) slate roof, gas heat, hardwood floors, etc.
 Owner—E. H. Maggard, San Rafael.
 Architect—Warren C. Perry, 260 California St., San Francisco.

Bids will be asked in about two weeks.

Plans Being Completed.
RESIDENCE Cost, \$27,500
SAN RAFAEL, Marin Co., Cal.
 Two-story and basement frame and brick veneer residence (12 rooms, 4 baths (tile roof, Spanish tile, automatic oil furnace, hardwood floors, electric refrigeration, colored tile baths and kitchen, etc.)
 Owner—A. L. Stewart (San Rafael Military Academy) Fifth and Cottage Sts., San Rafael.
 Architect—S. Heiman, 57 Post Street, San Francisco.

Bids will be asked in about 1 week.

Plans Being Prepared.
DUPLEX RESIDENCE Cost, \$12,500
SAN FRANCISCO, Mission District.
 Two-story and basement frame, stucco and brick veneer duplex residences (2 4-room & 2 5-room) asphalt & tile roof, warm air furnaces, gas heat, tiled baths and kitchens, hardwood floors, electric refrigeration.
 Owner and Builder—Gust L. Peterson, 12 Montezuma St., San Francisco.
 Plans by L. O. Berg, 675 Corbett Ave., San Francisco.
 Sub-bids will be taken in about one week.

Contract Awarded.
RESIDENCE Cost, \$—
WEST LOS ANGELES, Cal. 354 Hillgard Avenue.
 Two-story and basement, brick veneer frame and stucco residence (48x60) 14 rooms, stone floor, solarium, laundry, servants' quarters, etc.
 Owner—Byron T. Story.
 Architect—Not Given.
 Contractor—W. B. and W. L. Lammann, 1215 S Wooster St., Los Angeles. 14

Plans Being Completed.
RESIDENCE Cost, \$—
WATSONVILLE, Santa Cruz Co., Cal. One-story residence (brick construction; 12 rooms, 5 baths).
 Owner—W. N. Cuming, E Lake St., Santa Cruz.
 Architect—W. W. Wurster, 260 California St., San Francisco.
 Bids will be asked in about 10 days.

Preparing Working Drawings.
RESIDENCE Cost, \$15,000
ROSS, Marin Co., Cal.
 Two-story and basement frame and white shakes residence (9 rooms, 4 baths) slate roof, gas heat, hardwood floors, etc.
 Owner—E. H. Maggard, San Rafael.
 Architect—Warren C. Perry, 260 California St., San Francisco.
 Bids will be asked in about 3 weeks.

Preparing Plans.
RESIDENCE Cost, \$10,000
SAN FRANCISCO, Clarendon Heights
 Two-story and basement frame and stucco residence (6 rooms and 2 baths); English type; shingle, tile or slate roof, etc.
 Owner—Withheld.
 Architect—Martin J. Rist, Phelan Bldg., San Francisco.

Preparing Plans.
RESIDENCE Cost, \$14,000
SAN FRANCISCO, St. Francis Wood
 Two-story and basement frame and stucco residence (8 rooms and 2 baths).
 Owner—Withheld.
 Architect—Martin J. Rist, Phelan Bldg., San Francisco.

Plans Being Figured—Bids Close July 20th, 2 P. M.

RESIDENCE Cost, \$14,000
SAN FRANCISCO, Sea Cliff District No. 1 Division.
 Two-story and basement frame, stucco and brick residence (8 room and 3 baths); tile roof, gas steam heating system, canvas walls and ceiling painted, electric refrigeration, hardwood floors and trim, tile baths, kitchen and pantry.
 Owner—Mr. Lusk.
 Architect—Milton W. Morrison, 601 42nd Ave., San Francisco.

SCHOOLS

Plans Being Completed.
HOUSE OF STUDIES Cost, \$55,000 (1st unit)
OAKLAND, Alameda Co., Cal. Chabot Road and College Ave.
 Three-story and basement steel frame and brick veneer house of studies (main wing, 140x36-ft.) concrete basement, cast stone trim, slate roof.
 Owner—College of Saint Albert, The Great (Dominican) House of Studies) Steiner and Bush Streets San Francisco.
 Architect—Arnold Constable, 550 Market St., San Francisco.
 Bids will be asked about August 1.

SAN FRANCISCO—Until July 25, 8 P. M. bids will be received by S. T. Hester, secretary, Department of Public Works, for painting schools in various sections of the city as follows: Parkside, Elgin School, Frederick and Willard Streets.

Elgin School of Commerce, Fell and Franklin Streets.
Blancett School, Filbert and Taylor Streets.
Columboe Station School and Annex, Washington between Powell and Stockton Streets.
Madison School, Clay St. bet. Cherry and Arguello Blvd.
Tasha Burns School, Broadway St. bet. Fillmore and Webster Streets.
Burner School, Lane St. bet. Newcomb and Oakdale Ave.
Specifications obtainable from Bureau of Architecture, 205 City Hall.

SACRAMENTO, San Mateo Co., Cal.—Until July 25, 8 P. M. bids will be received by W. S. Grimsinger, Clerk, Burlingame Grammar School District, 200 Kensington and addresses as the Edward Kenyon School, involving an additional classroom and lunchroom. Plans obtainable from District Superintendent L. D. Henderson, 701 Paloma Ave., Burlingame.

Plans Being Completed.
SCHOOL Cost approx \$41,000
WENDEL, Kings Co., Cal.
Two-story brick grammar school. Street walls, concrete foundations, wood floors, tile roof, etc.
Owner—Sunset Head Brannan School District.
Architect—Ernest J. Kuny, Rowell Bldg., Fresno.
Plans will be completed within two or three weeks.

Contract Awarded.
COLLEGE BLDG. Cost, \$175,000
PASADENA, Los Angeles Co., Cal.
Two-story reinforced concrete college building. Metal's fl., asbestos roof, steel sash, granite work, bronze work, hydro-electric elevator, etc.
Owner—Pasadena Institute of Technology.
Plans by Eng. Dept. of Owner.
Mechanical Eng'rs.—Huntz & Hudson, 40 Sutter St., San Francisco.
Contractor—E. Westman Co., 556 E. Broadway, Pasadena.

Plans Being Prepared.
OFFICES Cost, \$450,000
SEATTLE, Wash. SW Seventh Ave. and Stewart St.
Eight-story and basement and sub-basement reinforced concrete Meade-Terrace Bldg. (steel frame for basement and sub-basement) site is 111x214 feet.
Owner—Interest represented by Arthur Gehlb, Tangle Tower, Seattle, Wash.
Architect—Earl Morrison, Lloyd Bldg., Seattle, Wash.

Plans Being Completed.
SCHOOL Cost, \$230,000
VALLEJO, Solano Co., Cal.
Two-story Junior High School. Reinforced concrete exterior walls, fire resistant construction on interior. 1st and 2d fls. floor in classrooms, kitchen in corridors, steam heating system with vacuum pump.
Owner—Vallejo Junior High School District, Elmer D. Cave, Secretary, Board of Education.
Architect—Frederick H. Belmers, 222 First St., San Francisco and Davis-Purcell Co., Grant and Weber Sts., Stockton, Associated.
Bids will be asked shortly.

SACRAMENTO, Cal.—Until July 25, 8 P. M. bids will be received by Chas. C. Hughes, Secretary, Board of Education, to furnish laboratory supplies and equipment for schools. Specifications obtainable from Business Manager Board of Education, 21st and L Sts., Sacramento.

Bldg. Opened.
TANK & TOWER Cost, \$—
BAKERSFIELD, Kern Co., Cal.
Water tank and tower.
Owner—Kern County High School District, Bakersfield.
Architect—Chas. H. Egggar, Haberfeld Bldg., Bakersfield.
Low Bidder—Consolidated Steel Corp., 1201 N Main St., Los Angeles, 43-130.

Following is a complete list of the bids:
Consolidated Steel Corp., L. A. \$3,200
McCann-Marshall Corp. \$2,323
Fell Oesperman \$5,500
Mississippi-Moline Power Imp. \$724
Western Pipe & Steel Co. \$4,012
Chicago Bridge & Iron Works \$4,290
Pittsburgh-Des Moines Steel Co. \$4,450
Bids bid under advisement.

BANKS, STORES & OFFICES

SAN FRANCISCO—Andrew Williams, Bowling Drive and Country Club Road, Oakland, is considering sites for a group of retail food stores, the first unit to be erected in San Francisco. A new corporation is now being formed and further information will be given shortly.

Contract Awarded.
STORE Cost, \$50,000
FRESNO, Fresno Co., Cal. No. 1022-1023 Fulton Street.
Remodel existing store.
Owner—Fisher Glassford Hardware Co., Fresno.
Plans by Eng. Dept. of Lessee.
Lessee—W. T. Grant Co., 1441 Broadway, New York City (H. T. Williams, Chief Engineer).
Contractor—Fisher & McNulty, Martini Bldg., Fresno.

Plans Being Prepared.
ALTERATIONS Cost, \$10,000
SACRAMENTO, Sacramento Co., Cal. No. 510 K St.
Alterations to store (plaster front, general remodeling).
Owner—N. Turton.
Architect—W. E. Coffman, Forum Bldg., Sacramento.
Lessee—E. W. Myers Co., 222 K St., Sacramento.
Bids will be asked in about two weeks.

THEATRES

Contract Awarded.
REMODEL THEATRE Cost, \$40,000
SANTA ROSA, Sonoma Co., Calif. B Street.
Remodel one- and two-story concrete theatre (1900 seating capacity) refurbish and redecorate, new carpeting, re-arrangement of foyer, new lighting fixtures, etc.
Owner—T. & D. Junior Enterprises, 25 Taylor St., San Francisco.
Plans by Eng. Dept. of Owner.
Contractor—Sally Bros., 25 Taylor St., San Francisco.

WHARVES AND DOCKS

Contract Awarded.
EXTEND DOCK Cost, price, \$65,777
SAN FRANCISCO, Port Mason.
Extend Dock No. 2 (reinforced concrete and steel construction, 4-ft. cylinder, with seven piles to each

cylinder, beam steel frame, rail-road tracks, crested piles, dunnage piles, crested timber).
Owner—United States Government.
Plans by Constructing Quartermaster, Fort Mason.
Contractor—Dunanson-Hartelson Co., 6 Young Bldg.
NOTE: The proposal to construct a second unit in this project has been abandoned due to failure to secure the necessary funds.

Plans Being Completed.
CARGO APRONS Cost, \$—
SAN FRANCISCO, Pier No. 30.
Wooden cargo aprons and machinery in connection with same.
Owner—State of California (State Harbor Board).
Engineer—F. G. White, Ferry Bldg.
Bids will be asked in about one week.

MISCELLANEOUS CONSTRUCTION

Planned.
DOG TRACK Cost, \$—
SAN JOSE, Santa Clara Co., Cal.
Dog racing track.
Owner—Dumas O'Neill, First National Bank Bldg., San Jose.
Architect—Not Selected.
Proposed project is in a very preliminary stage.

SAN BRUNO, San Mateo Co., Cal.—John Zaro, Hensley Ave., San Bruno representing Hensley operators, will file application with the San Bruno city trustees shortly seeking a permit to establish a dog track on a site in Snead's Lane opposite Tanforan. Will be known as the San Bruno Kennel Club. Approximately \$200,000 will be expended on the project.

Plans Completed.
MORTUARY Cost, \$50,000
SAN FRANCISCO, NW Masonic Ave. and Golden Gate Ave.
One and two-story Class A mortuary and chapel (5x115 feet); tile roof, steam heating system, etc.
Owner—Carew & English, 1618 Geary St., San Francisco.
Engineer—John G. Little, 251 Kearny St., San Francisco.
Bids will be asked shortly.

Preparing Working Drawings.
RACE TRACK Cost, \$1,200,000
ARCADIA, Los Angeles Co., Cal. Santa Anita Rancho; 207-acre tract.
Concrete and steel grandstand (500 ft. long) to seat 30,000; three-story frame and stucco clubhouse, paddock, residences, hospital, etc.
Owner—Jos. M. Smoot, 904 Title Guarantee Bldg., Los Angeles.
Architect—A. R. Walker and P. A. Eisen, Ltd., Signal Oil Bldg., Los Angeles.
Segregated bids will be asked shortly.

Plans Being Completed—Permit Applied For
MAUSOLEUM \$30,000 (1st unit)
SANTA ROSA, Sonoma Co., Cal.
Reinforced concrete mausoleum (marble and bronze interior, bronze doors, etc.)
Owner—United Mausoleum Co. (E. B. Perrin).
Architect—F. H. Slocombe, 3830 Harrison St., Piedmont.
Contractor—A. M. Hildebrandt, 406 Fourth St., Santa Rosa.

MEMBERS OF THE ASSOCIATED GENERAL CONTRACTORS PACIFIC COAST AND INTERMOUNTAIN TERRITORY

CALIFORNIA STATE BRANCH

1318 Pershing Square Bldg.—Trinity 9418—Los Angeles

O. C. STRUTHERS, President

E. L. KIER, Vice-President

GEORGE HERZ, Secretary

MELVILLE DOZIER, JR., Manager

NORTHERN CALIFORNIA CHAPTER

206 Sansome St.—Garfield 7107—San Francisco, Calif.

C. W. Wood, President

Geo. G. Pollock, Vice-President

Floyd O. Booe, Secretary-Manager

| | | |
|--|---|--------|
| Atkinson, Lynn S. (HPR)..... | 1316-17 Edwards & Wilder Bldg., L. A., Tr. | 7451 |
| Atkinson, Guy F., Co. Inc. (BHPR) 601 Russ Bldg., S. F., Sut. | | 3629 |
| Ball, N. M. (HPR)..... | 1889 Yosemite Rd., Berkeley, AS. | 6722 |
| Basalt Rock Co., Inc. (H)..... | 900 8th St., Napa, Napa | 105 |
| Bechtel Co. W. A. (BHPR)..... | 155 Sansome St., S. F., GA. | 0780 |
| Bevanda, M. J. (HP)..... | 319 Elks Bldg., Stockton | 7470 |
| Bishop, E. B. (HP)..... | 400 Forum Bldg., Sacramento | 2456 |
| Bodenhamer Const. Co. (HPR)..... | Box 643, 354 Hobart St., Oakland, Glencourt | 5022 |
| Calif. Const. Co. (BHPR)..... | 175 Standard Oil Bldg., S. F., DO. | 4820 |
| Casson, Jack A. (HP)..... | 1950 54th St., Hayward | 856 |
| Clark & Henery Const. Co. (HP)..... | 564 Market St., S. F., DO. | 2903 |
| Colley, W. C. (HPR)..... | 35 Northampton Ave., Berkeley, ASH. | 1323 |
| Conner, J. L. (HP)..... | P. O. Box No. 86, Monterey | 1137-M |
| Connelly, T. E. (BHPR)..... | 461 Market St., S. F., Kearny | 6498 |
| Conys, R. A. (HPR)..... | 1043 38th St., Oakland, Olym. | 9391 |
| Currie, James (HPR)..... | 1100 Peninsula Ave., Burlingame, Burl. | 3497 |
| Delin, C. M. (HPR)..... | 206 Sansome St., San Francisco, Gar. | 7107 |
| Dodge Bros. Inc. (HP)..... | Fallon, Nevada, Main | 1761 |
| Drumm, A. D., Jr. (HP)..... | Fallon, Nevada, Main | 4107 |
| Eaton & Smith (HPR)..... | 715 Ocean Ave., San Francisco, DE. | 6700 |
| Fairbanks, A. J. & J. L., Inc. (HPR)..... | Linden Ave., So. S. F., CA. | 436 |
| Fay Improvement Co., The (HPR)..... | Sheehan Bldg., S. F., KE. | 4044 |
| Fitzmaurice, J. (HP)..... | 4857 Hinnah, Oakland, Higate | 2490 |
| Force Const. Co. (HP)..... | 70 Bellevue, Piedmont, Calif., HU. | 9349 |
| Franks Contrtg. Co. (RPW)..... | 260 California St., S. F., Doug. | 6684 |
| Fredrickson Bros. (BHP)..... | First Nat'l. Bank Bldg., Stockton | 5974 |
| Fredrickson & Watson Const. (BPHR)..... | 873 81st Ave., Oakland, SW. | 1264 |
| French, George J., Jr. (HP)..... | P. O. Box No. 675, Stockton | 6676 |
| Gerwick, Ben C., Inc. (HP)..... | 112 Market St., S. F., SU. | 8454 |
| Granite Construction Co. (BHPR)..... | Watsonville, California | 4048 |
| Hanrahan Co. (HP)..... | Hobart Bldg., San Francisco, GA. | 1639 |
| Harney, Charles L. (HP)..... | 74 New Montgomery St., S. F., CA. | 1711 |
| Hauser, W. H. (HPR)..... | 3129 E. 7th St., Oakland, Fruitvale | 6790 |
| Heafey-Moore Co. (HP)..... | 44 High St., Oakland, AN. | 0466 |
| Hemstreet & Bell (HP)..... | 411 "C" Street, Marysville, | 433 |
| Hodgman & MacVicar (HP)..... | 714 Plymouth, Pasadena, Ter. | 1563 |
| Holland, J. P., Inc. (HPR)..... | 1834 McKinnon Ave., S. F., MI. | 5400 |
| Isbell Const. Co. (HP)..... | Carson City, Nev., Ph. 1754 (Also Fresno) | 6044 |
| Jenkins, M. A. (HP)..... | 3560 Y St., Sacramento Capital | 472 |
| Jones & King (HPR)..... | Hayward, Calif., Hay. | 74 |
| Kaiser Paving Co. (BHPR)..... | Latham Square Bldg., Oak., HI. | 2614 |
| Knapp, J. F. (HPR)..... | 916 Financial Center Bldg., Oak., Cal. | 4537 |
| Larsen Bros. (HP)..... | Hayward, Calif., Hay. | 74 |
| Lee, U. B. (HP)..... | 10059 Carpenter St., San Leandro, Sweet. | 1717 |
| Le Tourneau, R. G. (HPR)..... | 122 Moss Ave., Stockton, AT. | 1971 |
| Lord & Bishop (HPR)..... | Native Sons Bldg., Sacramento, Main | 6081 |
| Lovelace, Nate (HP)..... | 4433 "N" St., Sacramento, Capital | 4900 |
| Malcom, C. T. (HPR)..... | Walnut Creek, Calif., W. C. | 277 |
| McDonald, D. (HPR)..... | 204 23rd St., Sacramento, Cap. | 1806 |
| McGillivray Const. Co. (HPR)..... | Box 927, Sacramento, Capital | 2170 |
| McMillan, W. K. (HP)..... | 2088 Howard St., San Francisco, MA. | 3876 |
| Mercer-Fraser Co. (BHPR)..... | Eureka, Eureka | 808 |
| Nevada Contracting Co. (HPR)..... | Fallon, Nevada, Reno | 1851 |
| Nevada Rock & Sand Co. (HP)..... | Reno, Nevada, Reno | 5291 |
| Nightbert, Fred W. (HP)..... | Box 927, Sacramento, Capital | 2170 |
| Pacific Pavements Co., Ltd. (HP)..... | 85 Barstow St., S. F., HE. | 4178 |
| Pacific States Construction Co. (HP)..... | Call Bldg., S. F., DO. | 0879 |
| Phillips, John, Co. (HP)..... | 582 Market St., San Francisco, KE. | 4471 |
| Pollock, Geo. Co. (HPR)..... | P. O. Box 903, Sacramento, Capital | 2170 |
| Robl, H. W., Co. (HPR) 4351 Alhambra Ave., Los Angeles, CH. | | 6141 |
| Six Companies, Inc. (BHPR) Financial Center Bldg., S. F., Gar. | | 3842 |
| Siems-Helmerts, Inc. (BHPR)..... | 206 Sansome St., S. F., DA. | 5235 |
| Skells & Gray (HP)..... | P. O. Box 927, Sacramento, Capital | 2170 |
| Tedford, J. N. (HP)..... | Fallon, Nevada, Main | 461 |
| Teichert, A. & Son, Inc. (HP) 1846 37th St., Sacramento, Main | | 6586 |
| Tieslau Bros. (HP)..... | 2819 Grove St., Berkeley, BE. | 8633 |
| Tucker, H. V. Co. (HPR)..... | 300 Vermont St., Berkeley, BE. | 7583 |
| Ulrich Const. Co., Geo. J. (BHP)..... | Modesto, Modesto | 921 |
| Von der Hellen & Pierson (HPR)..... | Castaic, Calif. | |
| Ward Engineering Co. (HP) 315 Montgomery St., S. F., Doug. | | 6072 |
| Wood, C. W. (HP)..... | 300 Vermont St., Berkeley, BE. | 7583 |
| Young, Clarence (HP)..... | 3250 Broadway Ter., Oakland, OIL. | 3743 |
| Young & Son Co., Ltd. (HP) 599 Colusa Ave., Berkeley, Berk | | 5594 |

Associate Members

| | | |
|---|--|------|
| American Bitumuls Co. (Bitumuls)..... | 200 Bush St., S. F., GA. | 6653 |
| Anderson Bros. Supply Co. (Commissary)..... | Boulder City, Nev. | |
| Andrews, F. T., Co. (C. P. A.)..... | 1650 Russ Bldg., S. F., GA. | 7712 |
| Associated Oil Co. (Asso. Prod.)..... | 79 N. Mont'y St., S. F., KE. | 4800 |
| Austin Western Road Machinery Co. (Road Machinery)..... | (Corrugated Pipe) | |
| ..... | 435 Brannan St., San Francisco, DO. | 2183 |
| Autocar Sales & Service Co. (Autocar Trucks)..... | | |
| Bacon, Edward R., Co. (Road Machinery)..... | 326 Howard, San Francisco, SU. | 1730 |
| ..... | Folsom and 17th Sts., San Francisco, HE. | 3700 |
| Blake Bros. Co. (Crushed Rock)..... | Balboa Bldg., S. F., KE. | 5320 |
| Calaveras Cement Co. (Cement)..... | 315 Montgomery, San Francisco, DO. | 4224 |
| Cement Gun Construction Co. (Gunite)..... | 5th & Parker, West Berkeley, BE. | 5420 |
| Contractors' Ins. Agency..... | 85 Second St., San Francisco, SU. | 8306 |
| Cowell Lime & Cement Co. (Cement)..... | 2 Market St., S. F., GA. | 4870 |
| Garfield & Co. (Equipment)..... | Hearst Bldg., San Francisco, SU. | 1036 |
| Geiger Iron Works (Equip.)..... | P. O. Box 423, Stockton, Stock. | 1898 |
| Granite Rock Co. (Crushed Rock)..... | Watsonville, Wat. | 988 |
| Harneschfeger Sales Corp. (Equip.)..... | 82 Beale St., S. F., DO. | 2313 |
| Harrow, Rickard & McCone Co. (Equip.)..... | | |
| ..... | 1600 Bryant St., San Francisco, UN. | 3740 |
| Link-Belt Co. (Equip.)..... | 400 Equip. Ave., San Francisco, DE. | 6400 |
| Marion Steam Shovel Co. (Power Shovels)..... | | |
| ..... | 571 Howard St., San Francisco, KE. | 7493 |
| Modern Vehicle Co. (Mfrs. Steel Dump Bodies)..... | | |
| ..... | 437 4th St., San Francisco, A. | 1402 |
| Murray & Ready (Labor Agency)..... | 784 Howard St., S. F., SU. | 1205 |
| Northwest Engineering Co. (Shovels)..... | 23 Main St., S. F., SU. | 7053 |
| Pacific Coast Aggregates..... | 700 Wells Fargo Bldg., S. F., SU. | 8940 |
| Pacific Coast Engineering Co. (Structural Steel)..... | | |
| ..... | Foot of W. 14th St., Oakland, HI. | 1322 |
| Pacific H. B. A. Steel Co., Inc. (Drill Steel)..... | | |
| ..... | 540 Brannan St., San Francisco, GA. | 6683 |
| Pacific Portland Cement Co. (Golden Gate)..... | | |
| ..... | Hunter-Dulin Bldg., San Francisco, GA. | 4100 |
| Pland-Evans (Commissary)..... | Merchants' Ex. Bldg., S. F., GA. | 5923 |
| Robinson Tractor Co. (Caterpillar Tractors)..... | | |
| ..... | 105-09 E. 12th St., Oakland, FR. | 2485 |
| ..... | 1175 Howard St., San Francisco | |
| Roebing's, Jno. A., Sons Co. (Wire Rope)..... | | |
| ..... | 646 Folsom St., San Francisco, GA. | 6490 |
| Santa Cruz Portland Cement Co. (Santa Cruz)..... | | |
| ..... | Crocker Bldg., San Francisco, GA. | 3307 |
| Shell Oil Co. (Shell Products)..... | 100 Bush St., S. F., EX. | 5400 |
| Soule Steel Co. (Reinforcing Steel)..... | 1750 Army St., S. F., VA. | 4141 |
| Spars-Wells Machinery Co. (Equip.)..... | 1832 9th St., Oak., HO. | 4100 |
| Standard Oil Co. of Calif. (Standard Products)..... | | |
| ..... | Standard Oil Bldg., San Francisco, SU. | 7700 |
| Traffic Service Bureau (Freight Audits)..... | 24 Calif. St., S. F., GA. | 6194 |
| Union Oil Co. of Calif. (Union Prod.) Mills Bldg., S. F., SU. | | 1400 |
| United Commercial Co. Inc. (Equip.)..... | 23 Steuart St., S. F., DO. | 0430 |
| Western Pipe & Steel Co. (Steel Pipe)..... | 444 Market, S. F., GA. | 6788 |

SOUTHERN CALIFORNIA CHAPTER

1318 Pershing Square Bldg.—Trinity 9418

Los Angeles, Calif.

C. G. FitzGerald, President

Melville Dozier, Jr., Manager

LYNN S. ATKINSON, First Vice-President (Engineering Div.)

WM. A. SIMPSON, Second Vice-President (Building Div.)

The address of the firm is the same city in which is located the Chapter office unless otherwise shown in membership list.

Building Contractors

| | | |
|---------------------------------------|--------------------------------------|-------|
| Atkinson, J. F. (HPR)..... | 1102 Story Bldg., Vandike | 7283 |
| Baruch Corp., Herbert M. (HPR)..... | 1015 Lincoln Bldg., Trinity | 5473 |
| Bradley Constr. Co., K. R. (HPR)..... | 1833 West Pico, Washington | 2786 |
| Burgin, W. Jay..... | 1100 Redondo Ave., Long Beach, L. B. | 81103 |
| Byerts & Dunn..... | 7908 Santa Monica Blvd., Crestview | 9602 |
| Clinton Construction Co. (HPR)..... | 1103 Spring Arcade Bldg., Madison | 2597 |
| Crowell, Wm. C. (HPR)..... | 495 S. Bdwy., Pasadena, Wakefield | 6692 |
| Crowell Co., Weymouth..... | 2104 E. 15th St., Westmore | 5708 |
| DeCamp-Hudson Co., Ltd. (HPR)..... | 1277 W. 24th St., Westmore | 3382 |
| Dixon, E. Co. (HPR)..... | 609 So. Grand Ave., Trinity | 4925 |
| Eschert Bros. (HPR)..... | 234 W. 37th Place, Adams | 6294 |

ALAMEDA COUNTY CHAPTER

354 Hobart St., Rm. 410—Glencourt 7400—Oakland, Calif.

S. G. Johnson, President H. J. Christensen, Treasurer
Geo. J. Maurer, Vice-President W. E. Hague, Manager

| | | |
|--------------------------|---------------------------|----------------------------|
| Hall, J. F. | 531 Douglas Bldg., | Mutual 6722 |
| Houghton & Anderson | 143 Rose St., | Mutual 5430 |
| K. P. Lowell & Co., Ltd. | 606 Union Bank Bldg., | Vandike 4072 |
| Macdonald & Driver | 311 Board of Trade Bldg., | Tucker 6467 |
| McKee, Robert E. | 1128 Central Bldg., | Trinity 0291 |
| Miller, Geo. E. | 401 N. Canon Dr., | B. H. Oxford 7404 |
| Simpson Construction Co. | 1007 Architects Bldg., | Mutual 7261 |
| Snell, Fred C. | 339 N. Beverly Dr., | Beverly Hills, Oxford 6409 |
| Willard-Brent Co. | 254 E. 27th St., | Richmond 2101 |

Bridges, Foundations

| | | |
|---------------------------|-------------------------|---------------|
| Ledbetter Co., W. M. | Box 1264, Arcade St., | Capitol 13415 |
| Oberg Brothers | 707 San Fernando Bldg., | Angelus 8759 |
| Raymond Concrete Pile Co. | 1008 Washington Bldg., | Vandike 6536 |

Highways, Paving, Grading

| | |
|-----------------------------|--|
| Basich Bros. | Torrance, Gardena 446 |
| Bock, Geo. J. | 1007 S. Harvard, Empire 7614 |
| Donovan & Sons, J. C. | 4031 Goodwin Ave., Olympic 0423 |
| Ferry, Peter L. | San Fernando Rd. and Bdwy., Glendale, OL. 0164 |
| Fleming Construction Co. | Pomona |
| Griffith Company | L. A. Railway Bldg., Westmore 9343 |
| Hall-Johnson Co. | P. O. Box 387, Alhambra, Eliot 1855 |
| Herz & Co., Geo. | 310 Platte Bldg., San Bernardino, S. B. 241-42 |
| Heuser, Chas. U. | 316 Allen Ave., Glendale, DOubglas 3965 |
| Hudson, Chas. H. | 408 Rivers-Strong Bldg., Vandike 3374 |
| John & Bressler | 701 Lane Mortgage Bldg., Trinity 8674 |
| Lang Transportation Co. | 5501 Santa Fe Ave., Jefferson 3104 |
| Lewis Construction Co. | 300 S. Juanita St., Washington 1407 |
| Packard & Tanner | 905 W. Latham St., Phoenix, Ariz. |
| Pearson & Dickerson | 4485 Cypress, Riverside, 1600 |
| Ross, M. S. | 4011 Goodwin Ave., Capitol 7603 |
| Wells & Bressler | P. O. Box 596, Santa Ana, 227 |
| Willis, C. G., & Sons, Inc. | 2119 E. 25th St., Lafayette 9826 |

Pipe Lines, Water Works

| | |
|----------------------------|--|
| American Concrete Pipe Co. | P. O. Box 1428, Arcade Sta., JE. 4211 |
| Haverty Co., Thos. | 316 E. 8th St., Vandike 1171 |
| United Concrete Pipe Co. | Box 1, Station H. L. A., TWinooks 9196 |

Subways, Conduits

| | |
|------------------------|-----------------------|
| Delta Construction Co. | P. O. Box 79, Compton |
|------------------------|-----------------------|

General Engineering

| | |
|--------------------------------|--|
| Atkinson, Lynn S. | 609 S. Grand, TRinity 7451 |
| Bartmus, Peter | Hollywood Riviera, Redondo, Redondo 6404 |
| Bert Bros., Inc. | 418 S. Pecan St., Angelus 7510 |
| Campbell-Reichert Co. | 4000 Whiteside Ave., Angelus 0598 |
| Cox, R. L. | 1100 Westminster, ALhambra 1699 |
| Emco Conc. Cutting Corp. | 1517 Santa Fe Ave., Vandike 7168 |
| Fitz-Gerald Eng. & Constr. Co. | 216 Rowan Bldg., TRinity 5088 |
| Foley, D. A., Construc. Co. | 716 Grant Bldg., TUcker 7814 |
| Kemper Const. Co., Ltd. | 3701 Overland, Los Angeles |
| Macco Construction Co. | Hynes, JEfferson 1148 |
| Merritt-Chapman-Scott Corp. | P. O. Box 507, San Pedro, 2880 |
| Mitry Bros. Construction Co. | 722 Detweiler Bldg., Vandike 0210 |
| Morrison-Knudsen Co. | 411 West Fifth St., Mutual 7684 |
| Robinson-Roberts Co. | 706 Rivers-Strong Bldg., TRinity 2889 |
| Spicer, C. A. | 818 Financial Center Bldg., TUcker 9570 |
| Standard Dredging Co. | 325 Central Bldg., TRinity 3253 |
| Watson, R. A. | 1026 N. McCadden Pl., GRanite 4121 |

Affiliates

| | |
|------------------------------|--|
| Brashears & Co., G. | 501 Security Bldg., TRinity 5091 |
| Consolidated Rock Prod. Co. | 656 S. Los Angeles St., TRinity 0241 |
| Gilmore Oil Co. | 2423 E. 28th St., JEfferson 1211 |
| Graham Brothers | 1215 W. 7th St., Long Beach, L. B. 65251 |
| Hartford Accident & Ind. Co. | 548 S. Spring St., Madison 1471 |
| L. A. Brick Co. | 1078 Mission Road, Angelus 5684 |
| Sun Lumber Co. | Crescent Drive, Beverly Hills, Oxford 6191 |
| Union Oil Co. | Union Oil Bldg., TUcker 7211 |

| | |
|---------------------------|--------------------------------------|
| Brennan, J. P. (B) | 2820 Regent, Berkeley, BE. 0346 |
| Christensen, H. J. (B) | 1924 Broadway, Oakland, LA. 7164 |
| DeVelbise, C. Dudley (B) | 369 Pine St., S. F., GA. 3225 |
| Dyer Construction (B) | 337 17th St., Oakland, GL. 3203 |
| Furlong, Thos. H. L. (B) | 460 Jerome Ave., Piedmont, HU. 0620 |
| Jacobs & Pattiani (BP) | 337 17th St., Oakland, GL. 3203 |
| Johnson, S. G. (B) | 4652 Dolores Ave., Oakland, FR. 6650 |
| Keating, W. C. (B) | 925 Forum Bldg., Sacramento |
| Lesure, E. T. (B) | 87 Ross Circle, Oakland, OL. 0389 |
| Littlefield, R. W. (B) | 337 17th St., Oakland, HI. 0994 |
| Lyons, W. E. (B) | 354 Hobart St., Oakland, HO. 5325 |
| Maurer, George J. Co. (B) | 50 York Drive, Oakland, HU. 3457 |
| Nordstrom, David H. (B) | 354 Hobart St., Oakland, GL. 7400 |
| Pedgrift, James H. (B) | 4106 Broadway, Oakland, HU. 1300 |
| Petersen, George (B) | 1841 Bancroft, San Leandro, TR. 2043 |
| Petersen, James B. (B) | 4021 Agua Vista, Oakland, FR. 9887 |
| Schultz, Herbert (B) | 811 Mendocino, Berkeley, AS. 2360 |
| Sullivan & Sullivan (B) | 2653 Best Ave., Oakland, AN. 4724 |
| Thornally, W. G. (B) | 354 Hobart St., Oakland, GL. 8476 |
| Westlund, Fred J. (B) | 354 Hobart St., Oakland, GL. 7400 |

Associate Members

| | |
|--------------------------------|-------------------------------------|
| Calaveras Cement Co. | 315 Montgomery St., San Francisco |
| East Bay Glass Co. | 621 Sixth St., Oakland |
| Lannom Bros. Mfg. Co. | Fifth and Magnolia Sts., Oakland |
| Maxwell Hardware Co. | 1320 Washington St., Oakland |
| Melrose Building Materials Co. | 4591 Tidewater Ave., Oakland |
| Oakland Planing Mill | Second and Washington Sts., Oakland |
| Santa Cruz Portland Cement Co. | 354 Hobart St., Oakland |
| Sunset Lumber Co. | 400 High St., Oakland |
| Tilden Lumber Co. | Foot of University Ave., Berkeley |

SAN DIEGO CHAPTER

Spreckels Theater Bldg.—Main 4289—San Diego, Calif.

George R. Dalry, President M. A. Mathias, Manager
M. H. Golden, Vice-President

| | |
|--------------------------------|--|
| Carroll, B. C. | 4396 Maryland St., Hillcrest 5274-M |
| Daley Corporation (HP) | 4430 Boundary St., Randolph 1136 |
| Dennis Constr. Co., V. R. (HP) | Box 183, Sta. A, Hillcrest 8293 |
| Ford, E. Paul (HP) | Box 201, E. San Diego, Randolph 5101 |
| Golden, M. H. (B) | 404 California Bank Bldg., Franklin 7983 |
| Grove, Cecil B. | 4316 Island Ave., Franklin 7474 |
| Hazard Constr. Co., R. E. (HP) | 2508 Kettner Blvd., Franklin 6315 |
| Jarboe Constr. Co. (B) | 208 Spreckels Theatre Bldg., Franklin 3792 |
| Kier Const. Co., W. E. (B) | First National Bank Bldg., Main 2427 |
| Larsen, B. O. (B) | 1340 E St., Main 4752 |
| Miracle Constr. Co. (HP) | Box 601, E. San Diego, Main 2295 |
| Penick & Sons, T. B. (HP) | 3075 L St., Main 4582 |

PACIFIC NORTHWEST BRANCH

4134 Arcade Building, Seattle, Wash.

JAS. MURDOCK, President H. V. BOGERT, Rec. Secretary J. B. WARRACK, Treasurer
J. C. COMPTON, Vice-President P. L. CROOKS, Vice-Pres. and Secretary

PORTLAND CHAPTER

Multnomah Hotel—Atwater 7883—Portland, Ore.

Paul L. Crooks, President Philip Hart, 2nd Vice-President
Ross B. Hammond, 1st Vice-President J. A. Lyons, Treasurer
G. B. Herington, Executive Secretary

| | |
|--------------------------------|----------------------------|
| Baker Construction Co. (B) | Security Bldg., Atw. 9211 |
| Christensen, Fred, Inc. (BHP) | 187 E. 34th St., Ea. 8934 |
| Cochrane Construction Co. (HP) | 65th & Ainsworth, Tr. 5944 |

| | |
|-------------------------------------|--------------------------------------|
| Compton, J. C. (HP) | McMinnville, Ore., McM. 106 |
| Crooks, P. L. Inc. (HPR) | Henry Bldg., Atw. 7767 |
| Dann, J. J. (PHR) | 300 Henry Bldg., Atw. 5837 |
| Edlefsen-Weygand Co. (HP) | Foot of Jefferson, Atwater 4090 |
| Endicott, Wm. | Corvallis, Oregon |
| Gates, E. L. (HPR) | Eugene, Oregon |
| Gilpin Construction Co. (HPR) | Henry Bldg., Atw. 6220 |
| Greenwood, A. C. (HPR) | 500 N. Front St., Br. 3030 |
| Guthrie & Co., A. Inc. (BPHR) | 552 Sherlock Bldg., Atw. 8316 |
| Hammond, Ross B. (B) | 1312 Public Service Bldg., Atw. 2159 |
| Hauser Bros. Construction Co. (PHR) | Multnomah Hotel, Atw. 7441 |

Class of Construction: (B) BUILDING; (H) HIGHWAY; (P) PUBLIC WORKS; (R) RAILROAD.

| | | |
|-------------------------------------|---|------|
| Hoffman, L. H. (BP)..... | Public Service Bldg., Atw. | 3181 |
| Jacobsen-Jensen Co. (PH)..... | 407 Stanton, Gar. | 3313 |
| Johnson Contract Co. (HPR)..... | 414 Exchange Bldg., Atw. | 0678 |
| Johnson-Gardner Co. (HPR)..... | 414 Exchange Bldg., Atw. | 0678 |
| Kern & Kibbe (HPR)..... | 290 E. Salmon St., Ea. | 4116 |
| Kernan, F. J..... | Porter Bldg., At. | 2035 |
| La Pointe Constr Co..... | 1291 Cumberland Rd., Be. | 6000 |
| Lindstrom & Feigenson (BPHR)..... | 1991 Halsey St., Ta. | 9226 |
| Lyons, J. A. (BPHR)..... | 1001 Halsey St., Tr. | 2841 |
| Milne Constr. Co..... | 1853 E. Broadway, Tab. | 7277 |
| Morrison & Knudsen (BHPR)..... | 319 Broadway, Boise, Idaho | |
| Morgan, T. M. (H)..... | 5410 Wilshire Blvd., Los Angeles | |
| Newport Construction Co. (PHR)..... | 317 Exchange Bldg., Atw. | 5900 |
| Pacific Bridge Co. (BPHR)..... | Ft. of E. Salmon St., Ea. | 2164 |
| Parker & Banfield (BP)..... | 984 E. 17th St., Sel. | 6182 |
| Parker-Schram Co. (PHR)..... | Couch Bldg., Atw. | 4375 |
| Peck, E. C., & Co. (PH)..... | Aberdeen, Wash. | |
| Puckett, W. H. Co. (PHR)..... | 319 Broadway, Boise, Idaho | |
| Quinn, J. L. (B)..... | Box 1109, Klamath Falls, Ore. | |
| Rebman, J. (PH)..... | 343 Vancouver Ave., Tr. | 7825 |
| Robertson, Hay & Wallace (B)..... | 605 Weatherly Bldg., Ea. | 3613 |
| *Saxton & Looney..... | Corvallis, Ore. | |
| Seed, John S. (B)..... | 201 Worcester Bldg., Atw. | 6444 |
| | Honorary Member and Director of Chapter | |
| Shea & Co., J. F. (PHR)..... | 211 Henry Bldg., Atw. | 2435 |
| Sullivan & Doyle (PHR)..... | Ft. of Curry St., Atw. | 5297 |
| | Box 104, Portland, Ore. | |
| United Contracting Co. (BPHR)..... | 309-10 Stock Ex. Bldg., Atw. | 5296 |
| von der Hellen & Pierson (HR)..... | Naches, Wash. | |
| White, Ernest & Co. (B)..... | Twin Falls, Idaho | |
| Wren & Greenough (PHR)..... | 1037 Com. Bldg., At. | 9882 |
| Wright Constr. Co. (BPH)..... | Aberdeen, Wash. | |
| Young, I. L. (BPH)..... | 524 Henry Bldg., At. | 0297 |

Associate Members Portland Chapter

| | | |
|---|------------------------------|------|
| Balzer Machinery Co..... | 275 Pine St., Atw. | 9391 |
| Beall Pipe & Tank Co..... | 85 Columbia Blvd., Wa. | 3171 |
| Clyde Equipment Co..... | 555 Thurman St., Br. | 5561 |
| Collins Concrete Pipe Co..... | 410 River St., Wa. | 7670 |
| Feenaghty Machinery Co..... | 309 E. Yamhill, Ea. | 2187 |
| Grand Sheet Metal Works..... | 60 E. Third N., Ea. | 2181 |
| Latture, J. L. Equip. Co..... | 312-314 E. Madison St., Ea. | 8166 |
| Loggers & Contractors Machy. Co..... | 345 E. Madison St., Ea. | 4128 |
| Metropolitan Casualty Ins. Co. The..... | Wilcox Bldg., Atw. | 7521 |
| National Hospital Assn..... | 400 Mohawk Bldg., Atw. | 5291 |
| Oregon Portland Cement..... | 321 E. Madison, Ea. | 3116 |
| Phoenix Iron Works..... | 360 Hawthorne, Ea. | 0029 |
| Pomeroy, J. H., & Co..... | Box 48, Seattle, Wash. | |
| Pure Iron Culvert & Mfg. Co..... | 763 Gladstone, Sel. | 2275 |
| Santa Cruz Portland Cement..... | 45 Fourth St., Ea. | 9848 |
| Standard Oil Co..... | Pacific Bldg., Bea. | 4161 |
| Swigert, Hart & Yett..... | Ft. of E. Salmon St., Lan. | 1125 |
| Union Oil Co. of California..... | Yeon Bldg., Atw. | 9521 |
| Wallace Bridge & Structural Steel..... | P. O. Box 48, Seattle, Wash. | |
| Shell Oil Co..... | Commerce Bldg., At. | 7321 |

SPOKANE CHAPTER

West 515 First Avenue—Main 6822—Spokane

Max J. Kunej, President I. G. Anderson, Vice-President
Nick Norman, Vice-President Dan Hannah, Secty.-Treas.

| | |
|------------------------------------|----------------------------|
| Alloway & Georg (B)..... | Hutton Bldg. |
| Auld & Shinn (B)..... | 1121 Indiana |
| Burnette, C. A. (H)..... | 1118 Ide Ave. |
| Byers, W. A. (H)..... | W. 1204 Mansfield |
| Clifton & Applegate (HPR)..... | Hutton Bldg. |
| Collins, J. H. & Co. (H)..... | Colville, Wash. |
| Colonial Building Co. (BH)..... | Hutton Bldg. |
| Crick, James (H)..... | Realty Bldg. |
| Degerstrom, N. A. (HPR)..... | Peyton Bldg. |
| Edwards, J. E. (H)..... | S. 1423 Adams |
| Geist, W. L. (H)..... | W. 444 23rd Ave. |
| Hansen Construction Co..... | W. 1517 Jackson |
| Harding, Geo. (H)..... | Walla Walla, Wash. |
| Hargrave Construction Co. (H)..... | W. 418 Twentieth |
| Hewett, F. R. (H)..... | W. 420 Twenty-second |
| Joslin & McAllister (H)..... | Realty Bldg. |
| Kunej, Max J. (H)..... | Hutton Bldg. |
| Larson Bros. (B)..... | Hyde Bldg. |
| Long, Oliver J. (H)..... | W. 1924 Mansfield |
| Lyon & Price (H)..... | W. 503 Fourteenth |
| March Construction Co..... | W. 1002 Riverside, Spokane |

| | |
|---------------------------------------|----------------------|
| Martin, F. E. (B)..... | Galax Hotel |
| McLellan, A. (B)..... | E. 932 Ermina |
| Medby, M. C. (B)..... | S. 3614 Arthur |
| Meyers, W. C..... | S. 2217 Tekoa St. |
| Morin, S. C. (B)..... | Paulsen Bldg. |
| Norman, Nick (B)..... | 231 Waverly Place |
| Nyberg, Carl (H)..... | Realty Bldg. |
| Orino, Sam (H)..... | Realty Bldg. |
| Payne, Mrs. C. M..... | N. 2602 Hamilton St. |
| Power, C. A. (H)..... | S. 1703 Grand |
| Siems, Spokane Co. (BPHR)..... | Realty Bldg. |
| Standard Asphalt Paving Co. (HP)..... | Chronicle Bldg. |
| D. A. Sullivan & Co..... | Realty Building |
| Terteling, J. A., & Sons (HP)..... | 511 Sound Ave. |
| Tobin, James, & Son (H)..... | Box 916 |
| Triangle Construction Co. (H)..... | W. 1220 Ide |
| True-House Construction Co. (B)..... | N. 119 Wall |
| Wheeler & England (HP)..... | Coeur d'Alene, Idaho |
| Young, Peter J. (B)..... | S. 11 Cedar St. |

Associate Members

| | |
|---|----------------------------------|
| Beall Pipe & Tank Corp..... | Realty Bldg. |
| Brandt Bros..... | W. 14 Main Ave. |
| Coeur d'Alene Hardware & Foundry..... | Wallace, Idaho |
| Commercial Importing Co..... | 617 Western Ave., Seattle, Wash. |
| Consolidated Supply Co..... | W. 1310 Ide Ave. |
| Construction Equipment Co..... | 1118 Ide Ave. |
| Feenaghty Machinery Co..... | N. 715 Division St. |
| W. P. Fuller & Co..... | N. 229 Post St. |
| General Machinery Co..... | E. 3501 Riverside |
| Gladding-McBean & Co..... | 524 Old National Bldg. |
| Haweey Fuel Co..... | N. 740 Division St. |
| Hofus-Ferris Equipment Co..... | W. 728 Mallon |
| Holley-Mason Hardware Co..... | S. 157 Howard |
| Jones & Dillingham Co..... | W. 715 First Ave. |
| Jones & Mitchell..... | Hutton Bldg. |
| Long Lake Lumber Co..... | N. 348 Wall St. |
| W. S. McGree & Co..... | 212 Symons Bldg. |
| J. E. McGovern Co..... | 550 Peyton Bldg. |
| Nott-Atwater Co..... | S. 157 Monroe St. |
| Old National Insurance Agency..... | Old National Bank Bldg. |
| Oriental Importing Tea & Coffee Co..... | W. 917 First |
| Spokane Concrete Pipe Co..... | N. 2627 Dakota |
| Spokane Culvert & Tank Co..... | N. End Division Street |
| Spokane Paper & Stationery Co..... | S. 152 Jefferson |
| Standard Oil Co. of Calif..... | Old National Bldg. |
| Union Oil Co..... | 611 Chronicle Bldg. |
| Washington Brick, Lime & Sewer Pipe Co..... | S. 151 Washington St. |
| Washington Machinery & Supply Co..... | W. 9 Cataldo |

MOUNTAIN PACIFIC CHAPTER

(Strictly a Public Works Chapter, practically every member carrying on highway, public works and railroad construction)

Washington Hotel—Seattle, Wash.

| | |
|--|--|
| John W. Rumsey, President | Lee Johnson, Secretary, Treasurer |
| John M. Clifton, Vice-President | James D. Brown, Manager |
| Allen & Coven..... | Olympia, Wash. |
| Barnard Curtiss Co..... | Ellensburg, Wash. |
| Clifton, Applegate & Toole..... | Hutton Bldg., Spokane, Ma. |
| 4415 Columbia Power & Investment Co..... | Stevenson, Wash. |
| Coyle Construction Co..... | 901 Westlake N., Seattle, Gar. |
| 5741 N. A. Degerstrom..... | 444 Peyton Bldg., Spokane |
| Dorsey & Wilder, Inc..... | 2006 State St., Bellingham, Wash., 1310 |
| Fuel Oil Service..... | Olympia, Wash. |
| Goodyell Bros..... | Wenatchee, Wash. |
| Crafts Harbor Const..... | Hoquiam, Wash., Hoq. 303 |
| Hargrave Construction Co..... | W. 418, 20th Ave., Spokane |
| Hendricks & Co..... | Chehalis, Wash. |
| F. R. Hewitt..... | 420 W. 22nd, Spokane, Riv. 7554 |
| Johnson, Homer G..... | Perkins Hotel, Portland |
| Joslin & McAllister..... | Spokane, Wash. |
| Lee H. Johnson..... | 920 N. Tacoma Ave., Tacoma, Ma. 6241 |
| Lidral, Wiley..... | Securities Bldg., Seattle |
| Lyon & Price..... | 503 W. 14th, Spokane, Riv. 5319-R |
| Norris Bros..... | Burlington, Wash. |
| Chas. A. Powers..... | S. 1703 Grand, Spokane, Riv. 3640 |
| Puget Sound Bridge & Dredging Co..... | Seattle, El. 7300 |
| Puget Sound Construction Co..... | Colman Bldg., Seattle, El. 7311 |
| Fred C. Redmon..... | 206 S. 4th Ave., Yakima, 9133 |
| Rumsey & Co..... | Lumber Exchange Bldg., Seattle, Ma. 8751 |
| Standard Asphalt Co..... | Chronicle Bldg., Spokane, Wash. Ma. 1689 |
| von der Hellen & Pierson..... | Enumclaw, Wash. |
| Winston Bros..... | 4580 Colorado Ave., Seattle, Glen. 2268 |

PACIFIC

25¢
per Copy

SKILL - INTEGRITY



RESPONSIBILITY

CONSTRUCTOR

CONSOLIDATED WITH
Building and Engineering News

IN THIS ISSUE



OAKLAND CITY COUNCIL COMMENDED FOR
GAS TAX ACTION

INTERMOUNTAIN CHAPTER TO FIGHT DAY
LABOR CONSTRUCTION

MASS-PRODUCTION HOUSING TO CAUSE
NEW BUILDING ERA

OREGON DECLARES CONTRACTOR NOT A
FEDERAL AGENCY—LICENSE REQUIRED

PRESIDENT HOOVER VETOES AMENDMENTS
TO PREVAILING WAGE MEASURE

RELIEF BILL IS ENACTED

CO-OPERATIVE CONSTRUCTION CREDIT



The A-C Model "L"

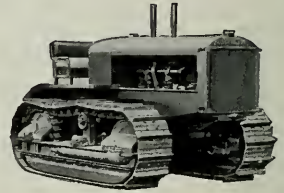
Establishes Horsepower Record

All the power you will ever need—wide range of speeds—clean-cut design—clearance—durability—are features of the Allis-Chalmers Model "L."

Six cylinders, six forward speeds—up to 6½ miles per hour. Same kind of responsive power, economy and performance as in the K35—only in a large tractor.

See us for the facts regarding a new horsepower record recently established by the Model "L."

Power...Economy...Performance



ALLIS-CHALMERS
TRACTORS and
EQUIPMENT

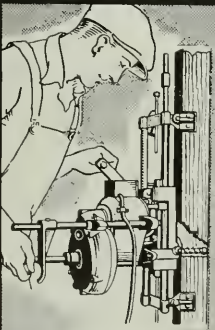
Eby Machinery
Company, Ltd.

35 MAIN STREET

DOuglas 1068

San Francisco

WAPPAT *Electric* TOOLS



Are Built to Last Longer

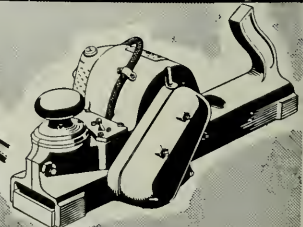
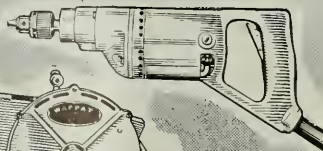
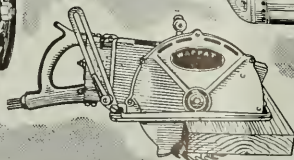
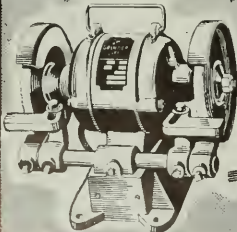
Cuts production costs . . . Speeds up the job . . . Makes for greater efficiency . . .
A size and type for every purpose.

Ask for a Demonstration

M. N. THACKABERRY

228 First Street, San Francisco
KEarny 4467

308 E. Third St., Los Angeles
TOOLS RENTED MUTual 7508



PACIFIC CONSTRUCTOR

With which is Consolidated Building and Engineering News

Official Publication of the Associated General Contractors of America
for the Eleven Pacific Coast States

J. P. FARRELL, *Editor*

SPENCER B. LANE, *Assoc. Editor, Assoc. M. Am. Soc. C. E.*

VOL. 15

SAN FRANCISCO, CALIF., AUGUST 1, 1932

No. 14

"PROSPERITY IS JUST AROUND THE CORNER" —MAYBE SO

President Hoover on July 21 signed the \$2,122,000,000 Garner-Wagner Federal relief bill.

White House approval of this measure released an additional \$1,500,000,000 of the national credit for loans to banks, railroads and other corporations by the Reconstruction Finance Corporation. This organization now has \$3,500,000,000.

The measure provides \$300,000,000 for loans to States to relieve distress. Thirty of the forty-eight States already have applied for a total of \$220,000,000.

Federal construction works are to have an additional \$322,000,000.

The President swung his pen over the Garner-Wagner bill without comment. He was unable to announce, as he had hoped, the simultaneous reorganization of the finance corporation.

It is expected that at least two weeks must elapse before the new cycle of loans by the corporation can begin.

The Government is mobilizing a potential \$2,000,000,000 of credit to prevent foreclosure of American homes and to make it easier to build new ones.

And all of it, under terms of the Home Loan Bank Bill signed by President Hoover July 22, is to go to aid the owner and builder of small and medium-sized homes. The act specifically withholds benefits from homes costing more than \$20,000.

The President expects the project indirectly "to immediately increase employment" by stimulating new building. He said a Commerce Department survey showed some localities could undertake \$500,000,000 of home construction if financing could be arranged.

The home loan plan thus will tie in with the new unemployment relief program in which \$1,500,000,000 is to be loaned for larger construction projects.

The home loan measure carried a rider authorizing a \$995,000,000 expansion in national bank currency. Mr. Hoover opposed this, but was advised by the Treasury that in the practical working of this provision it will not result in inflation.

The United States, long recognized as a leader among nations, holds undisputed possession of the world's record for motor vehicle fatalities, according to "Accident Facts," the annual analysis of accidents issued by the National Safety Council.

Our death rate is just about 50 per cent above our nearest competitor, Australia. Our rate is almost double that of Canada, four times that of Germany and about eight times that of Norway.

To win the questionable distinction that comes with

first place in highway killings is to acquire an unenviable position. There are reasons for our supremacy, of course.

We have the most cars and that means we have the most drivers—good and bad.

Our American temperament peculiarly insists on doing things quickly. What's an auto for, anyhow, if we can't save time by using it? Why not take a chance, if by so doing we can save a precious minute?

Besides, as we are so often reminded, this is a free country. When we sit at the steering wheel we are also sitting on top of the world. Legal rights mean little and moral rights still less to a far too large percentage of our motorists.

Such an attitude is not surprising. Traffic laws are seldom strictly enforced in this country. There have been isolated cases of rigid, impartial enforcement and wherever this has been done there has been an almost immediate reduction in highway fatalities.

As a general rule, however, traffic violations are held altogether too lightly and public opinion must do a right-about-face before we can expect much improvement.

Contractors from outside the State of Oregon must obtain a license to do business in that State when engaged on Federal work, according to a ruling made for the State Corporation Commission by the attorney-general.

The attorney-general's ruling was the result of a claim made by Hallbauer-LaBahn, Inc., contractors for the Federal Post Office buildings at Astoria and Corvallis, that as its contract was for Federal buildings, it was, in effect, an agency of the Federal Government and so not subject to taxation. As ground for his decision, the attorney-general cited the ruling of the U. S. Supreme Court in the Baltimore Shipbuilding and Drydock Company versus Baltimore, in which the report said that it is extravagant to say that an independent private corporation for gain, created by a State, is exempt from State taxation, either in its corporate person or its property, because it is employed by the United States, even if the work for which it is employed is important and takes much of its time.

The attorney-general stated that in view of the above, the conclusion is obvious that Hallbauer-LaBahn, Inc., should qualify as a foreign corporation to do business within the State.

The ruling, published in another section of this issue, will prove of interest to contractors bidding on Federal projects in Oregon State.

Builders throughout the United States and Canada are developing home modernization programs to tide their business over until there is some definite pick-up in new construction, according to Edward M. Craig, executive

(Continued on Page 6)

Limit Stakes and Levels

By THE EDITOR

The Seattle Board of Public Works is considering adoption of a resolution setting forth the city's policy in favor of American-made pipe used in connection with the city improvements. It is proposed to insert a clause in calls for bids providing that "materials supplied by a contractor shall be of American manufacture," unless otherwise specified.

Legislation similar to that enacted in Texas to prevent foreclosures and evictions through executions of judgments is proposed by State Senator George Rochester, Los Angeles, in a letter to Governor James Rolph, Jr. The governor has promised that his administration will sponsor legislation which will soften the system of foreclosures and evictions in the present time of extraordinary stress.

Following out their program of economy, the Modoc County Board of Supervisors has set a new scale of wages, going back to the prices paid twenty years ago. Common laborers will be paid \$2.50 per day, with caterpillar drivers and grader men receiving \$3 per day. The board has also reduced the wages paid election officers, putting into effect a sliding scale which ranges from \$4 per day in the smaller precincts to \$9 per day in the largest.

Wages in the building trades in Indianapolis were increased 5 per cent on July 1. The wage increase was in accordance with an agreement reached last winter with officials of the various building trades unions. At that time 20 per cent reduction in wages was put into effect with the understanding that there would be an increase on July 1. The new scale will remain in force until December, when there will be a conference at which wages will again be adjusted on the basis of the cost of materials at that time.

A 5 per cent refund is promised to 1500 Hetch Hetchy employes who voluntarily gave up 10 per cent of their earnings to prevent a shut-down on the Coast Range tunnel project, according to an announcement from the Public Utilities Commission of the City and County of San Francisco. The announcement was based on a report showing an improvement in the bond market, which, with the sale of the new Hetch Hetchy bond issue, will make further sacrifices unnecessary.

In addition to the fund to be expended on Hoover Dam, the Bureau of Reclamation, during the coming fiscal year, will have \$5,351,500 to spend on construction. This includes \$2,414,000 directly appropriated and \$1,887,000 reappropriated from prior authorizations and smaller sums from commercial power revenues and other sources. Up to the present time \$31,600,000 has been appropriated for the Hoover Dam project, \$10,660,000 for 1930-31 and \$15,000,000 for 1931-32. The 1932-33 appropriation now is \$6,000,000, but as this amount is not considered sufficient to keep the work running on schedule, the bureau hopes to have more funds made available by the legislation now pending. The present rate of expenditure is about \$2,000,000 per month.

NEVADA MEETS REQUIREMENTS OF WAGNER RELIEF MEASURE

One of the first states to take advantage of the emergency federal highway appropriations provided under the Wagner bill, the State of Nevada, through its highway department, has made immediate provision to meet the requirements set up by the relief bill.

One of the first projects on which relief funds will be used for which bids will be opened August 3, makes provision for the minimum wage requirements and other features contained in the Wagner bill in the following manner:

"Where practicable, skilled and unskilled labor shall not work more than thirty (30) hours a week per individual. This does not apply to those persons having executive, administrative and supervisory positions.

"The following minimum hourly wages shall be paid:

| | | |
|----------------------------|--------|----------|
| Unskilled labor | \$0.50 | per hour |
| 30 caterpillar driver..... | 0.56½ | per hour |
| 60 caterpillar driver..... | 0.62½ | per hour |
| Blademan | 0.62½ | per hour |
| Truck driver | 0.62½ | per hour |
| Shovel operator | 1.00 | per hour |
| Mechanic | 0.75 | per hour |

"Preference in employment shall be given, qualifications of the applicants being equal, first, to honorably discharged soldiers, sailors and marines of the United States having dependents, and second, all other conditions being equal, to citizens of the State of Nevada.

"The subletting to gangs or to an individual, of portions of the contract by piece work, is strictly prohibited."

CUTS WAGE SCALES—Preliminary steps toward a reduced budget for San Luis Obispo County during the coming year have been taken by the supervisors. The wage scale in connection with county improvements provides common labor, \$3 a day; skilled labor, truck drivers, tractor drivers, trench machine operators, concrete mixer operators, grader operators, \$4; foremen, \$5; carpenters, electricians, plumbers, \$6. These scales will go into effect immediately.

EDITORIAL COMMENT

(Continued from Page 5)

secretary of the National Association of Building Trades Employers.

Craig's opinion followed an analysis of a nation-wide survey of building conditions compiled by Robert D. Steele, the statistician for the National Association of Building Contractors.

The industrial depression virtually curbed all building activities, according to the survey. It forced unemployment on thousands of building mechanics and laborers throughout the nation.

Craig believes the \$2,000,000,000 relief bill recently signed by President Hoover will greatly aid all classes of building and road construction off dead center. But, he points out, such a low ebb has been reached that any degree of relief will take considerable time to percolate and become evident to the public.

Relief at this time, if Craig's report is authority, will be a stimulant to construction because it will engender confidence into the general building public and bolster up a badly shaken morale.

Oakland City Council Commended For Gas Tax Diversion Protest

State Senator A. H. Breed, in a letter to the Oakland City Council, commends that body for its stand in protesting the expenditure of highway funds "for any purpose other than the acquisition, construction and maintenance of roads, streets and highways."

Senator Breed's commendations followed the adoption by the Oakland City Council of a resolution opposing the diversion of gasoline tax funds. The resolution is published herewith:

WHEREAS, The State Department of Finance has proposed the diversions of motor vehicle revenues, now used exclusively for the maintenance, reconstruction and construction of highways, to the payment of interest and redemption on outstanding highway bonds; and

WHEREAS, It is estimated that such diversion would deplete State highway revenues in the sum of \$8,800,000 for the next biennium and the aggregate sum of \$92,000,000 during the life of said highway bonds; and

WHEREAS, Senate Constitutional Amendment No. 22, which will appear on the November ballot, seeks to divert the State's share of the franchise taxes collected from buses and trucks to the general fund, which would deplete the highway fund in the amount of approximately \$960,000 during the next biennium; and

WHEREAS, A law was enacted at the last Legislature authorizing the State Highway Commission to expend State highway funds within the corporate limits of the cities of the State; and

WHEREAS, Reductions in State highway monies through diversion to the general fund would greatly curtail or possibly eliminate this State aid to cities; and

WHEREAS, The cities of the State of California as a whole have not received proper benefits from the highway funds of the State; now, therefore, be it

RESOLVED: That the City of Oakland, through its City Council, hereby expresses itself as opposed to the expenditure of highway funds for any purpose other than the acquisition, construction and maintenance of roads, streets and highways; and be it

FURTHER RESOLVED: That a copy of this resolution be forwarded to the City Councils throughout the State with the request that these bodies take similar official action.

Copy of Letter Sent by A. H. Breed, State Senator to Oakland City Council

To the Honorable City Council of Oakland:

Gentlemen: I desire to commend your honorable body for "placing on file" the attempt to have you rescind your recent action wherein you very properly disapproved of the proposal to divert gasoline tax funds to the State's general fund. As representatives of the people you are faithfully protecting the motorists from a raid on their pockets to pay somebody else's taxes.

It is interesting to observe that in this drive to have you make a miserable spectacle of a face-about on a vital public question, you have been the target of the designs of the State's Finance Director and of Mr. C. J. Struble, an active factor in the Oakland Chamber of Commerce, who went to great pains to address you as a "citizen of the community."

The State Finance Director has the problem of a great treasury deficit on his hands. In his department he has a record of increasing salaries and other extravagances that should preclude him from making raids on funds of taxpayers paid in for a specific purpose. He has a flock of assistants for whom he

has elevated salaries far above those of our State constitutional officers. He ought to cut down the unjustifiable expenditures he is responsible for, and that he permits, before he makes public demand for support in his devices to inflict on others the burden of averting bankruptcy of the State government.

Mr. Struble, on the other hand, is so actively identified with the Oakland Chamber of Commerce that it is difficult for the public to regard him as a private citizen in this matter. The Chamber of Commerce did change front on gas tax diversion, just as Mr. Struble was trying to have you do. Everybody knows to what influences the Chamber of Commerce is subject. It has given another demonstration of the facility with which its dominating group of officials will jump through the hoops when certain powerful interests pull the strings.

In this time of distress and excessive taxation the people must be alert to protect themselves from those who are incessantly at work to put something over in the way of tax relief and gain for themselves.

Shall these funds be diverted into the general fund to safeguard certain interests from the possibility of an increase in taxes, or shall we distribute these funds to the counties in relief from local taxes?

If we use these funds in caring for county roads we will be keeping faith with the motorists. If the money they pay in gasoline taxes is diverted to the general fund, violent injustice would be done them. The gasoline tax was adopted on representations to the people that the revenues would be expended only for maintenance and new construction in the highway system.

The argument that these funds should be employed to take care of old highway obligations is a subterfuge based on thin plausibility. These bonds were established as a charge against the general fund years ago by vote of the people, and the present attempt to free it from this burden is wholly unjustifiable as a matter of justice and fair play.

There is a well defined movement for the State to take over the care of an equitable distribution of roads in the counties and thus relieve the local taxpayer of a substantial amount of taxes. Some of us are endeavoring to obtain this help for the local common property taxpayers.

It is heartening that your body as representative of the people and the general taxpayer stands faithfully for their best interests. Very truly yours,

A. H. BREED.

Oakland, July 18, 1932.

OHIO CONSTRUCTION REPORT—Census of construction figures, compiled from data gathered in the census of distribution for the year 1929, show that construction business of Ohio contractors amounted to \$400,298,000. This business was reported by 2,043 establishments comprised of 40 operative builders, 1,040 general contractors, and 963 subcontractors, each of whom reported business of \$25,000 or more.

Construction business handled under general contract or directly for owner amounted to \$317,307,000 and that under subcontract, \$82,991,000.

The three principal items of expenditures reported totaled \$325,097,000, of which \$89,779,000 was for subcontract work let, \$90,596,000 for wages, and \$144,722,000 for materials.

In the census tabulations, distribution by class of ownership was reported for \$389,905,544 of the total construction business, as follows:

| | |
|---------------------------------|---------------|
| Private construction | \$270,308,013 |
| Quasi-public construction | 24,068,892 |
| Public construction | 95,528,639 |

The number of Ohio contracting concerns reporting that they did less than a \$25,000 business in 1929 was 7,182. Of this number 1,896 stated they were general contractors, and 4,708 that they were subcontractors.

Intermountain Chapter To Fight Day Labor Construction

By MARK TUTTLE, Manager, Intermountain Branch, Salt Lake City

DUE to agitation before our public bodies to abandon the contract system, and that work be done by day labor under force account, Intermountain Branch stresses the need of its members to take an interest in the primary and general elections.

At a largely attended meeting of the Associated Civic Clubs of Southern Utah, held at Fisk Lake July 16 and 17, this matter was one of the major topics of discussion. Reporting the meeting, the Deseret News says:

"Reed Garner of Cedar City and W. J. Love of St. George were appointed as a committee to draft a resolution to give local contractors and laborers preference on all public construction projects.

"Following the address of Senator George Jefferson of Beaver County, who attacked the ambiguity of promises already received in regards to the letting of road contracts, the directors passed a resolution favoring the abandonment of road contracts and the adoption of the force account system as a relief measure.

"It was felt by the directors that the use of the force account system would be more adaptable than contracts in providing emergency employment, and it was said that the resolution tallies with the expression of opinion already received from the U. S. Bureau of Public Roads and the State Road Commission."

In a personal letter to our members, President Kaiser called attention to the fact that he had observed in Congress an unfriendly attitude toward the general contractor, and urged our members to get better acquainted with our congressmen so that they could be helpful in promoting beneficial legislation and also assist in defeating that which is detrimental to them. You will remember that two years ago it was necessary for us to kill a proposed measure which would have authorized the state to construct all state buildings by using inmates and convict labor.

I do not want to be an alarmist, but I believe at the next session of the legislature there will be measures introduced which would be most damaging to the contract principle of constructing public works if passed. There are also several measures which will be introduced by our chapter which are vitally necessary for the well being and protection of our members. I therefore urge you to take an interest in your primaries and the general election in November. Make it a point to become personally acquainted with the representatives from your county who will sit in the next state legislature. Our state is evenly balanced politically and it is equally as necessary to have friends in both political parties.

With a view to halting any definite action with regard to elimination of the contract system, the following communication was addressed to Reed Gardner, manager of the Southern Utah Power Company, an active member of the Associated Civic Clubs of Southern Utah:

Mr. Reed Gardner, Manager,
Southern Utah Power Co.
Cedar City, Utah.
Dear Sir:

I have been much interested in the press report of a meeting of the Associated Civic Clubs of Southern Utah held at Fisk Lake July 16-17. The major topic of discussion there being the doing away with the contract principle of labor in

public construction, and having the counties and municipalities doing their work with their own forces. I think you will agree with me that this is just another instance of the entry of government in business, the evils of which are now being recognized by all private industries. At the present time a hearing is being held in Kansas City at which more than one hundred lines of business are protesting against the unfair competition they are forced to face from government subsidized business.

In a recent controversy in which Ogden City was proposing to establish a municipal light and power plant, it was our pleasure to throw the entire weight of our Association against such action. There is no more justification for public bodies doing their own construction work, other than maintenance, with their own forces, than that they should also generate their own power and light.

Never in the history of this country have contract prices for public construction been so low, and only by the most severe economies and the use of modern equipment have they been able to get by. We have assembled much information showing the cost of highway construction, when done by contract, and by day labor under force account. It might interest you to know that all last winter there was a set price of 20c per ton mile for gravel surface hauling on projects done by the state in connection with several of the counties. In numerous instances this same haul has been taken under contract for 7c per ton mile, and other types of construction in same proportion. Does it not seem reasonable to you that the taxpayers who foot the bill are entitled to some consideration, as all of the people who live in a community are not in a position to do public construction work?

I also call your attention to the fact that in contracts let to members of our Association they have universally taken care of local laborers in doing the work. In a check-up by the State Road Commission last week, on a contract in Box Elder County, it was found that 85% of the employees were strictly local laborers.

I should be pleased to have the opportunity of discussing this matter further with you, and at any time when you are in our city I should like to arrange a conference. I assure you this is taken up with the best of feelings and with a spirit to be mutually helpful.

Very truly yours,
MARK TUTTLE, Manager,
Intermountain Branch, A. G. C.

ROAD CHIEF URGES FEDERAL LOANS FOR HIGHWAY PROJECTS

"Federal loans to states for highway and other work now stagnating is a most desirable thing. As an aid to unemployment relief, to effect needed highway improvement, and to "keep the Government out of business" it seems most logical that the component parts of the governmental structure should receive federal assistance, is pointed out by T. H. Cutler, president of the American Road Builders' Association.

"The profitableness of highways has been proved not only by the consistent public demand for more and better roads, but also by the profit and loss accounting sheets for highways. While many of the benefits of improved roads are intangible, careful studies show that improved highways fitted to traffic needs more than pay their maintenance costs and sinking fund charges through savings in highway transportation costs.

"Intangible benefits that are none the less real are evident to the most casual observer in sections traversed by good roads. These sections in nearly all cases show a better kept and more prosperous condition that exists in poor road sections.

"Better transportation by highway speeds up business and makes possible new business that could not exist without the improved roads," he concluded.

Mass-Production Housing To Cause New Building Era

By HARVEY WILEY CORBETT, *Architect, New York City*

Harvey Wiley Corbett, noted New York architect, foresees the early passing of the costly "tailor-made" house and its replacement by the machine-made house built by mass production methods. His views, as expressed before the Small House Forum sponsored by the American Institute of Steel Construction, are given herewith, in slightly condensed form.—Editor.

THE small house problem is one that interests architects, even skyscraper architects. I am convinced that small housing has passed out of the "tailor-made" field and will enter into the mass-production or machine-made field.

Why is this going to happen? In almost every other thing that the human race uses, the big corporation and the mass-production factory have come into the picture and are taking over the work which was formerly done by individual craftsmanship. The automobile, of course, is an outstanding example, but so is the can of tomatoes, the bread in the kitchen, the work of the housewife.

The same thing is going to happen with houses. There is an economic factor in all this. In the first place, tailor-made houses—I use that term purposely—are expensive, just exactly as tailor-made clothes are. We are a well-dressed nation. Foreigners visiting this country speak of that fact. Why are we well dressed? Because we wear mass-production clothes. The manufacturers of clothes can employ the ablest designer there is, pay him an almost fabulous sum to design the clothes, and still make money out of it because of the millions of suits of the same kind that he manufactures.

When it comes to a house, tailor-made, the owner can't possibly afford to pay an architect what he should receive to design that house intelligently. The architect ought to receive more than the cost of the house to study a small house problem thoroughly and to design it from an economic point of view with regard to living conditions and all the other related factors. Of course, that doesn't happen. The architect, as a general rule, doesn't appear in the picture of the small house.

A New Market—Industry today is confronted with the problem of finding something which can be manufactured and which the public will consume—some new thing. The market for the automobile is now largely one of replacement. The capacity of the existing automobile plants in America provides something like ten million cars a year. It won't take long until every man, woman and child, including the baby, will have to have a car. They know that that output is becoming more and more limited in its consumption. Radio sets are arriving somewhat at the same point. No one has thought of anything that the world needs which can absorb the output of mass production, with the possible exception of the small house. That is the next thing the great corporations are looking into, thinking about as a possibility. If a small house can be produced on a machine-made basis, there is no reason why the great corporations shouldn't have an absolutely free and unlimited market replacing all the small houses now existing.

The first thing they must do is to enclose space and make it more attractive in its arrangement, more sanitary in its appointment, more fireproof in its construction, more satisfying in its appearance, and at less cost than at present. If they can do that, the market is open to

them, and the small house will become just as common and ordinary a commodity as the automobile is today.

I have often been asked, "What is going to happen to the architects when this occurs?" My answer is, "The same thing that happened to the carriage manufacturers who didn't get into the automobile business." The architects who are engaged in small house work might just as well realize now that they are confronted with this problem. Realizing that, I set up in our office two years ago a research laboratory and have had two or three men at work continuously and solely on this small house problem, to see whether a house could be designed which would be built just as an automobile body is built, carted in a truck to the site and there assembled, with an outside limit of about three days for putting it together.

A great deal of experimentation has been done along these lines by certain corporations, but they haven't yet thought of this house from the point of view of a new commodity. They have still been trying to make a mass-production house which resembled, for some strange reason, either an English cottage or a French chateau. In my opinion, the public is not going to demand anything along those lines except a satisfactory arrangement of space, effectively and efficiently enclosed, and with possible variety of forms and types so that the houses won't necessarily all be alike.

Two Methods—There are two methods that strike me as possible means of construction in houses of this sort. One is a skeleton frame of steel and panels fitting into it. The other, and possibly the more economical of the two, is a form of paneled house in which the panels themselves form the construction and save the cost of the steel frame as a skeleton structure on which to hang the panels.

Both of these things will undoubtedly be developed—both of these ideas, as to methods—and I can look forward to the time when people will prefer to live in this type of machine-made house rather than in the thing which they look upon today as home.

In talking with various people, I find this reaction generally: "Oh, I wouldn't think of living in a machine house just like everybody else's." So I always ask them, "Well, where do you live?"

"Why, I live at number so and so Park Avenue."

"Have you ever been in the apartment upstairs?"

"Why, no, I don't happen to know those people."

"Well," I reply, "get acquainted with them. You will find that you are living in an apartment exactly like the one they are living in, even to the button on the door."

Not one feature of that fourteenth-floor apartment is different from the fifteenth floor. The only difference is that they have Louis XV furniture and you have Louis XIV. You are now living in a machine house of a certain type, and you are living just like everybody else in that particular apartment lives. You have lost your individuality as far as the form, the enclosing of space, and other details are concerned. Those same people have never thought of that. It struck them as a new idea. The same thing will be true of the small house.

I prefer to think of the house of the future not in terms of what we normally call a home, but in terms of what I refer to as enclosed space. The reason I feel that way is that I see already the disappearance of the home as we in the mid-Victorian Age thought of it. The most

Intermountain Chapter To Fight Day Labor Construction

By MARK TUTTLE, Manager, Intermountain Branch, Salt Lake City

DUE to agitation before our public bodies to abandon the contract system, and that work be done by day labor under force account, Intermountain Branch stresses the need of its members to take an interest in the primary and general elections.

At a largely attended meeting of the Associated Civic Clubs of Southern Utah, held at Fisk Lake July 16 and 17, this matter was one of the major topics of discussion. Reporting the meeting, the Deseret News says:

"Reed Garner of Cedar City and W. J. Love of St. George were appointed as a committee to draft a resolution to give local contractors and laborers preference on all public construction projects.

"Following the address of Senator George Jefferson of Beaver County, who attacked the ambiguity of promises already received in regards to the letting of road contracts, the directors passed a resolution favoring the abandonment of road contracts and the adoption of the force account system as a relief measure.

"It was felt by the directors that the use of the force account system would be more adaptable than contracts in providing emergency employment, and it was said that the resolution tallies with the expression of opinion already received from the U. S. Bureau of Public Roads and the State Road Commission."

In a personal letter to our members, President Kaiser called attention to the fact that he had observed in Congress an unfriendly attitude toward the general contractor, and urged our members to get better acquainted with our congressmen so that they could be helpful in promoting beneficial legislation and also assist in defeating that which is detrimental to them. You will remember that two years ago it was necessary for us to kill a proposed measure which would have authorized the state to construct all state buildings by using inmates and convict labor.

I do not want to be an alarmist, but I believe at the next session of the legislature there will be measures introduced which would be most damaging to the contract principle of constructing public works if passed. There are also several measures which will be introduced by our chapter which are vitally necessary for the well being and protection of our members. I therefore urge you to take an interest in your primaries and the general election in November. Make it a point to become personally acquainted with the representatives from your county who will sit in the next state legislature. Our state is evenly balanced politically and it is equally as necessary to have friends in both political parties.

With a view to halting any definite action with regard to elimination of the contract system, the following communication was addressed to Reed Gardner, manager of the Southern Utah Power Company, an active member of the Associated Civic Clubs of Southern Utah:

Mr. Reed Gardner, Manager,
Southern Utah Power Co.
Cedar City, Utah.
Dear Sir:

I have been much interested in the press report of a meeting of the Associated Civic Clubs of Southern Utah held at Fisk Lake July 16-17. The major topic of discussion there being the doing away with the contract principle of labor in

public construction, and having the counties and municipalities doing their work with their own forces. I think you will agree with me that this is just another instance of the entry of government in business, the evils of which are now being recognized by all private industries. At the present time a hearing is being held in Kansas City at which more than one hundred lines of business are protesting against the unfair competition they are forced to face from government subsidized business.

In a recent controversy in which Ogden City was proposing to establish a municipal light and power plant, it was our pleasure to throw the entire weight of our Association against such action. There is no more justification for public bodies doing their own construction work, other than maintenance, with their own forces, than that they should also generate their own power and light.

Never in the history of this country have contract prices for public construction been so low, and only by the most severe economies and the use of modern equipment have they been able to get by. We have assembled much information showing the cost of highway construction, when done by contract, and by day labor under force account. It might interest you to know that all last winter there was a set price of 20c per ton mile for gravel surface hauling on projects done by the state in connection with several of the counties. In numerous instances this same haul has been taken under contract for 7c per ton mile, and other types of construction in same proportion. Does it not seem reasonable to you that the taxpayers who foot the bill are entitled to some consideration, as all of the people who live in a community are not in a position to do public construction work?

I also call your attention to the fact that in contracts let to members of our Association they have universally taken care of local laborers in doing the work. In a check-up by the State Road Commission last week, on a contract in Box Elder County, it was found that 85% of the employees were strictly local laborers.

I should be pleased to have the opportunity of discussing this matter further with you, and at any time when you are in our city I should like to arrange a conference. I assure you this is taken up with the best of feelings and with a spirit to be mutually helpful.

Very truly yours,
MARK TUTTLE, Manager,
Intermountain Branch, A. G. C.

ROAD CHIEF URGES FEDERAL LOANS FOR HIGHWAY PROJECTS

"Federal loans to states for highway and other work now stagnating is a most desirable thing. As an aid to unemployment relief, to effect needed highway improvement, and to "keep the Government out of business" it seems most logical that the component parts of the governmental structure should receive federal assistance, is pointed out by T. H. Cutler, president of the American Road Builders' Association.

"The profitableness of highways has been proved not only by the consistent public demand for more and better roads, but also by the profit and loss accounting sheets for highways. While many of the benefits of improved roads are intangible, careful studies show that improved highways fitted to traffic needs more than pay their maintenance costs and sinking fund charges through savings in highway transportation costs.

"Intangible benefits that are none the less real are evident to the most casual observer in sections traversed by good roads. These sections in nearly all cases show a better kept and more prosperous condition that exists in poor road sections.

"Better transportation by highway speeds up business and makes possible new business that could not exist without the improved roads," he concluded.

Mass-Production Housing To Cause New Building Era

By HARVEY WILEY CORBETT, *Architect, New York City*

Harvey Wiley Corbett, noted New York architect, foresees the early passing of the costly "tailor-made" house and its replacement by the machine-made house built by mass production methods. His views, as expressed before the Small House Forum sponsored by the American Institute of Steel Construction, are given herewith, in slightly condensed form.—Editor.

THE small house problem is one that interests architects, even skyscraper architects. I am convinced that small housing has passed out of the "tailor-made" field and will enter into the mass-production or machine-made field.

Why is this going to happen? In almost every other thing that the human race uses, the big corporation and the mass-production factory have come into the picture and are taking over the work which was formerly done by individual craftsmanship. The automobile, of course, is an outstanding example, but so is the can of tomatoes, the bread in the kitchen, the work of the housewife.

The same thing is going to happen with houses. There is an economic factor in all this. In the first place, tailor-made houses—I use that term purposely—are expensive, just exactly as tailor-made clothes are. We are a well-dressed nation. Foreigners visiting this country speak of that fact. Why are we well dressed? Because we wear mass-production clothes. The manufacturers of clothes can employ the ablest designer there is, pay him an almost fabulous sum to design the clothes, and still make money out of it because of the millions of suits of the same kind that he manufactures.

When it comes to a house, tailor-made, the owner can't possibly afford to pay an architect what he should receive to design that house intelligently. The architect ought to receive more than the cost of the house to study a small house problem thoroughly and to design it from an economic point of view with regard to living conditions and all the other related factors. Of course, that doesn't happen. The architect, as a general rule, doesn't appear in the picture of the small house.

A New Market—Industry today is confronted with the problem of finding something which can be manufactured and which the public will consume—some new thing. The market for the automobile is now largely one of replacement. The capacity of the existing automobile plants in America provides something like ten million cars a year. It won't take long until every man, woman and child, including the baby, will have to have a car. They know that that output is becoming more and more limited in its consumption. Radio sets are arriving somewhat at the same point. No one has thought of anything that the world needs which can absorb the output of mass production, with the possible exception of the small house. That is the next thing the great corporations are looking into, thinking about as a possibility. If a small house can be produced on a machine-made basis, there is no reason why the great corporations shouldn't have an absolutely free and unlimited market replacing all the small houses now existing.

The first thing they must do is to enclose space and make it more attractive in its arrangement, more sanitary in its appointment, more fireproof in its construction, more satisfying in its appearance, and at less cost than at present. If they can do that, the market is open to

them, and the small house will become just as common and ordinary a commodity as the automobile is today.

I have often been asked, "What is going to happen to the architects when this occurs?" My answer is, "The same thing that happened to the carriage manufacturers who didn't get into the automobile business." The architects who are engaged in small house work might just as well realize now that they are confronted with this problem. Realizing that, I set up in our office two years ago a research laboratory and have had two or three men at work continuously and solely on this small house problem, to see whether a house could be designed which would be built just as an automobile body is built, carted in a truck to the site and there assembled, with an outside limit of about three days for putting it together.

A great deal of experimentation has been done along these lines by certain corporations, but they haven't yet thought of this house from the point of view of a new commodity. They have still been trying to make a mass-production house which resembled, for some strange reason, either an English cottage or a French chateau. In my opinion, the public is not going to demand anything along those lines except a satisfactory arrangement of space, effectively and efficiently enclosed, and with possible variety of forms and types so that the houses won't necessarily all be alike.

Two Methods—There are two methods that strike me as possible means of construction in houses of this sort. One is a skeleton frame of steel and panels fitting into it. The other, and possibly the more economical of the two, is a form of paneled house in which the panels themselves form the construction and save the cost of the steel frame as a skeleton structure on which to hang the panels.

Both of these things will undoubtedly be developed—both of these ideas, as to methods—and I can look forward to the time when people will prefer to live in this type of machine-made house rather than in the thing which they look upon today as home.

In talking with various people, I find this reaction generally: "Oh, I wouldn't think of living in a machine house just like everybody else's." So I always ask them, "Well, where do you live?"

"Why, I live at number so and so Park Avenue."

"Have you ever been in the apartment upstairs?"

"Why, no, I don't happen to know those people."

"Well," I reply, "get acquainted with them. You will find that you are living in an apartment exactly like the one they are living in, even to the button on the door."

Not one feature of that fourteenth-floor apartment is different from the fifteenth floor. The only difference is that they have Louis XV furniture and you have Louis XIV. You are now living in a machine house of a certain type, and you are living just like everybody else in that particular apartment lives. You have lost your individuality as far as the form, the enclosing of space, and other details are concerned. Those same people have never thought of that. It struck them as a new idea. The same thing will be true of the small house.

I prefer to think of the house of the future not in terms of what we normally call a home, but in terms of what I refer to as enclosed space. The reason I feel that way is that I see already the disappearance of the home as we in the mid-Victorian Age thought of it. The most

important first step toward civilization which the human race took was to settle and cease to be nomadic. When, instead of moving, they stopped and began agriculture, civilization, as we see it today, started. But we were originally a nomadic people.

Times seem to have changed, the cycle seems to have turned, and with our modern methods of transportation we have again become nomadic. The average individual doesn't want to tie himself to a piece of ground, to a home, in the old sense of the word, from which he can't move with ease. The reason is economic. The labor situation, the necessity of transferring individuals, both from the high executive down to the man in the bottom pit, to the point where his labor is wanted, means that the tying of the individual to a certain location is another thing that is past. We can no longer think in terms of a piece of ground, a fine old house on it, the family being brought up, the children and the grandchildren living in the same spot or in the same neighborhood and carrying on in that sense. If we have changed to a nomadic people, a people in movement, then the enclosed space in which we live must be constructed in a manner so that it, too, can be moved. There should be some replacement value in a particular house when the family moves out.

The House of the Future—So I visualize in the future a house which the people, deciding that they can own a small home, just as they now arrive at a point, in all walks of society, at which they can own an automobile, taking up a catalog, looking through it, finding the house that fits the needs of the young married couple, finding that in the course of time when children arrive they just send for another section and add a room. This whole thing, machine manufactured, will come complete, and, in the course of years, with the furniture, just as we now buy an automobile. We don't have to buy any gadgets in order to take a car out of the shop.

People will select this house and if they are in the Ford class, it will be a Ford house; and if they are in the Rolls-Royce class, it will be a Rolls-Royce house, and they will be just as different as those two machines are different on the road.

You may think that it would be impossible to live in a machine house of that type, but you don't hesitate to drive along the road in your Chrysler or your Packard, and the fact that you pass another person on the road riding in the identical car in which you are riding doesn't offend you. You say, "There is somebody else who also knows an automobile and has good taste." You will feel exactly the same way about your house.

Cost vs. Weight—The important factor in this house production business is that things of that type cost in proportion to their weight. Think of the automobile again. The Ford automobile costs so much. Find its weight. Then go to the Pierce-Arrow or the Packard or the Rolls-Royce and measure its weight, and you will be surprised to find that the cost is in proportion to the weight to a surprising degree. The same thing is true in housing, in enclosing space of any kind. The house of the future will be one-third or one-half the weight of the present house.

If you were to construct a four-story building, say the area of this room, in the ordinary method of steel construction, and then you were to take simply the steel supports of that building and cut them off and measure the cross section of steel used in that house, you would find that you had as many square inches of steel in the construction of that four-story house as there are square inches of steel in one of the cables that support the Wash-

ington Bridge across the Hudson River. If that isn't waste, I don't know what is.

When it comes to the weight question, you can see very readily that by reducing weight we reduce cost. When we reduce cost, we offer a commodity which the public is ready to consume and ready to live in.

I remember one time, some years ago, I was speaking before the Royal Institute of British Architects in London and I was talking about the life of buildings. I was discussing our type of skyscraper, and I was speaking of the life of buildings as we look at it in New York—an apartment house at 15 years, a hotel at 20 or 25, and an office building at 30 or 35 years. Irving T. Bush, for whom I built the Bush Building in New York, was in the audience. We were over there on the Bush work I had been doing for some eight or nine years in London. I described how the life of an office building was about 30 years. When we came home afterward, turning to me he said, "Harvey, what do you mean by saying that the life of an office building is only a matter of 30 years? Do you mean to tell me that the building you built for me only five years ago is going to be of no use at the end of 30 years?"

I said, "Mr. Bush, I don't know exactly what is going to happen in the next 30 years in regard to the change in buildings, but let me point out something to you. Supposing that across the street from the Bush Building, on Forty-second Street, a man were to put up a building, the weight of which, because of new methods of construction, would be one-half the weight of your building. That means that the structural cost would be about half your structural cost. Then suppose that it had methods of ventilation, methods of elevator operation, new wiring for radio, television and other things that will come along that we don't know about, and he was able to offer space in that building at one-half the rent that you have to get in your building in order to make it pay. What is going to happen to your tenants? They are just going to walk out at the end of their leases and go across the street and into that new building. Therefore, your building is still structurally sound, still standing, still in perfectly good condition, as it was when it was built, but you have no tenants."

In housing, under machine production, with men at the head of the design departments of these great corporations, men of capacity, paid proper salaries for their work, you will get progress identical with the progress that has happened in automobiles and you get a fashion whereby in the course of five, ten or fifteen years, as the case may be, nobody will be living in one of the dear Olde English cottages we so much admire today, unless they are obliged to because they are too poor to move to any other place.

The modern machine-made house is going to be the thing that people will demand and, as I see it, it is going to be the industry, the new consuming industry that will bring us out of our present depression and give industry, as a whole, an opportunity to re-establish business, employ labor and capital, and put us back on our feet.

DAMAGE SUITS FILED—Suits for damages totaling \$5,913,239 have been filed in the Superior Court at Stockton by farm owners along the San Joaquin River against power companies and irrigation districts. The plaintiffs claim illegal diversion of water which has interrupted the normal flow of the stream and deprived them of water needed to irrigate their lands. Several similar suits were filed recently. Five irrigation districts and the Southern California Edison Company, the San Joaquin Light & Power Company, Miller & Lux, and other concerns are named as defendants.

Oregon Declares Contractor Not A Federal Agency--License Required

A FOREIGN corporation engaged in the construction of post office buildings in Oregon must obtain a license to do business in that State, the Oregon Attorney General's office has advised the State Corporation Commissioner. The corporation is not an instrumentality of the Federal Government, but an independent contractor, the opinion explained. The opinion, as reported by the U. S. Daily, follows in full text:

James W. Mott, Corporation Commissioner:

This is to acknowledge receipt of your letter of May 24 transmitting copies of your correspondence with Hallbauer-LeBahn, Inc., and its attorneys, Messrs. Sabath, Perlman, Goodman & Rein, of 11 South La Salle Street, Chicago, Ill., and requesting the opinion of this office as to whether said Hallbauer-LeBahn, Inc., should qualify as a foreign corporation to transact business in this State, it being engaged at present only in the construction of post office buildings at Astoria and Corvallis in this State under contract with the Federal Government.

Engaged in Federal Work

The attorneys for the corporation express opinion that it is not necessary to qualify a foreign corporation when it is engaged only in Federal Government work; citing as authority *Panhandle Oil Co. v. Mississippi ex rel. Knox*, 277 U. S. 218, 48 S. Ct. 451, 72 L. Ed. 857, 56 A. L. R. 583; *Western Union Telegraph Co. v. State of Texas*, 105 U. S. 460, 26 L. Ed. 1067, and cases cited therein.

It is doubtless true, supported by abundant authority, that a State may not directly tax the property of the Federal Government or the instrumentalities which it uses to discharge any of its constitutional functions; nor may a State, by taxation or otherwise, materially interfere with the due expeditious and orderly procedure of that Government while in the exercise of its constitutional powers.

It is on this broad principle, as I understand it, that the United States Supreme Court rendered its decision in the *Panhandle Oil Co.* case, supra, wherein is cited, among other cases, *Western Union Telegraph Co. v. Texas*, supra.

Exertion of Federal Power

The first of the two cases mentioned involved the question whether the State of Mississippi could collect an excise tax of 1 cent per gallon on the sale of gasoline made by the petitioner to the United States for use of its Coast Guard fleet and Veterans' Hospital. In the course of its opinion in that case, in which it was held that petitioner was not liable for the taxes claimed, the court said:

"The States may not burden or interfere with the exertion of national power, or make it a source of revenue, or take the funds raised, or tax the means used for the performance of Federal functions. * * *

"* * * While Mississippi may impose charges upon petitioner for the privilege of carrying on trade that is subject to the power of the State, it may not lay any tax upon transactions by which the United States secures the things desired for its governmental purposes.

"The validity of the taxes claimed is to be determined by the practical effect of enforcement in respect of sales of the Government. * * *

Government Messages Exempt

In the second case a law of Texas imposing taxes on every chartered telegraph company doing business in the State, requiring each such company to pay a tax of 1 cent for each full rate message sent, and one-half cent for each message the toll for which was less than full rate, was held unconstitutional in that it undertook to impose a direct tax on messages sent and received by and on behalf of the Government, and on interstate messages.

The foregoing cases afford little direct assistance in determining whether the corporation here considered is an instrumentality of the Government, and thus exempt from State taxation. Especially is this true of the latter case, which deals primarily with regulation of interstate commerce. As was said by the Supreme Court of the United States in *Johnson v. Maryland*, 254 U. S. 51, 65 L. Ed. 126, 41 S. Ct. 16:

"The cases upon the regulation of interstate commerce cannot be relied upon as furnishing an answer. They deal with the conduct of private persons in matters in which the States as well as the general Government have an interest, and which would be wholly under the control of States but for the supervening destination and the ultimate purpose of the acts. Here the question is whether the State can interrupt the acts of the general Government itself."

Private Corporations Considered

The case of *Baltimore Shipbuilding & Drydock Co. v. Baltimore*, 195 U. S. 375, 49 L. Ed. 242, 25 S. Ct. 50, is authority for the statement that it is "extravagant to say that an independent private corporation for gain, created by a State, is exempt from State taxation, either in its corporate person or its property, because it is employed by the United States, even if the work for which it is employed is important and takes much of its time." Citing *Thomson v. Union P. R. Co.*, 9 Wall. 579, 19 L. Ed. 792; *Union P. R. Co. v. Peniston*, 18 Wall. 5, 21 L. Ed. 787.

The principle just announced is quoted with approval by the same court in *Fidelity & Deposit Co. v. Pennsylvania*, 240 U. S. 319, 60 L. Ed. 664, 36 S. Ct. 298, and *Metcalf & Eddy v. Mitchell*, 269 U. S. 514, 46 S. Ct. 172, 70 L. Ed. 384.

Held Not Agent of Government

Applying the principle announced in the cases last cited impels to the conclusion that to require the corporation here considered to qualify under the laws of this State in order to do business in the State is not imposition of a tax on the Government in any technical sense. The corporation is not a direct instrumentality of the Government, but is a contractor, doing certain work for the Government, presumably at a fixed compensation. In no sense is it the representative or agent of the Government, nor an integral part of it.

Therefore, it is my opinion that Hallbauer-LeBahn, Inc., should qualify as a foreign corporation to transact business in this State.

UNIVERSAL ATLAS CEMENT CO., a subsidiary of the United States Steel Corp., announces the election as vice-president of F. L. Stone, general sales manager, and Paul C. Van Zandt, assistant to the president in connection with operations and engineering.

President Hoover Vetoes Amendments To Prevailing Wage Measure

ACTING solely on the recommendation of Secretary of Labor William N. Doak, President Hoover vetoed the Metcalf-Connelly bill which sought to amend the Bacon-Davis prevailing wage law, passed at the previous session of Congress, to provide for predetermination of the scale of wages to be paid on all Federal construction projects. The Bacon-Davis bill provided that not less than the prevailing rate of wages in the locality where the work is to be done shall be paid on Federal buildings. Determination of the wage was left to the contracting authority in event of a dispute, and in case of an appeal the Secretary of Labor is the sole arbiter as to the wage to be paid. The Metcalf-Connelly bill was supported by the Associated General Contractors of America, who contended that in fairness to contractors in bidding, the wage should be predetermined and made a part of the advertisement for bids and the contract. Both branches of Congress passed the measure by a decisive vote.

Secretary of Labor Doak's objections to the Metcalf-Connelly bill were that it would "stretch a new bureaucracy" across the country, require a great amount of investigation which would increase administrative expense and that some of its provisions are obscure and indefinite.

Following is the President's message to the Senate:

Text of President's Veto Message

"To the Senate: I return herewith without approval Senate bill 3847, 'An act to amend the act approved March 3, 1931, relating to the rate of wages for laborers and mechanics employed by contractors and sub-contractors on public buildings.'

"I attach hereto a memorandum from the Secretary of Labor setting out in detail the reasons for this action."

Secretary Doak's memorandum follows in full text:

The bill should not be approved. It is obscure and complex, and would be impracticable of administration. It would stretch a new bureaucracy across the country.

The bill is an amendatory substitute for the existing act of March 3, 1931, which is a clear and sufficient law. That law has been clarified and reinforced by an executive order issued last January requiring certain stipulations in public contracts to make effective the manifest purpose of the statute.

The law during its brief existence has worked with beneficial and generally satisfactory results, and without increase in personnel or appropriation is being administered so as to accomplish substantially the ends sought by this legislation, without the many objectionable features which it would entail.

The existing law of March 3, 1931, should not be scrapped for this proposed amendatory bill with its complexities and obscurities, the results of which could only be dissatisfaction, endless controversy in enforcement and great increase in expense to the taxpayer.

The present law consists of two fundamental provisions:

The first is that all contracts on the part of the United States or the District of Columbia for the construction, alteration or repair of public buildings in excess of \$5000 shall contain a stipulation that laborers and mechanics employed on such work shall be paid not less than the prevailing rate of wages for work of a similar nature in the city, town, village or other civil subdivision of the State in which the public buildings are located, or in the

District of Columbia if the public buildings are located there.

The second provision is that every such contract shall contain a further stipulation that in case any dispute arises as to what are the prevailing rates of wages which cannot be adjusted by the contracting officer the matter shall be referred to the Secretary of Labor for determination and that his decision thereon shall be conclusive on all parties to the contract.

It does not require a determination of the rate of wages by any government official before the contract is let, nor even afterward, unless a dispute arises over the prevailing rate of wages in the locality. Such disputes requiring decision by the Secretary of Labor under the present law have been comparatively few because in a majority of cases presented prevailing rates of wages as required by that law and agreeable to the contractor, the laborers and mechanics in the locality and to the contracting officer, have been arrived at in the practical way of negotiation and conciliation without the necessity of formal decisions.

Complication Is Foreseen

This new amendatory proposal introduces a complication into the law by requiring that the advertised specifications of every such contract shall contain a provision stating the prevailing rate of wages in the city, town, village or other civil subdivision of the State or the District of Columbia, as determined by the Secretary of Labor. An enormous amount of preinvestigation would be necessary by representatives of the Department of Labor before the letting of each contract within the terms of the act in excess of \$5000.

For, unless the fixing of the rate of wages be based upon a thorough personal investigation in the locality, the rate stated in the advertised specifications would only provoke dissatisfaction and controversy. Not only would the Government be put to great expense, but there would be cost and inconvenience to the contractors and to the employes remote from Washington to be represented personally before the Secretary of Labor at Washington for the consideration of their cases, all of which the Government would ultimately have to pay for in the contract price.

Would Increase Department Expense

Otherwise investigations by competent representatives of the Secretary of Labor, at great expense to the Government, would have to be made in the locality in advance of the letting of every contract within the terms of this amendatory proposal. A large increase in the personnel of the Department of Labor would be necessary to deal with matters which experience under the present law has demonstrated in most cases do not arise and when they do arise can generally be adjusted through negotiation and conciliation to the satisfaction of all concerned.

The policy of the present law is more practicable in requiring the investigation and decision by the Secretary of Labor in cases only where a dispute arises after the contract is let that cannot be settled by the contracting officer. For that reason a more thorough investigation and careful consideration can be given by the Secretary of Labor and his staff in the comparatively few disputes reaching him for decision.

The present law applies only to public buildings and

President Hoover Vetoes Amendments To Prevailing Wage Measure

ACTING solely on the recommendation of Secretary of Labor William N. Doak, President Hoover vetoed the Metcalf-Connerly bill which sought to amend the Bacon-Davis prevailing wage law, passed at the previous session of Congress, to provide for predetermination of the scale of wages to be paid on all Federal construction projects. The Bacon-Davis bill provided that not less than the prevailing rate of wages in the locality where the work is to be done shall be paid on Federal buildings. Determination of the wage was left to the contracting authority in event of a dispute, and in case of an appeal the Secretary of Labor is the sole arbiter as to the wage to be paid. The Metcalf-Connerly bill was supported by the Associated General Contractors of America, who contended that in fairness to contractors in bidding, the wage should be predetermined and made a part of the advertisement for bids and the contract. Both branches of Congress passed the measure by a decisive vote.

Secretary of Labor Doak's objections to the Metcalf-Connerly bill were that it would "stretch a new bureaucracy" across the country, require a great amount of investigation which would increase administrative expense and that some of its provisions are obscure and indefinite.

Following is the President's message to the Senate:

Text of President's Veto Message

"To the Senate: I return herewith without approval Senate bill 3847, 'An act to amend the act approved March 3, 1931, relating to the rate of wages for laborers and mechanics employed by contractors and sub-contractors on public buildings.'

"I attach hereto a memorandum from the Secretary of Labor setting out in detail the reasons for this action."

Secretary Doak's memorandum follows in full text:

The bill should not be approved. It is obscure and complex, and would be impracticable of administration. It would stretch a new bureaucracy across the country.

The bill is an amendatory substitute for the existing act of March 3, 1931, which is a clear and sufficient law. That law has been clarified and reinforced by an executive order issued last January requiring certain stipulations in public contracts to make effective the manifest purpose of the statute.

The law during its brief existence has worked with beneficial and generally satisfactory results, and without increase in personnel or appropriation is being administered so as to accomplish substantially the ends sought by this legislation, without the many objectionable features which it would entail.

The existing law of March 3, 1931, should not be scrapped for this proposed amendatory bill with its complexities and obscurities, the results of which could only be dissatisfaction, endless controversy in enforcement and great increase in expense to the taxpayer.

The present law consists of two fundamental provisions:

The first is that all contracts on the part of the United States or the District of Columbia for the construction, alteration or repair of public buildings in excess of \$5000 shall contain a stipulation that laborers and mechanics employed on such work shall be paid not less than the prevailing rate of wages for work of a similar nature in the city, town, village or other civil subdivision of the State in which the public buildings are located, or in the

District of Columbia if the public buildings are located there.

The second provision is that every such contract shall contain a further stipulation that in case any dispute arises as to what are the prevailing rates of wages which cannot be adjusted by the contracting officer the matter shall be referred to the Secretary of Labor for determination and that his decision thereon shall be conclusive on all parties to the contract.

It does not require a determination of the rate of wages by any government official before the contract is let, nor even afterward, unless a dispute arises over the prevailing rate of wages in the locality. Such disputes requiring decision by the Secretary of Labor under the present law have been comparatively few because in a majority of cases presented prevailing rates of wages as required by that law and agreeable to the contractor, the laborers and mechanics in the locality and to the contracting officer, have been arrived at in the practical way of negotiation and conciliation without the necessity of formal decisions.

Complication Is Foreseen

This new amendatory proposal introduces a complication into the law by requiring that the advertised specifications of every such contract shall contain a provision stating the prevailing rate of wages in the city, town, village or other civil subdivision of the State or the District of Columbia, as determined by the Secretary of Labor. An enormous amount of preinvestigation would be necessary by representatives of the Department of Labor before the letting of each contract within the terms of the act in excess of \$5000.

For, unless the fixing of the rate of wages be based upon a thorough personal investigation in the locality, the rate stated in the advertised specifications would only provoke dissatisfaction and controversy. Not only would the Government be put to great expense, but there would be cost and inconvenience to the contractors and to the employes remote from Washington to be represented personally before the Secretary of Labor at Washington for the consideration of their cases, all of which the Government would ultimately have to pay for in the contract price.

Would Increase Department Expense

Otherwise investigations by competent representatives of the Secretary of Labor, at great expense to the Government, would have to be made in the locality in advance of the letting of every contract within the terms of this amendatory proposal. A large increase in the personnel of the Department of Labor would be necessary to deal with matters which experience under the present law has demonstrated in most cases do not arise and when they do arise can generally be adjusted through negotiation and conciliation to the satisfaction of all concerned.

The policy of the present law is more practicable in requiring the investigation and decision by the Secretary of Labor in cases only where a dispute arises after the contract is let that cannot be settled by the contracting officer. For that reason a more thorough investigation and careful consideration can be given by the Secretary of Labor and his staff in the comparatively few disputes reaching him for decision.

The present law applies only to public buildings and

hence requires consideration only for the rates in the locality of the building work, but the amendatory proposal applies also to public works and that would involve rates varying from one locality or State to another for the same work, as, for instance, in levee work on the Mississippi or road building in national parks or Government reservations.

Classification of Workers

Under the present law the rate of wages is that for "all laborers and mechanics" employed under contracts within the law, but the amendatory proposal requires the determination of the rate of wages for the "various grades of mechanics and laborers," clearly indicating that the rate is to be determined not only for the different trades, as bricklayers and carpenters, but for the different grades of such workers within each trade, which would require an official determination of the comparative efficiency of individual workers employed on the work by the contractor or sub-contractor.

The amendatory proposal provides for fixed monetary penalties and deductions to be imposed upon the contractor for violations, thus excluding the idea that he may be otherwise penalized. The present law affords superior protection by leaving the matter of breach of its stipulations to be treated like a breach of any other stipulation of the contract.

For that reason all consequences of a breach to the laborers and mechanics, to the Government, and to the contractor or sub-contractor, may be taken into account in determining whether the contract should be abrogated or what other measure should be taken by the Government.

Wage on Day Labor Projects

The amendatory proposal introduces a further new provision declaring that when any of the departments or independent establishments of the United States, including the District of Columbia, performs work "by Government plant and hired labor" which could have been performed under contract, but not including work in arsenals or navy yards, or work performed by the Panama Canal, such departments and establishments, including the District of Columbia, shall also pay not less than the prevailing rate of wages as established by the Secretary of Labor at the time the work is undertaken.

This not only requires the Secretary of Labor to determine in such cases the prevailing rate of wages, but necessarily also to determine whether the work is such as could be done by contract; and there is no provision as to the method of determining such facts or for any method for enforcing the findings of the Secretary of Labor. This new provision is obscure in many respects.

For instance, it does not state any locality for use in determining the prevailing rate of wages for the purposes of this provision or whether it is subject to the \$5000 minimum limitation stated in another section of the bill relating to public works. Further, as to what is meant by "work" and whether "hired labor" would include permanent employes paid by the date or month at rates fixed according to other laws.

Also, whether the provision applies only to work that is being done both in a Government plant and by hired labor or applies to either situation. A further obscurity is whether the provision is to apply when the work is done by Government plant and hired labor but is let out to be done under contract.

The whole design of the new amendatory proposal requires an expansion of bureaucratic control over activities which now function effectively with the minimum of interference by the Government and that only when dispute arises.

OREGON HIGHWAY DEPARTMENT

REPORTS SLUMP IN RECEIPTS

Receipts of the Oregon State Highway Department for the fiscal year ending June 30 were \$15,574,206.32, compared with receipts of \$16,816,418.75 for the previous year, according to a statement compiled by Secretary of State Hoss. The slump of approximately \$1,250,000 in the annual receipts of the department is due largely to reduced motor vehicle registration fees and motor fuels taxes and to the repeal of the market road tax which was reflected in the receipts for last year.

Motor vehicle registration fees slumped from \$4,146,930 in 1930-31 to \$3,700,645 in 1931-32, while motor fuels fell off from \$4,613,193 to \$3,966,925 in the same period. With the one mill market road tax in full effect during 1930-31, receipts from this source totaled \$1,125,074, whereas only one-half this amount, or \$562,580, was received during the year just closed from this source.

During the past year \$1,975,000 was paid out on highway bonds. On the other hand, \$1,997,170 of the year's receipts were from the sale of additional bonds, more than offsetting the bond retirement for the year. Bond interest payment took \$1,263,863 during the year, and road construction, maintenance and administrative expenses \$11,632,796.

At the end of the fiscal year the department had a balance of \$1,218,366.48 on hand, compared to a balance of \$615,820.69 on June 30, 1931.

GOLDEN GATE BRIDGE BOND

ISSUE HELD LEGAL BY COURT

Federal Judge Kerrigan has upheld the legality of the Golden Gate Bridge bond issue.

In a lengthy decision denying an injunction, he adopts the California Supreme Court's findings in favor of the \$35,000,000 bonds, and holds that the project does not invade the constitutional rights of the petitioners.

William P. Filmer, president of the Golden Gate Bridge and Highway District, announced that the district would immediately move to dispose of the bonds, either to the Reconstruction Finance Corporation or through private banking interests.

Warren Olney, Jr., attorney for the Garland Company and the Del Norte Company, losing plaintiffs, said that he would take immediate steps to appeal the ruling and will carry it to the United States Supreme Court. He refused more extended comment until he can study the Kerrigan decision.

In eighteen pages, Judge Kerrigan holds almost uniformly to the contentions of the bridge district. "All substantial questions raised were raised in the State court cases," he said. "Adopting the finding of the Supreme Court, I find that the Felt case was not fictitious and collusive."

This refers to the argument of the plaintiffs that W. W. Felt, Jr., secretary of the district, did not go into the Supreme Court with a bridge bond test case in good faith.

FOR SALE...

110 Horsepower Diesel Engine
at a Bargain

United Commercial Co., Inc.

234 Stewart Street

San Francisco

The Relief Bill Is Enacted

(Editorial in Engineering News-Record)

THE Emergency Relief and Construction Act, which went on the statute books this week after a bitter struggle replete with sensational though trivial incidents, is in every respect the most momentous piece of legislation of the present era. Its transcendent importance for the emergency of the moment lies in its power to bring about vigorous revival of employment and in the immediate stimulation of construction that it will produce. But it has far-reaching social and financial implications beyond this. As the first definite attempt of the government to deal positively with unemployment, it marks out new courses in public policy.

Possibilities of epoch-making effects on the future reside in many provisions of the act, quite aside from the unprecedented charity-loan authorization. Among other things it establishes a new governmental policy on construction. It places the relation of federal and local governments on a new basis, which may lead to broader regulation and control. It sets up federal banking in competition with private banking. And it initiates government aid to mass housing. Future experience will have to show what these startling innovations imply.

The act represents a supreme effort of the nation to correct the human ills and distress arising from business breakdown. In this aspect it is a compromise between charity relief and public-works relief; the long contest between construction and dole ended in a draw. Back of this outcome lay the fact that through long neglect the need for relief had become so pressing as to demand immediate attention, while at the same time the progressive disappearance of construction was too obvious a factor in business disintegration to be ignored. There was sharp clash between divergent views as to how the economic upset might be rectified—between rock-ribbed conservatives who advocated a dole and liberals who held to self-recovery through employment; between those who approached the problem by way of the stock and bond market and those who thought in terms of human productive power. All parties were sincere, and compromise was inevitable. But it is nevertheless true that the government in substance has disclaimed responsibility for protecting its citizens from the undeserved hardships resulting from credit destruction; that issue remains to be fought out in the next depression.

Briefly, the act provides 300 millions for charity loans to the States, \$1,500,000,000 for loans to promote local public works and housing, these two to be administered by the Reconstruction Finance Corporation; and 322 millions of Treasury funds for federal construction. Provision is also made for direct Federal Reserve loans to private business. The federal construction clause includes two items of very special importance to engineers: a 120 million dollar emergency highway loan fund, and 10 millions for Hoover Dam, which latter assures early turning of the river; these provisions, by preventing the paralysis of countrywide construction activities, will help powerfully to steady the course of business and will keep hundreds of thousands of men at work.

Outstanding features of the construction loan clauses are the wide discretion vested in the R. F. C. and the restriction of public works loans to *self-liquidating* projects. As to the former, the whole effectiveness of the act may be said to hinge on the attitude taken by the corporation;

if it looks on loans as the present-day banker does, little employment may result, but it will probably be distinctly more liberal. As to the self-liquidating restriction, a radically new principle is set up, of extensive future as well as present import.

Some of the forerunners of the act were based on the broad principle of creating public works employment sufficient to restore earning power to those whom industry had discharged. These met fatal opposition at an early date. Later a more limited proposal was made, by this journal and by the American Society of Civil Engineers—namely, to restore the interrupted normal program of local construction. This also was disregarded, for the limitation to self-liquidating works excludes the major part of normal state and municipal construction. Yet it is estimated that, if *utilized effectively*, the act can put at least a million men to work.

"Self-liquidating" obviously implies that revenue shall be collected and shall be pledged against costs. This will make the act apply to toll bridges, benefit-assessment work, housing and occasional utility and special services. Apparently it covers waterworks and highways only when their revenues are expressly pledged. Through this restriction the act may have far-reaching effects on city accounting and revenue practices. Some proposals for segregation of revenue and imposition of special charges have in fact already been made. Earliest action is likely in respect to placing water supply service on a self-contained basis.

Apprehensions have been entertained over the possible effect of the act to encourage municipal electric utility enterprise, and on the other hand it has been viewed as encouraging private sewage-disposal service. There appears to be little ground for such speculations. The act contains nothing tending to shift the fundamental line of demarcation between public and private enterprise.

In sum, the new law is of extraordinary importance in its bearing on employment, on construction and on business recovery. It is of great significance to city and state administration, to industry and to finance. While its full effects cannot yet be foreseen, an immediate large-scale revival of construction activity seems definitely assured.

In itself, of course, the law does little to create employment. What practical results it will achieve depend altogether on the energy, wisdom and speed of local governments—aided by their engineering groups, we trust—in developing their self-liquidating projects, obtaining loans for them and putting construction under way. Every project of the kind needs to be mobilized at once, for the country is ready to go to work.

BRITISH TO STUDY CONCRETE—A committee has been set up by the building research board of the Department of Scientific and Industrial Research in England to review present methods and regulations for the use of reinforced concrete in building and to make recommendations for rules of practice. The immediate occasion for the appointment of the committee was a request from the London County Council, whose advisory committee had been impressed with the recent code of practice drawn up by the steel structures research committee of the Department of Scientific and Industrial Research. The concrete committee plan and operation will probably parallel those used on the steel structures committee. The chairman is Sir George Humphreys.

CUT GOVERNMENT COSTS

SAYS MEHREN, CEMENT CHIEF

Government costs must be reduced, but in doing so it is highly important to distinguish between wasteful current expenditures and wise capital investment, according to Edward J. Mehren, president of the Portland Cement Association.

Mr. Mehren's views were expressed in a letter to Robert L. Lund, president of the National Association of Manufacturers, which is holding a conference of trade organizations in New York this week to consider means of effecting economies in government.

"There is grave need for reduction in government costs," Mr. Mehren's letter said in part. "Duplicated, overlapping and wasteful functions should be eliminated. The benefits to industry and to the country should be out of all proportion to the energy required.

"It is highly important, however, to distinguish between wasteful current expenditures and wise capital investment. The latter creates employment, is not competitive with private industry, and if truly wise, finds economic justification in the money saved or earned.

"For a number of reasons this is a favorable time to undertake needed public works. The community can 'eat its cake and have it, too.' Bonds of financially stable communities are selling at par or even at a premium. Many other high class municipal bonds are selling at small discounts. On the other hand, construction costs are off materially. The average cost of paved highways is between 20 and 30 per cent under that of 1930. Building costs have dropped as much. Even if bonds must be sold on a 6 per cent basis, the ultimate cost of the work to the public would be a bargain compared with the costs of work for a decade prior to 1929.

"As to the nature of wise public investment, be it noted that American cities are using thousands of miles of worn out pavement, uneconomical to maintain and costly to users. There are 247 cities of over 1000 population in the United States which have no sewage collection system whatever and almost 6000 which have no disposal plants. And these conditions continue in the face of constant protest from State and municipal boards of health.

"Business leaders and public officials have come to see the function of public works in speeding up the business machinery," the letter concluded, "which is added reason for keeping in mind the distinction between current expenditures and wise capital investment."

NEW BRIDGE FLOOR CONSTRUCTION—A new type of bridge floor construction known as Teegrid is announced by the Truscon Steel Company, Youngstown, Ohio. It is light in weight and has sufficient strength and permanence to support the demands of traffic. The steel Teegrid slab is manufactured from structural tees placed side by side, with their flanges welded together and with triangular cross-bars pressure-welded into the top of the stems of the tees. The standard spacing of the cross-bars is four inches. The space between the stems of the tees and beneath and around the cross-bars is filled with concrete, a steel-armored wearing surface being presented by the top surface of the cross-bars and the stems of the tees. The steel slabs are manufactured in widths up to four feet and in any desired length. Manufacturing standards provide for an arc weld two inches in length located between flanges in the tees and at the ends of the slabs and midway between each support. It is claimed that the welding makes the slab stiff enough for handling and assures lateral distribution of load.

BASCULE BRIDGE PATENTS ARE

CITED IN A. S. C. E. RESOLUTION

Because of the wide circulation of reports to the effect that bascule bridge patents would be infringed if the designs for a proposed bridge in Petaluma were executed, the board of directors of the San Francisco Section, American Society of Civil Engineers, had adopted the following resolution:

Whereas, it has come to the notice of the board of directors of the San Francisco Section, American Society of Civil Engineers, that malicious rumors are being circulated that the bascule bridge recently designed by one of our members for the City of Petaluma probably infringes on patents, that the city will have to pay damages for such infringements and that only the original holder of many of the patents is fully competent to design bascule bridges, and

Whereas, it is common knowledge that the patents covering essential features of bascule bridges have expired and that no royalties or damages can be collected on such patents, and

Whereas, the structural engineers of this region and members of this society, in particular, are fully competent to design bascule bridges without infringing patents,

Now, Therefore Be It Resolved, that the board of directors of the San Francisco Section of the American Society of Civil Engineers condemns the circulation of such rumors and expresses full confidence in the ability and integrity of our local bridge and structural engineers,

And, Be It Further Resolved, that the secretary of this section be instructed to forward copies of this resolution to the members of the City Council of Petaluma and to the Chamber of Commerce of Petaluma.

MONTANA LAW TO LIMIT

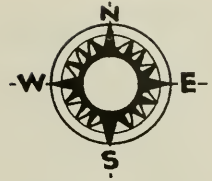
ROAD USE HELD INVALID

Requiring a "certificate of convenience and necessity" from private contract carriers by motor vehicle, as required by a statute passed in Montana last year, has been declared invalid by the State Supreme Court, says Engineering News-Record (New York). Requiring a contract carrier to obtain such a certificate, being not a regulation of the use of the highways but a prohibition of competition and, therefore, a measure designed to regulate the business of those using the highways, cannot stand, the court said. The court also pointed out that the statute discriminates between the private contract carrier who is carrying the goods of others under contract and the persons transporting their own goods. The distinction between these two classes of carriers admits of no diversity of treatment to the extent of excluding the one from the highway and not the other, according to the court; the public safety is in like manner endangered and the highways as much damaged by carriers hauling their own goods as by those operating under contract.

The court, in its decision, took cognizance of the recent U. S. Supreme Court decision upholding the new Texas law for the regulation of motor vehicles on the highways of the State and a similar law in Kansas. Neither decision bore directly on this case, the court said; in the Texas case the State's right to prescribe weight and size of the vehicle was upheld, and in the Kansas case the Supreme Court was careful to point out that the State commission had no authority to deny a permit to a private carrier so long as it complied with the requirements as to liability insurance and taxes.



Here To There And Back Again



NAMES

Some issues ago we mentioned a name: SHANORA SAROYAN, as beautiful a name as we have ever heard—and already there have been a number of requests for the phone number!

* * * *

Among other entries in our Book of Names is found the seemingly fitting name of the Commissioner of Police of New York: MULROONEY. there is a "cop" for you!

* * * *

Then, going to Saorstát Éireann (Ireland to you!), we find the Headmaster of a Public School in Dublin: Professor SEAMUS O'CASEY.

* * * *

Another name: Her Daddy calls her "Mickey," and at one time she was just a squirmy, pink armful—but now she is a young lady, having reached the mature age of eleven years. In deference to her years and maturity, we will now call her MIQUE, but to her Daddy she will always be "Mickey."

¶ ¶ ¶ ¶

This entire page is just "this and that," so here is a note we found in Pietro Cohen's notebook:

- Q. Name five animals belonging to the cat family.
- A. Tom Cat, Alley Cat and three kittens.

* * * *

Up above, we mentioned something about Ireland, and that reminds us: Ireland fought 786 years for Freedom—got it, and is still fighting over what to do with it! Among other things that tie a knot in the tail of the British Lion is the Oath of Allegiance taken by Eamon de Valera, President of the Irish Free States. You should read it:

"Ireland alone and Ireland her own and all therein from the sod to the sky. The soil of Ireland for the People of Ireland, to have and to hold from the God alone who gave it, to have and to hold for them and their heirs forever, without suit or service, rent or render, faith or fealty to any power under Heaven."

¶ ¶ ¶ ¶

Our friends in Southern California started out to make "the biggest town in the world"—so reached out and grabbed all the mileage they could get until Los Angeles is of an area about 640 square miles, or better. Here is a by-product: In taking in that territory, they also included 50,000 dairy cows.

Does this, or does this not make Los

Angeles the "BIGGEST COW TOWN" in the United States

* * * *

And while we are thinking of Names—let us not forget HILDA.

She is good looking to the degree you would think her utterly useless! She was born about 23 years ago in Munich (Munich to you!), Bavaria, on the Northern slope of the Tirolese Alps.

What about her? Mister, CAN she cook? What that woman can do to a mess of spare-ribs and sauerkraut just isn't written in the book! (Try and get THAT phone number!)

* * * *

Here is a sweet thought along the line of Peace and disarmament: Premier Mussolini of Italy says: "Fascism does not believe in the possibility or utility of perpetual peace."

* * * *

Speaking of names, let us introduce "Benny":

Eccellenza Benito Mussolini: Capo del Governo, Duce del Fascismo, Caporal D'Onore Della Milizia Fascista, Primo Ministro del Regno D'Italia, Ministro Dell'Interno, Cavaliere Dell'Ordine Supremo Dell'Annunziata Santissima, Cavaliere Dell'Ordine Dello Sprone D'Oro.

* * * *

Now, between you and me and the Linotyper: "Aint that SOME MAN!"

* * * *

Speaking of Linotypers and Names—here we call in FRED DOERRIE, the head-kleagle of the mechanical end of this magazine. Fred will tell you that there are two, only TWO WORDS in any language that a Linotype Operator cannot mis-spell. They are:

ETAOIN SHRDLU.



STUDY ON ALKALI ACTION ON CONCRETE NEARING COMPLETION

An investigation into the action of alkali on cement and concrete, started nearly ten years ago by the National Research Council of Canada with the co-operation of the University of Saskatchewan, is nearing completion, Engineering News-Record (New York) reports. The work during the past year has been directed toward bringing the various phases of the investigation to a close. Some time must still elapse, however, before the completion of the long-time experiments on the resistance of concrete to sulphate action, which have been under way for some years. These long-term experiments deal mainly with the following:

- (1) Use of siliceous admixtures in concrete.
- (2) Steam-cured concrete.
- (3) The efficiency of membrane waterproofing.
- (4) The permanence of cements other than Portland.

The experimental work on the modification of the raw mix used in the manufacture of Portland cement, with the object of increasing the resistance of the finished product to alkali action, has yielded very promising results. This work was based on the previous laboratory experiments on the pure components of Portland cement. The preparation of alkali resistant cement has been carried on during the last two years both on a small scale in laboratory furnaces and on a semi-commercial scale in co-operation with one of the large cement companies. Cements of extremely high resistance to alkali action have been produced and are now being tested, and further experiments are planned for the future.

CUTTING MACHINE—A new oxy-acetylene cutting machine has been announced by the Air Reduction Sales Co., New York City. The new machine is known as the Airco-D-B No. 4 Radiagraph, and is a successor to the same company's No. 1-A Radiagraph. The carriage of the machine has been redesigned to give a lower center of gravity and a broader gauge. The manufacturer states that there is no tendency for the machine to become unbalanced, even with the cutting torch in its outermost position. Two of the four carriage wheels are swiveled and act as trailers. The machine is driven by a 75-watt variable-speed motor. Either alternating or direct current, 110 or 220 volts, will operate the machine. The speed range of the carriage is from 3 to 38 inches per minute. Circular as well as straight cuts can be made.

BUREAU OF STANDARDS YEARBOOK NOW AVAILABLE FOR DISTRIBUTION

The 1932 edition of the Standards Yearbook has been issued by the National Bureau of Standards as Miscellaneous Publication No. 133, and may be purchased from the Superintendent of Documents, Government Printing Office, Washington, D. C., at \$1 per copy, or through the office of the American Standards Association, 29 W. Thirty-ninth St., New York City.

The special feature of the present Yearbook is a series of articles contributed by experts in numerous fields of communication. These cover such diverse subjects as radio, aeronautical communication, television, acoustics, traffic signals and language.

The book reviews the work of the National Bureau of Standards and of the national laboratories in other countries; the work of a number of international standardizing agencies, such as the International Bureau of Weights and Measures, the International Union of Geodesy and Geophysics, the International Electrotechnical Commission, the Pan-American Sanitary Bureau and the International Standards Association; and the standardization activities of the 21 national standardizing bodies. It also includes a complete list of technical societies and trade associations, together with brief reviews of their standardization activities. There is also a valuable chapter on State, county and municipal purchasing agencies.

The bibliography on standardization prepared by the Library of Congress, which in previous editions has been a part of the Yearbook, has been published as a separate document this year, and may be purchased for 5 cents per copy.

HAND LABOR IS COSTLY—Unemployment has presented a new problem in highway construction, according to Samuel J. Humes, director of Highways for Washington State.

Humes declares that 38 to 70 per cent more must be spent in road construction if hand labor is used in accordance with demands of state labor.

"It is a question in the minds of engineers if the additional cost is justified or if more men actually would appear on the pay rolls if hand labor was abandoned and machinery used," the director said.

On a recent Skagit county job, alternate bids for hand and machinery labor were submitted. Hand labor would have necessitated 70 per cent additional cost.

TRIAL
SUBSCRIPTION BLANK



Daily
Construction Reports

PACIFIC CONSTRUCTOR,
545 Mission Street,
San Francisco, Calif.

.....1932

Dear Sirs:

Send me WITHOUT COST for a period of one week, sample copies of PACIFIC CONSTRUCTOR DAILY NEWS SERVICE covering up-to-the-minute tips on work contemplated, bids wanted, bids opened and contracts awarded for all types of engineering construction, materials and equipment.

Name.....

Address.....

City.....

INDIVIDUAL SALARY DONATIONS
OF STATE WORKERS LISTED

| | No. of Employees | Monthly Salary | Contribution Per Month | Percentage of Contribution |
|--|------------------|----------------|------------------------|----------------------------|
| | 131 | 205.00 | 16.75 | 8.17 |
| | 95 | 210.00 | 17.50 | 8.33 |
| | 207 | 215.00 | 18.25 | 8.48 |
| | 82 | 220.00 | 19.00 | 8.63 |
| | 167 | 225.00 | 19.75 | 8.77 |
| | 102 | 230.00 | 20.50 | 8.91 |
| | 95 | 235.00 | 21.25 | 9.04 |
| | 57 | 240.00 | 22.00 | 9.16 |
| | 42 | 245.00 | 22.75 | 9.28 |
| | 256 | 250.00 | 23.50 | 9.40 |
| | 21 | 255.00 | 24.40 | 9.57 |
| | 112 | 260.00 | 25.30 | 9.73 |
| | 68 | 265.00 | 26.20 | 9.87 |
| | 27 | 270.00 | 27.10 | 10.08 |
| | 86 | 275.00 | 28.00 | 10.18 |
| | 43 | 280.00 | 28.90 | 10.32 |
| | 62 | 285.00 | 29.80 | 10.46 |
| | 4 | 290.00 | 30.70 | 10.59 |
| | 5 | 295.00 | 31.60 | 10.71 |
| | 160 | 300.00 | 32.50 | 10.83 |
| | 4 | 305.00 | 33.40 | 10.95 |
| | 17 | 310.00 | 34.30 | 11.06 |
| | 20 | 315.00 | 35.20 | 11.17 |
| | 5 | 320.00 | 36.10 | 11.28 |
| | 93 | 325.00 | 37.00 | 11.38 |
| | 18 | 330.00 | 37.90 | 11.48 |
| | 20 | 333.33 | 38.50 | 11.55 |
| | 15 | 335.00 | 38.80 | 11.58 |
| | 3 | 340.00 | 39.70 | 11.68 |
| | 4 | 345.00 | 40.60 | 11.77 |
| | 65 | 350.00 | 41.50 | 11.86 |
| | 1 | 355.00 | 42.40 | 11.94 |
| | 10 | 360.00 | 43.30 | 12.03 |
| | 69 | 375.00 | 46.00 | 12.27 |
| | 2 | 380.00 | 46.90 | 12.34 |
| | 2 | 385.00 | 47.80 | 12.41 |
| | 1 | 390.00 | 48.70 | 12.49 |
| | 1 | 395.00 | 49.60 | 12.56 |
| | 41 | 400.00 | 50.50 | 12.62 |
| | 1 | 405.00 | 51.40 | 12.69 |
| | 1 | 410.00 | 52.30 | 12.76 |
| | 34 | 416.67 | 53.50 | 12.84 |
| | 17 | 425.00 | 55.00 | 12.94 |
| | 2 | 430.00 | 55.90 | 13.00 |
| | 1 | 435.00 | 56.80 | 13.06 |
| | 1 | 445.00 | 58.60 | 13.17 |
| | 7 | 450.00 | 59.50 | 13.22 |
| | 1 | 460.00 | 61.30 | 13.32 |
| | 11 | 475.00 | 64.00 | 13.47 |
| | 40 | 500.00 | 68.50 | 13.70 |
| | 4 | 520.00 | 72.10 | 13.86 |
| | 3 | 525.00 | 73.00 | 13.90 |
| | 6 | 541.67 | 76.00 | 14.03 |
| | 1 | 544.17 | 76.45 | 14.05 |
| | 3 | 550.00 | 77.50 | 14.09 |
| | 1 | 575.00 | 82.00 | 14.26 |
| | 8 | 600.00 | 86.50 | 14.42 |
| | 6 | 625.00 | 91.00 | 14.56 |
| | 4 | 658.33 | 97.00 | 14.73 |
| | 6 | 666.67 | 98.50 | 14.77 |
| | 1 | 700.00 | 104.50 | 14.93 |
| | 4 | 733.33 | 110.50 | 15.07 |
| | 1 | 741.67 | 112.00 | 15.10 |
| | 1 | 750.00 | 113.50 | 15.13 |
| | 1 | 800.00 | 122.50 | 15.31 |
| | 22 | 833.33 | 128.50 | 15.42 |
| | 6 | 950.00 | 156.50 | 16.47 |
| | 1 | 1,000.00 | 169.00 | 16.90 |
| | 1 | 1,458.33 | 283.58 | 19.45 |

The manner in which each individual state employe will help the state in an effort to avert a deficit in the general fund during this biennium is graphically shown in the tables of "voluntary contributions" for state workers reported in the Sacramento Bee.

There are 12,044 monthly salary employes and 4,026 daily wage employes, making a total of 16,070 affected. The University of California employes are not included in the "voluntary contribution" list.

The employes will contribute approximately \$154,888 each month to the general fund, or a total sum of \$1,858,665 for the current fiscal year ending June 30, 1933. The contributions will start as of July 1st.

The daily wage workers will contribute on the following basis:

| Rate Per Day | Contribution Per Day | Percentage of Contribution |
|----------------------|----------------------|----------------------------|
| \$3.00..... | \$.055 | 1.83 |
| 3.50..... | .072 | 2.08 |
| 4.00..... | .094 | 2.37 |
| 4.50..... | .127 | 2.82 |
| 5.00..... | .187 | 3.74 |
| 5.50..... | .246 | 4.49 |
| 6.00..... | .307 | 5.12 |
| 6.50..... | .367 | 5.65 |
| 7.00..... | .441 | 6.30 |
| 7.50..... | .516 | 6.88 |
| 8.00..... | .591 | 7.39 |
| 9.00..... | .741 | 8.24 |
| 10.00..... | .891 | 8.91 |
| 15.05 (highest)..... | 1.774 | 11.79 |

The contributions of the monthly salary workers are shown in the following table:

| No. of Employees | Monthly Salary | Contribution Per Month | Percentage of Contribution |
|------------------|----------------|------------------------|----------------------------|
| 82 | \$ 50.00 | \$.50 | 1.00 |
| 25 | 55.00 | .70 | 1.27 |
| 52 | 60.00 | .90 | 1.50 |
| 33 | 65.00 | 1.10 | 1.69 |
| 135 | 70.00 | 1.30 | 1.85 |
| 208 | 75.00 | 1.50 | 2.00 |
| 121 | 80.00 | 1.70 | 2.12 |
| 453 | 85.00 | 1.90 | 2.23 |
| 338 | 90.00 | 2.10 | 2.33 |
| 238 | 95.00 | 2.30 | 2.42 |
| 595 | 100.00 | 2.50 | 2.50 |
| 1233 | 105.00 | 3.10 | 2.95 |
| 574 | 110.00 | 3.70 | 3.36 |
| 162 | 115.00 | 4.30 | 3.73 |
| 388 | 120.00 | 4.90 | 4.08 |
| 527 | 125.00 | 5.50 | 4.40 |
| 353 | 130.00 | 6.10 | 4.69 |
| 264 | 135.00 | 6.70 | 4.96 |
| 345 | 140.00 | 7.30 | 5.21 |
| 378 | 145.00 | 7.90 | 5.44 |
| 686 | 150.00 | 8.50 | 5.66 |
| 167 | 155.00 | 9.25 | 5.96 |
| 347 | 160.00 | 10.00 | 6.25 |
| 106 | 165.00 | 10.75 | 6.51 |
| 399 | 170.00 | 11.50 | 6.76 |
| 300 | 175.00 | 12.25 | 7.00 |
| 274 | 180.00 | 13.00 | 7.22 |
| 129 | 185.00 | 13.75 | 7.43 |
| 170 | 190.00 | 14.50 | 7.63 |
| 67 | 195.00 | 15.25 | 7.82 |
| 485 | 200.00 | 16.00 | 8.00 |

CO-OPERATIVE CONSTRUCTION CREDIT

CONSTRUCTION INDUSTRIES' CREDIT BUREAU

(A non-profit, membership owned and operated association affiliated with the National Association of Credit Men)

333 MONTGOMERY STREET, SAN FRANCISCO

F. H. Eichler, Chairman

A. J. McGarry, Mgr.

SO I ups to him with: "Six million people can't be wrong." And he ups to me with: "What six million people can't be wrong about what?"



A. J. MCGARRY

That gave me my opportunity, so I told him plenty. I said: "Who else but the people of this nation engaged in the oldest and noblest art of man—the construction industry. The industry most lowly in origin, most sacred in conception, the most glorious in perfection, which has risen from the humble hut of the savage to the most magnificent creation of architectural genius."

Seeing that I had him rather groggy with all this, I went on, "Construction underlies the economic organization of the country. It continuously con-

tributes to the permanent wealth of the nation.

"The product of its creation, wrought from the giants of the forest, the bowels of the earth, and the treasures of the world, unlike that of other industries, endures for ages.

"Take for example, the great pyramids, those imperishable monuments which grace the skyline of the desert, standing in the gray dawn of historic morning, as everlasting memorials to the character, courage and inspiration of master builders and the skill of human hands."

Seeing his stupefaction at this flow of words, I paused a second to let it sink in, and then continued with: "Just consider the towering temples of commerce, whose giant forms adorn the skyline of the modern metropolis, standing as lasting monuments to the proficiency of master builders of today, and what's more, as a challenge to the master builders of tomorrow."

Now I had him, hook, line and sinker; he was mine— all mine. But realizing that I must make the most of my golden opportunity, I shot this at him: "Even in spite of this immortal background—in spite of the fact that construction is the basic industry of all creation, and without its influence we would be worse than animals today, the construction industry in 1932 is far from healthy; yes, it's downright sick."

This went a trifle over his head, so I hastened to explain:

"There are reasons, oh, many reasons, why this is so. General business conditions—over-expansion and so on—but those causes are all economic, and outside of the industry itself. But there are other faults, and mighty serious ones too, for which the industry is responsible."

I explained to him about the vicious system of competitive bidding; the inadequacy of surety bonds and lien laws in lieu of the prerequisites of credit—character, capacity and capital. I pointed out the insatiable greed for greater sales volume on the part of every branch of the industry; the absence of co-operation and co-ordination of effort and how all these factors, plus many more, were regarded as contributing causes of the cancerous condition, which only sound credit policies and sane credit practices could correct and cure.

I told him about the formation several years ago of the Construction Industries Credit Bureau, as a department of that huge nation-wide membership owned and controlled credit organization, The National Association of Credit Men.

He listened to my description of the chapter idea, where suppliers meet and discuss mutual accounts, realizing that their own interests are best served through co-operative use of sound credit ethics and practices.

I asked him, "Do you know how much you can afford to sell?"

His reply was characteristic: "Why sure, using your own type of hypothesis, I can afford to sell whatever the traffic will bear."

"You are both right and wrong," I answered.

"Every one of us realizes that there is a definite limit to the amount of goods we can buy. We know how much our income is; we use bookkeeping systems and budgets so that the income will be under efficient control. But selling—that's another matter.

"Offhand, it seems as if selling is controlled simply by the measurable factors of production and distribution costs. But each sale must bring in actual profit, and that depends on your buyer's ability to pay you. You know from experience that you can't safely trust the buyer's judgment on this point; there wouldn't be highly developed mercantile and collection agencies if you could. That means that you have to know how much he can afford to buy before you sell him—you have to balance your sales to the ability of your buyer to pay.

"Tuning your sales volume to the capacity of your buyer to pay is very much like the working of a phonograph. To produce harmony, rhythm and melody the phonograph must run under definite control. If you were to remove the small governor from within the mechanism, instead of music you would get only noise. Because of perfect control the result in music is perfect."

"Think of your sales methods as the driving force, like the phonograph, and your profits as the music—which isn't so farfetched. It isn't volume alone you are after, but profits that should come from volume. Your business machine will play a tune of profits only if you control the volume—by balancing your sales with your buyer's ability to pay. And you maintain this balance by regulation of credit.

"Everyone selling to the construction industry must contend with a variety of influences which affect the ability of a particular buyer to pay and govern the amount you can safely sell. You sell either directly or indirectly to the contractor, and his financial soundness and business ability are naturally your first consideration. Does he know the building business or depend on a fore-

man? Has he ever had liens filed against him? How has he paid his bills to others? Is he likely to pay your bills if the owner fails to pay him? Can he get labor and material bonds from surety companies on his jobs? Does he keep intelligent records and books to enable you to know how he stands financially, and also to enable him to figure his estimates and costs correctly? Every one of these questions has a bearing on his ability to pay and on the amount of goods you can afford to sell him."

It sure was interesting to watch the expression on his face when I told him the following facts:

"During the past two years in the San Francisco Bay area alone there were 299 petitions in bankruptcy filed by general and sub contractors with liabilities of over seven and one-half million dollars and assets of only about two and one-half million, or the startling loss to creditors of the building industry of nearly five million dollars."

I pounded this thought home by pointing out that these figures did not include losses resulting from the filing of liens and compromised adjustments.

"It might interest you to know," I said, "that the Construction Industries Credit Business has a file and complete record of all these petitions and don't overlook the fact that these contractors, who at the present time are sporting discharges from the Bankruptcy Court, will again be submitting bids in competition with you."

"There are a number of other factors," I added, "which determine how much you can afford to sell."

"What you have told me, Mr. McGarry, is intensely interesting," he commented, "but what are these other factors?"

"I think I've told you enough about the Construction Industry for one day," I replied, "but we have prepared a little booklet entitled, 'How much can you afford to sell,' which tells the story pretty well. If you or anyone else would like a copy of this pamphlet without any obligation whatsoever, call me at SUtter 3960 and I'll send it to you."

I wonder how many of you people in the Construction Industry really want to know "How much you can afford to sell."

WINS GAS TAX REFUND—Settlement of the gasoline tax controversy between Six Companies, Inc., builders of Hoover Dam, and the State of Nevada is announced by J. S. Pohe, statistician of the Nevada tax commission.

Refunds claimed by Six Companies for the six months commencing November 1, and amounting to \$35,013.24, had been held up by the State pending a determination of whether any of the gasoline was used on State roads within the limits of the federal Hoover Dam reservation.

A compromise was reached only recently, Six Companies finally conceding that approximately 2,512 gallons had been consumed on State-owned roads, whereupon the State granted refunds totalling \$34,912.76 and refused the contractor's earlier claim for an additional \$100.48.

Hereafter, according to Pohe, the State will collect its 4-cent tax for all gasoline consumed by Six Companies' vehicles operating on the State highway from the gateway of the reservation to Boulder City. The company, he said, will assist in the collections by keeping an accurate check of all gasoline used.

LOCAL LABOR PREFERRED—The Merced County Supervisors have adopted Ordinance No. 188 enforcing preference for the employment of resident laborers on county construction and defining conditions under which contractors for such work shall be awarded.

ARKANSAS CONTRACTORS REPORT

BUSINESS TO CENSUS BUREAU

Census of construction figures, compiled from data gathered in connection with the census of distribution, show that construction business of Arkansas contractors, for the year 1929, amounted to \$17,021,623. Of this total about 77 per cent represents construction business done in the State of Arkansas. This business was reported by 118 concerns, comprised of 83 general contractors and 35 subcontractors, each of whom reported a business of \$25,000 or more.

Construction business handled under general contract or directly for owner amounted to \$15,135,000, and that under subcontract \$1,886,000.

The principal expenditures reported totalled \$13,536,000, of which \$7,156,000 went for materials, \$3,915,000 for wages, and \$2,465,000 for subcontract work let.

Classification by type of ownership is given for \$14,008,683 of the total business reported, as follows:

| | |
|---------------------------------|-------------|
| Private construction | \$5,147,318 |
| Quasi-public construction | 679,978 |
| Public construction | 8,181,387 |

There were 520 contracting establishments in Arkansas who reported a business of less than \$25,000. Of this number, 177 classed themselves as general contractors and 340 as subcontractors.

Further details regarding the construction business in Arkansas are contained in the bulletin, "Construction Industry—1929—Arkansas," just issued by the Bureau of the Census. This report is obtainable from the Superintendent of Documents, Government Printing Office, Washington, D. C., for 5 cents. Remittance should be made by postal money order, express money order, check made payable to the Superintendent of Documents, or by currency sent at the sender's risk. Postage stamps will not be accepted.

SUB-CONTRACTOR SUED—A suit involving the Six Companies, Inc., Boulder Dam contractors, and nearly twenty other concerns and corporations was filed in the Federal Court at Reno, Nevada, July 20, by the National Surety Company, sureties on a \$75,000 bond of Carl K. Bryan, a sub-contractor at Boulder Dam.

Bryan held a contract for hauling the rock from the diversion tunnels but failed to carry out the contract and the work was taken over by the surety company which is liable on the bonds to the creditors of Bryan. The surety company asserts that Bryan was paid \$58,000 by the Six Companies, Inc., in excess of what was actually coming to him. The surety company also asks for \$32,000 for finishing the contract.

Among the creditors of Bryan is the International Harvester Company which claims that the contractor owes \$190,000 for trucks and equipment.

The surety company asks for an injunction to prevent the various creditors of Bryan from filing separate suits and asks that all suits be combined in one and that the \$75,000 provided in the bond be pro-rated among the creditors.

Under the trade name of RegOroD, the Bastian-Blessing Co. is introducing a new line of welding rods and electrodes. The line includes every popular type of rod, such as high-speed and high-test materials. It will be sold through the existing organization of Rego distributors. It is stated that scientific research and careful field tests have been made in the development of this line of rods.

GRADE-PAVE.—ALAMEDA COUNTY—STATE HIGHWAY

- ALAMEDA COUNTY, Cal.—Fredrickson & Watson, 873 81st Ave., Oakland, at \$169,318.05 submitted low bid to State Highway Commission to grade and pave with Portland cement concrete, 2.4 miles between Castro Hill and Stanton Ave., involving:
- (1) 46 remove trees (size 1);
 - (2) 89 remove trees (size 2);
 - (3) 147 remove (size 3);
 - (4) 3 remove trees (size 4);
 - (5) 22,780 cu. yds. rdwy. excav. without class;
 - (6) 625,400 sta. yds. overhaul;
 - (7) 2,150 cu. yds. struc. excav.;
 - (8) 10,300 tons crusher run base;
 - (9) 3,700 cu. yds. cushion course;
 - (10) 3,330 sq. yds. subgrade for pave.;
 - (11) 2,850 cu. yds. Class A cem. conc. (pavement);
 - (12) 154 cu. yds. Class A do (struc.);
 - (13) 226,000 lbs. bar, reinf. steel (pave. and struc.);
 - (14) 144 cu. yds. conc. removed from existing pave. and struc.;
 - (15) 425 tons screenings;
 - (16) 10 tons asph. road oil;
 - (17) 340 bbls. light fuel oil;

- (18) 965 tons asphalt concrete;
 - (19) 5,700 sq. yds. asph. paint binder;
 - (20) 108 lin. ft. 8-in. corr. metal pipe
 - (21) 652 lin. ft. 12-in. do;
 - (22) 502 lin. ft. 18-in. do;
 - (23) 190 lin. ft. 24-in. do;
 - (24) 889 lin. ft. corr. metal pipe (clean and relay);
 - (25) 750 lin. ft. 8-in. perforated metal pipe underdrains;
 - (26) 231 6-ft. metal headers (cribbing);
 - (27) 416 8-ft. metal stretchers (cribbing);
 - (28) 160 metal header caps (cribbing);
 - (29) 5 culvert headwalls removed and reset;
 - (30) 1,575 lin. ft. existing guard rail removed and reset;
 - (31) 1.83 mcs existing property fence removed and reset;
 - (32) 0.22 mile new property fence;
 - (33) 2 fence gates;
 - (34) 129 sta. finish rdwy.;
 - (35) 48 monuments complete in place.
- State will furnish corr. metal pipe, perforated metal pipe, spillway assemblies, and cast steel frames and covers for drop inlets.

Total bids follow:

- (A) Fredrickson & Watson, Oakland \$109,318.05.
- (B) M. J. Bevanda, Stockton, \$114,434.05.
- (C) Hanrahan Co., San Francisco, \$116,271.30.
- (D) N. M. Ball and D. McDonald, Sacramento, \$116,878.97.
- (E) Granite Const. Co., Watsonville, \$118,465.75.
- (F) Union Paving Co., San Francisco, \$118,975.85.
- (G) United Concrete Pipe Co., Los Angeles, \$119,302.60.
- (H) C. W. Wood, Stockton, \$119,502.60.
- (I) Heafey-Moore Co., Oakland \$120,896.67.
- (J) Bundesen & Lauritzen and Delta Dredging Co., Pittsburg, \$124,459.35.
- (K) Peninsula Paving Co., San Francisco, \$124,948.55.
- (L) Eaton & Smith, San Francisco.

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) |
|------|---------|--------|---------|--------|---------|---------|---------|---------|--------|---------|--------|---------|
| (1) | \$ 1.00 | \$.50 | \$ 1.00 | \$.50 | \$ 2.00 | \$ 1.00 | \$ 1.00 | \$ 1.00 | \$.50 | \$ 1.00 | \$.50 | \$ 5.00 |
| (2) | 2.25 | .50 | 1.00 | .50 | 2.50 | 2.00 | 2.00 | 2.00 | .75 | 2.00 | 1.00 | 10.00 |
| (3) | 4.50 | 1.00 | 3.00 | 1.00 | 3.50 | 3.00 | 4.00 | 5.00 | 2.00 | 2.50 | 3.00 | 20.00 |
| (4) | 5.00 | 5.00 | 10.00 | 10.00 | 8.00 | 3.00 | 10.00 | 10.00 | 30.00 | 25.00 | 5.00 | 30.00 |
| (5) | .23 | .20 | .19 | .16 | .245 | .22 | .20 | .20 | .33 | .26 | .21 | .35 |
| (6) | .005 | .005 | .005 | .005 | .0035 | .003 | .005 | .005 | .005 | .003 | .004 | .01 |
| (7) | .50 | .50 | .70 | .75 | .60 | .70 | .60 | .50 | .75 | .60 | .70 | .80 |
| (8) | .95 | .65 | .60 | .35 | .80 | .25 | 1.00 | .60 | .85 | .90 | 1.24 | .80 |
| (9) | .90 | .75 | .60 | .80 | .80 | .50 | 1.10 | .60 | .85 | 2.36 | 1.64 | .80 |
| (10) | .06 | .08 | .05 | .03 | .05 | .06 | .08 | .07 | .04 | .08 | .04 | .06 |
| (11) | 6.45 | 7.40 | 7.80 | 7.60 | 7.50 | 8.50 | 7.24 | 7.20 | 7.20 | 7.40 | 7.50 | 7.80 |
| (12) | 18.00 | 13.00 | 15.00 | 23.00 | 16.00 | 16.00 | 15.00 | 13.50 | 13.00 | 15.00 | 15.00 | 20.00 |
| (13) | .04 | .04 | .04 | .0425 | .046 | .04 | .045 | .045 | .048 | .045 | .04 | .05 |
| (14) | 1.50 | 2.00 | 1.50 | 2.00 | 2.70 | 1.50 | 1.25 | 2.00 | 3.30 | 1.00 | 5.00 | 2.50 |
| (15) | 2.20 | 2.50 | 1.50 | 2.00 | 1.65 | 1.50 | 1.60 | 1.50 | 2.00 | 1.50 | 1.75 | 2.00 |
| (16) | 14.00 | 12.00 | 10.00 | 18.00 | 10.50 | 12.00 | 15.00 | 10.00 | 17.50 | 16.00 | 12.00 | 20.00 |
| (17) | 1.75 | 2.00 | 1.50 | 2.35 | 1.50 | 1.00 | 1.50 | 1.50 | 1.60 | 1.50 | 1.20 | 2.00 |
| (18) | 4.00 | 3.50 | 3.50 | 4.50 | 4.70 | 4.00 | 4.50 | 4.50 | 4.95 | 4.00 | 4.00 | 4.00 |
| (19) | .015 | .02 | .01 | .03 | .02 | .01 | .01 | .01 | .015 | .02 | .02 | .02 |
| (20) | .20 | .25 | .30 | .50 | .25 | .25 | .30 | .25 | .20 | .35 | .20 | .30 |
| (21) | .20 | .30 | .30 | .50 | .25 | .25 | .25 | .25 | .25 | .45 | .30 | .40 |
| (22) | .25 | .40 | .30 | .50 | .35 | .25 | .30 | .25 | .30 | .55 | .40 | .50 |
| (23) | .35 | .50 | .40 | .50 | .40 | .50 | .40 | .25 | .40 | .65 | .50 | .60 |
| (24) | .35 | .75 | .50 | .80 | .50 | .25 | .40 | .30 | .50 | .50 | .50 | .60 |
| (25) | .50 | 1.75 | .40 | 1.00 | .55 | .70 | .75 | .60 | .50 | .70 | .50 | .60 |
| (26) | 5.50 | 5.18 | 6.00 | 5.11 | 6.50 | 5.50 | 5.20 | 5.50 | 4.78 | 5.40 | 5.50 | 5.00 |
| (27) | 5.70 | 5.42 | 6.00 | 5.41 | 6.75 | 5.50 | 5.40 | 5.80 | 5.14 | 6.00 | 5.70 | 5.50 |
| (28) | .25 | .20 | .25 | .16 | .40 | .20 | .25 | .20 | .13 | .50 | .25 | .30 |
| (29) | 10.00 | 10.00 | 8.00 | 10.00 | 6.00 | 10.00 | 10.00 | 10.00 | 21.00 | 10.00 | 10.00 | 10.00 |
| (30) | .50 | .40 | .30 | .50 | .40 | .40 | .50 | .50 | .35 | .35 | .50 | .80 |
| (31) | 175.00 | 200.00 | 100.00 | 350.00 | 350.00 | 150.00 | 150.00 | 200.00 | 370.00 | 200.00 | 250.00 | 400.00 |
| (32) | 350.00 | 500.00 | 300.00 | 500.00 | 450.00 | 300.00 | 400.00 | 500.00 | 420.00 | 400.00 | 500.00 | 500.00 |
| (33) | 12.00 | 20.00 | 15.00 | 20.00 | 15.00 | 12.00 | 15.00 | 11.00 | 15.00 | 11.00 | 11.00 | 20.00 |
| (34) | 5.00 | 5.00 | 6.00 | 10.00 | 5.00 | 6.00 | 5.00 | 4.00 | 4.50 | 5.00 | 5.00 | 5.00 |
| (35) | 2.50 | 2.00 | 3.00 | 3.00 | 2.50 | 3.00 | 2.00 | 3.00 | 2.50 | 2.50 | 2.50 | 3.00 |

BIDS OPENED

NEVADA COUNTY, Calif.—A. Teichert & Son, P. O. Box 1118, Sacramento, at \$30,978 submitted low bid to State Highway Commission to surface with untreated crushed gravel or stone and bituminous surface treatment applied on 11.7 miles between Nevada City and one mile west of Washington Road, involving:

- (1) 11,600 tons untreated crushed gravel or stone surfacing;
- (2) 520 M. gals water applied to surf.;
- (3) 700 bbls. light fuel oil;
- (4) 1450 tons rock screenings (bitum. surf. treatment);
- (5) 170 tons cut-back asph. road oil (bitum. surf. treatment).

Complete bids follow:

- (A) A. Teichert, Sacramento, \$30,978.00.
- (B) Hemstreet & Bell, Marysville, \$31,000.00.
- (C) E. B. Bishop, Sacramento, \$31,520.00.

(D) Skeels and Graham, Roseville, \$32,377.50.

(E) Fredrickson & Watson, Oakland \$34,565.00.

(F) C. W. Wood, Stockton, \$35,810.00.

(G) Heafey-Moore Co., Oakland \$36,084.00.

(H) Peninsula Paving Co., S. F., \$37,820.00.

(I) Eaton & Smith, San Francisco, \$38,030.00.

(J) Granite Const. Co., Watsonville, \$38,406.50.

(K) George French, Jr., and Hein Bros. Basalt Rock Co., Petaluma, \$38,770.00.

Unit bids follow:

| | (1) | (2) | (3) | (4) | (5) |
|-----|--------|--------|--------|--------|---------|
| (A) | \$1.80 | \$2.00 | \$2.25 | \$2.98 | \$18.60 |
| (B) | 1.75 | 3.00 | 2.75 | 3.10 | 16.00 |
| (C) | 1.95 | 2.50 | 2.25 | 2.25 | 16.25 |
| (D) | 1.95 | 2.75 | 2.50 | 2.25 | 19.50 |
| (E) | 2.20 | 1.50 | 2.50 | 2.50 | 17.00 |
| (F) | 2.30 | 2.00 | 2.25 | 2.50 | 17.00 |
| (G) | 2.10 | 3.50 | 2.65 | 3.30 | 19.20 |
| (H) | 2.50 | 2.00 | 2.00 | 2.70 | 14.50 |

- (I) 2.40 2.00 2.00 3.00 20.00
- (J) 2.47 2.60 2.40 2.69 16.60
- (K) 2.50 2.50 2.00 3.00 16.00

BIDS WANTED

COWLITZ COUNTY, Wash.—Until August 19, 10 A. M., bids will be received by W. H. Lynch, District Engineer, U. S. Bureau of Public Roads, 316 New Postoffice Bldg., Portland, to construct and improve the St. Helens Highway Grading Project No. 15-A1, National Forest Road Project, located adjacent to Columbia National Forest, 6,013 miles, involving:

- (1) 4 acres clearing, extra;
- (2) 37 acres grubbing;
- (3) 100,240 cu. yds. unclass. excav.;
- (4) 140,000 sta. yds. overhaul;
- (5) 6,013 miles finish earth graded rd.;
- (6) 110 cu. yds. Class A concrete;
- (7) 11,500 lbs. reinf. steel;
- (8) 1,162 lin. ft. reinf. concrete pipe (alt.)

Specifications obtainable from above on deposit of \$10, returnable; proposal guarantee 5%.

ASPHALT CONCRETE PAVEMENT—LOS ANGELES

LOS ANGELES, Cal.—Geo. H. Oswald, 366 E 58th St., submitted low bid to board of public works at \$17,571.98 for improving streets in Kingman Ave. and Entrada Drive Improvement District, Cash Contract, involving:

- (1) grading, complete;
- (2) 91,857 sq. ft. 6-in. asph. concrete paving (2-in. a. c. wearing surface on 4-in. a. c. base);
- (3) 1375 sq. ft. 4-in. asph. concrete wearing surface;
- (4) 240 sq. ft. resurface with asphalt concrete wearing surf. of varying thickness;

- (5) 173 sq. ft. Class C resurf., 4-inch thick;
- (6) 410 sq. ft. 3-in. walk;
- (7) 433 sq. ft. 4-in. walk (driveways);
- (8) 405 sq. ft. 6-in. do;
- (9) 1310 ft. unplastered light curb;
- (10) 3332 ft. reinf. integral curb with concrete gutter 1-ft. wide;
- (11) 1386 sq. ft. 6-in. concrete gutter;
- (12) sanitary sewer complete;
- (13) 460 ft. house sewers (9-ft. deep);
- (14) move and reset ornamental light posts;
- (15) 182 type B traffic markers.

The total bids were:

- (A) Geo. H. Oswald, \$17,571.98.
- (B) L. A. Paving Co., \$17,601.46.
- (C) Geo. R. Curtis Paving Co., \$18,105.18.
- (D) A. H. Battack & Co., \$18,334.17.
- (E) Sherlock & Lane, \$18,960.00.
- (F) Tony G. Milich, \$19,222.46.
- (G) John Topich, \$19,699.63.
- (H) Griffith Company, \$19,994.31.
- (I) Sander Pearson, \$20,110.48.
- (J) Aicx D. Chalmers, \$20,488.47.
- (K) Pecos H. Calahan, \$20,506.13.
- (L) Engineer's estimate, \$18,662.13.

The unit bids were:

| (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) |
|---------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| (1) \$3500.00 | \$3118.00 | \$3000.00 | \$3919.98 | \$4046.23 | \$2750.00 | \$4400.00 | \$3880.00 | \$3154.00 | \$2685.00 | \$2900.00 | \$3035.00 |
| (2) .097 | .10 | .105 | .10 | .10 | .11 | .105 | .11 | .11 | .125 | .126 | .10 |
| (3) .07 | .08 | .07 | .07 | .07 | .11 | .07 | .10 | .075 | .12 | .09 | .07 |
| (4) .06 | .10 | .07 | .06 | .06 | .11 | .06 | .10 | .11 | .12 | .08 | .10 |
| (5) .10 | .10 | .15 | .16 | .16 | .13 | .20 | .15 | .15 | .12 | .15 | .10 |
| (6) .11 | .12 | .12 | .11 | .134 | .11 | .10 | .13 | .11 | .12 | .12 | .12 |
| (7) .14 | .13 | .12 | .12 | .14 | .13 | .12 | .15 | .125 | .14 | .15 | .14 |
| (8) .20 | .17 | .15 | .14 | .189 | .15 | .15 | .18 | .15 | .20 | .20 | .18 |
| (9) .35 | .35 | .35 | .34 | .36 | .35 | .28 | .40 | .35 | .36 | .35 | .37 |
| (10) .58 | .62 | .65 | .58 | .67 | .65 | .50 | .60 | .85 | .60 | .70 | .64 |
| (11) .20 | .17 | .13 | .14 | .133 | .155 | .13 | .20 | .20 | .19 | .20 | .18 |
| (12) 1750.00 | 1750.00 | 1875.00 | 1825.00 | 2088.28 | 2690.00 | 2500.00 | 2400.00 | 2375.00 | 2490.00 | 2000.00 | 2495.00 |
| (13) .65 | .75 | .65 | .69 | .75 | .73 | 1.00 | .75 | .80 | 1.14 | .95 | 1.17 |
| (14) 75.00 | 50.00 | 50.00 | 175.00 | 45.00 | 70.00 | 42.50 | 40.00 | 125.00 | 96.00 | 100.00 | 100.00 |
| (15) .26 | .33 | .30 | .22 | .35 | .35 | .35 | .22 | .35 | .35 | .30 | .35 |

SIDEWALKS—CURBS—S. F. WAR MEMORIAL

BIDS OPENED

SAN FRANCISCO.—Following is a complete list of bids received by the Trustees of the San Francisco War Memorial for sidewalks and paving in connection with the War Memorial project in the Civic Center comprising the Veterans' Building and the Opera House, all bids being taken under advisement:

- (A) sidewalks and paving;
- (B) concrete curbs;
- (C) granite coping;
- (D) Herringbone brick paving;
- (E) granite curbing, 6x16;

- (F) granite curbing, 10x16;
- (G) asphalt surface except courts (ducts);
- (H) asphalt surface in court.
 - (1) Barrett & Hilp, 918 Harrison St.
 - (2) Eaton & Smith, 715 Ocean Ave.
 - (3) MacDonald and Kahn, Financial Center Bldg.
 - (4) E. J. Treacy, Call Bldg.
 - (5) Fay Imp. Co., Phelan Bldg.
 - (6) Empire Const. Co., Shell Bldg.
 - (7) Chas. L. Harney, Call Bldg.
 - (8) McGilvray - Raymond Corp., 3 Townsend Street.
 - (9) Hock & Hoffmeyer, 666 Mission.

SAN FRANCISCO.—Pacific Pavements Co., 85 Barstow St., San Francisco, at \$17,714.40 under Proposition No. 1, and \$15,129.40 under Proposition No. 2, submitted low bids to Department of Public Works to resurface Cabrillo St. bet. 2nd and 24th Aves. Estimated cost, \$18,460. Project involves:

Proposition No. 1

- (1) 258,200 sq. ft. asphalt concrete wearing surface, remove and replace with asphalt concrete 2-in. thick;
- (2) 50 tons asphalt concrete binder course;
- (3) 230 ft. granite curb, redress and reset;
- (4) 50 ft. concrete curb, reset.

Proposition No. 2

- (1) 258,200 sq. ft. asphalt concrete surface, remove to depth of 1-in. by heating, and replace;
- (2) 50 tons asphalt concrete binder course;
- (3) 230 ft. granite curb, redress and reset;
- (4) 50 ft. concrete curb, reset.

Complete bids follow:

- (A) Pacific Pave. Co. (1) \$17,711.40 (2) 15,129.40
- (B) Fay Imp. Co. (1) \$18,831.79 (2) 15,165.26
- (C) Eaton & Smith (1) \$19,750.00 (2) 15,847.90
- (D) Dept. of Pub. W'ks. (1) \$21,581.90 (2) 15,256.00

Unit bids follow:

Proposition No. 1

| | (1) | (2) | (3) | (4) |
|-----|--------|--------|--------|--------|
| (A) | \$.067 | \$6.00 | \$4.00 | \$4.40 |
| (B) | .0715 | 5.00 | .43 | .43 |
| (C) | .075 | 5.00 | .50 | .40 |
| (D) | .082 | 4.90 | .65 | .30 |

Proposition No. 2

| | (1) | (2) | (3) | (4) |
|-----|--------|--------|--------|--------|
| (A) | \$.057 | \$6.00 | \$4.00 | \$4.40 |
| (B) | .0573 | 5.00 | .43 | .43 |
| (C) | .0595 | 5.00 | .50 | .40 |
| (D) | .0375 | 4.90 | .65 | .30 |

Bids held under advisement.

COPPER SERVICE PIPE—WHITTIER, CALIF.

WHITTIER, Los Angeles Co., Cal.—Bids for furnishing copper service pipe were opened by Whittier city council July 15. Bids were taken on items as follows:

- (1) 9000 ft. ¾-in. pipe in 18- to 20-ft. lengths;
 - (1a) 9000 ft. ¾-in. pipe. In 60-ft. coils;
 - (2) 200 ft. 1½-in. pipe;
 - (3) 1000 ft. 2-in. pipe.
- The bids, which were taken under advisement until August 8, were:
- | | (1) | (1a) | (2) | (3) |
|------------------------------------|---------|--------|--------|---------|
| Union Hardware & Metal Co. | \$.0805 | \$.082 | \$.167 | \$.2425 |
| Grinnell Company | .0808 | .0865 | .1666 | .2431 |
| Ducommun Corporation | .0897 | .0929 | .185 | .2701 |
| California Pipe & Supply Co. | .0794 | .085 | .1636 | .2388 |
| Wolverine Tube Company | .08 | .08 | .18 | .26 |
| Henger-Seltzer Company | .085 | .085 | .175 | .256 |
| Phelps-Dodge Copper Products Corp. | .08 | .085 | .165 | .24125 |
| " (Alternate) | | .09 | | |
| Crane Company | .0814 | .0829 | .169 | .2456 |
| Hacker Pipe & Supply Company | .0825 | .082 | .167 | .2425 |
- *By Van D. Clothier.
- Ducommun Corp. bid (1a) is for 30- to 45-ft. coils.
- Phelps-Dodge Copper Products Corp. bid (1a) is for 45-ft. coils and the alternate is for 50-ft. coils.

ENGINEERING NEWS

BRIDGES

PETALUMA, Sonoma Co., Calif.—Until August 8, 7:30 P. M., bids will be received by Gladys V. Roberts, city clerk, to construct a bascule bridge, together with approaches thereto, over the Petaluma River at or near D St. Proposed structure will consist of one 80-ft. single-leaf bascule span and a 40-ft. concrete approach on concrete piers. The construction will require 110 tons structural steel, 1300 cu. yds. concrete, asphalt pavement and electrical equipment (the latter estimated to cost \$7500). The estimated cost is \$80,000. Specifications obtainable from the above office, or from L. H. Nishkian, Consulting Engineer, 525 Market St., San Francisco, on deposit of \$10, returnable. Certified check 10%, payable to City of Petaluma required with bid.

WASHINGTON STATE—L. Romano Engineering Corp., Thompson Bldg., Seattle, at \$52,825 awarded contract by State Highway Commission to construct a bridge 445 ft. long over the South Fork of the Skyhomish River, het. Gold Bar and Index on State Rd. No. 15 in Snohomish County, consisting of one 240-ft. through steel truss and four 50-ft. concrete girder approach spans with 24-ft. roadway and one 5-ft. sidewalk.

COCONINO COUNTY, Ariz.—H. L. Royden, Phoenix, awarded contract by U. S. Bureau of Public Roads, at \$26,825 to construct Clear Creek Bridge, Section C of Route 9, the Clarkdale-Globe National Forest Highway, Coconino National Forest, Yavapai Co., Ariz., involving:

- (1) 420 cu. yds. excavation unclass. for structures;
- (2) 155 cu. yds. Class A concrete;
- (3) 25 cu. yds. Class B concrete;
- (4) 237 cu. yds. Class D concrete;
- (5) 61,000 lbs. reinforcing steel;
- (6) 230,000 lbs. structural steel;
- (7) 120 cu. yds. basket rip-rap;
- (8) 120 cu. yds. basket rip-rap.

COCONINO COUNTY, Ariz.—Lewis Bros., P. O. Box 566, Winslow, Ariz., awarded contract by U. S. Bureau of Public Roads, at \$22,996.00 for constructing the Oak Creek Bridge and grading approaches, Sec. F of Route 7, Oak Creek National Forest Highway, Coconino Forest, Coconino Co., Ariz., involving:

- (1) 1800 cu. yds. unclass. excav.;
- (2) 550 cu. yds. unclass. excav. for structures;
- (3) 225 cu. yds. Class A concrete;
- (4) 165 cu. yds. Class D concrete;
- (5) 49,000 lbs. reinforcing steel;
- (6) 75 cu. yds. cement rubble masonry
- (7) 120,000 lbs. structural steel;
- (8) 104 lin. ft. wood guard rail;
- (9) 230 lin. ft. protection ditch.

KING COUNTY, Wash.—West Coast Const. Co., Lloyd Bldg., Seattle, at \$37,214 awarded contract by the State Highway Department to construct reinforced concrete undercrossing at 63rd St. on the route of State Road No. 1, Aurora Ave., Seattle, King County, involving:

- (1) 800 cu. yds. excavation;
 - (2) 171,000 lbs. reinf. steel;
 - (3) 895 cu. yds. concrete;
- and other items.

SAN DIEGO COUNTY, Cal.—Byerts & Dunn, 7908 Santa Monica Blvd., Los Angeles, at \$107,652.50 awarded contract by State Highway Commission, Sacramento, to construct a reinforced concrete girder bridge over The Atchison, Topeka and Santa Fe Railway about two miles south of Del Mar, consisting of two 58-ft. spans, two 43-ft. 4-in. spans, and nine 40-ft. spans on concrete bents.

WASHINGTON STATE.—Until August 16, 10 A. M., bids will be received by Samuel J. Humes, Director of Highways, Olympia, to construct five span reinforced concrete girder bridge 152 ft. long over gulch on Aberdeen City limits east project in city of Aberdeen, Grays Harbor County, with 48 ft. roadway and one 5-ft. sidewalk. Specifications on file in office of county engineer and obtainable from above office on deposit of \$2, returnable. Certified check 5% payable to State Treasurer required with bid.

STOCKTON, San Joaquin Co., Cal.—Consisting of the City of Stockton to construct a railroad bridge over the San Joaquin river to Rough and Ready Island was unopposed at a hearing conducted by the War Department. The bridge will be built by the Western Pacific and Santa Fe Railroads; will be a through truss swing draw, with a passage of 100 ft. between aprons. The city will rent the bridge at 5 per cent of the cost per year with an option to purchase the structure at cost within ten years.

SAN JOSE, Santa Clara Co., Cal.—Until August 8, 11 A. M., bids will be received by Henry A. Pfister, county clerk, to construct a steel truss foot-bridge over Los Gatos Creek on Lincoln Ave. Lump sum bids will be taken. Specifications obtainable from office of Board of Supervisors. Robert Chandler, county surveyor.

MARICOPA-VENTURA CO., Calif.—Plans for a concrete bridge to be built across the Sespe River, on the Casitas Pass section of the Maricopa-Ventura Highway, have been completed by Charles W. Petit, Ventura county surveyor and chief engineer of Joint Highway District No. 6. The plans will be presented to the board of directors of the district at the meeting scheduled for August 12. A.

SKILSAW Portable Electric Hand Saws (four models).

SKILSAW Portable Electric Sander.

SKILSAW Radial Arm Attachments.

SYNTRON Portable Electric Hammer (four models, motorless).

MALL Flexible Shaft Machines (50 models).

Electric Drills, Grinders, Buffers, Routers, Lock Mortisers.

Peter H. Nelson

Labor Saving Portable Electric Tools

1246 Mission St., San Francisco

UNDERhill 7662

SALES : SERVICE : RENTALS

call for bids may be issued at that time. The proposed bridge will be of reinforced concrete construction and will be approximately 220 ft. in length with a floor width of 24 ft. The cost is estimated at about \$15,000.

STOCKTON, San Joaquin Co., Cal.—Carl Nelson, 1421 E Channel Street, Stockton, at \$2769 awarded contract by county supervisors to construct a concrete underpass beneath an approach to the new Garwood Ferry Bridge. Estimated cost, \$4,000. Project involves:

- 157.8 cu. yds. concrete;
- 12,075 lbs. structural steel;
- 10,740 lbs. reinforcing steel.

Bids were taken on units as follows:

- (1) extra concrete;
 - (2) deduct concrete.
- Complete bids follow:

| | |
|-----------------------------------|-----------|
| (A) Carl Nelson, Stockton..... | \$2769.00 |
| (B) John Hachman, Stockton..... | 2880.00 |
| (C) F. Kaus, Stockton..... | 2974.00 |
| (D) E. H. Riley, Stockton..... | 3087.00 |
| (E) H. E. Vickroy, Stockton..... | 3175.00 |
| (F) Ray Powers, Stockton..... | 3200.00 |
| (G) J. R. Leighton, Stockton..... | 3379.00 |
| (H) Bundesen and Lauritzen | |
| Pittsburg..... | 3359.00 |
| (I) Nelson & Wallace..... | 3390.00 |
| (J) E. B. Bishop, Sacramento..... | 3400.00 |
| (K) Geo. Roek, Stockton..... | 3590.00 |
| (L) Aldrin & Anderson, Tur- | |
| lock..... | 3692.55 |
| (M) H. Sneed, Berkeley..... | 4863.00 |

Unit bids follow:

| | (1) | (2) |
|-----------|---------|---------|
| (A) | \$ 9.00 | \$ 7.00 |
| (B) | 16.00 | 6.00 |
| (C) | 18.00 | 18.00 |
| (D) | 13.00 | 9.50 |
| (E) | 27.00 | 7.50 |
| (F) | 22.00 | 18.00 |
| (G) | 8.80 | 7.30 |
| (H) | 18.00 | 16.00 |
| (I) | 25.00 | 8.00 |
| (J) | 16.00 | 16.00 |
| (K) | 13.00 | 11.00 |
| (L) | 20.00 | 15.50 |
| (M) | 32.00 | 6.38 |

WASHINGTON STATE.—Until August 23, 10 A. M., bids will be received by Samuel J. Humes, Director of Highways, Olympia, Washington, to construct reinforced concrete under-crossing at 50th St. on the route of State Road No. 1, Aurora Avenue, Seattle, King County, involving:

- (1) 4,400 cu. yds. excavation;
 - (2) 2,870 cu. yds. concrete;
 - (3) 378,000 lbs. reinf. steel;
- and other items.

Certified check 5%, payable to State Treasurer required with bid. Specifications obtainable from office of the county engineer on deposit of \$2, returnable.

ROSEBURG, Ore.—Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa., at \$27,859 awarded contract by U. S. Veterans' Bureau to construct the superstructure of a bridge over the Umpqua river in connection with U. S. Veterans' Hospital Project, Union Bridge Co., Porter Bldg., Portland, at \$15,370 awarded contract for sub-structure. Structure will consist of a central steel span of 200 ft., with two 40-ft. steel approach spans. Two piers and two abutments will be required. The structure will have a 15-ton highway loading and will carry a 5-ft. sidewalk on one side with provisions for the construction of a walk on the other side when required.

SAN FRANCISCO.—Bids for construction of the substructure, West Bay crossing of the San Francisco-Oakland Bay Bridge, involving the construction of five piers, under Contract No. 2, will be asked by the State Department of Public Works in about three weeks. The cost is estimated at \$8,000,000. The project involves:

- (1) 270,000 cu. yds. calsson work;
- (2) 10,000 cu. yds. additional calsson work;
- (3) 50,000 cu. yds. concrete seal;
- (4) 22,000 cu. yds. concrete foundations Pier 2;
- (5) 24,000 cu. yds. conc. pier shafts and fenders;
- (6) 42,500 cu. yds. concrete superstructure Pier 4;
- (7) 1,500,000 lbs. relnf. steel above foundations;
- (8) 140,000 lbs. structural steel above foundations;
- (9) 1,000,000 M.B.M. timber in fenders;
- (10) 85,000 lbs. timber fastenings;
- (11) 4,200 lin. ft. creosoted piling.

Application has been filed with the Reconstruction Finance Corporation by the California Toll Bridge Authority for the advancement of \$75,000,000 credit to construct this structure.

DREDGING, HARBOR WORKS & EXCAVATIONS

CALIFORNIA.—Secretary of War has recommended appropriation of \$6,000,000 for improvement of Latham Slough, Middle River, Turner Cut and Whisky Slough, Calif., with an annual maintenance expenditure of \$1,500,000. His recommendation provided that a Middle River and connecting channels shall be improved by a 9-foot channel 100 ft. wide in Middle River below Gordon Highway bridge; in Latham Slough between Middle River and Empire Cut, and Empire Cut, Whisky Slough and Turner Cut, between Middle River and San Joaquin River.

MARE ISLAND, Cal.—Appropriation of \$250,000 for construction of a 1000-ft. extension to the seawall at the Mare Island Navy Yard has been made to the Navy Department. In addition \$90,000 is provided for the construction of a rail and fresh water extension to the present system.

PORTLAND Ore.—Parker-Schram, Couch Bldg., Portland, at \$88,518 and \$65,768 (divided in two projects) submitted low bids to U. S. Engineer Office, Portland, to construct 6,380 lin. ft. pile dikes at the upper end of Sand Island, 10-miles down the Columbia river from Portland. Other bids follow:

Hart Construction Co., \$98,947 and \$65,559 with reduction of 14% for the award of contracts for both.

Kern & Kibbe, \$100,746 and \$61,763 with a lump sum reduction of 10 per cent of receiving award for both.

Gilpin Construction Co., \$100,831 and \$64,201 with a lump sum reduction of 1 per cent for receiving the award of both.

Engineer's estimate \$107,555 and \$71,359.

LOS ANGELES, Calif.—Pan Pacific Piling & Const. Co., 2235 E 25th St., awarded contract by City Purchasing Agent, Thos. Oughton, for furnishing concrete protection slabs, Items (1) and (3) under Spec. No. 2355. The maximum in dollars is \$69,100. All bids on item (2) were rejected.

SACRAMENTO, Cal.—Until Aug. 16, 2 P. M., under Circular Proposal No. 33-17, Specifications No. 4663, bids will

be received by the U. S. Engineer Office, California Fruit Bldg., Sacramento, to construct a levee, approximately 3 1/2 miles long, on the north bank of the American River, just south of the town of North Sacramento. Involving the moving of 590,000 cu. yds. of material. Specifications obtainable from above office.

MACHINERY AND EQUIPMENT

OAKLAND, Cal.—Until August 11, 9 P. M., bids will be received by W. W. Chappell, city clerk, for two air compressors with capacity to operated 2 Ingersoll Rand Type C. C. 45 pavement breakers.

RENO, Nevada.—Until August 16, 10 A. M., bids will be received by E. H. Deemer, county clerk, to furnish and deliver one pick-up truck with closed cab; cost not to exceed \$600. Specifications and further information obtainable from clerk.

MOUNTAIN VIEW, Santa Clara Co. Cal.—Until August 9, under Schedule No. 8400, bids will be received by the Bureau of Supplies & Accounts, Navy Department, Washington, D. C., to furnish one switching locomotive, 30-ton capacity, for Mountain View. Specifications on file at Navy Purchasing Office, 100 Harrison St., San Francisco.

SAN FRANCISCO.—Until August 16 under Schedule No. 8397, bids will be received by the Bureau of Supplies & Accounts, Navy Department, Washington, D. C., to furnish and deliver Mare Island and New York or San Francisco, boilers, test, high pressure, water tube. Specifications on file at Navy Purchasing Office, 100 Harrison St., San Francisco.

RAILROADS

SUNNYVALE, Santa Clara Co., Cal. Until August 24, 11 A. M., under Specification No. 6935, bids will be received by the Bureau of Yards and Docks, Navy Department, Washington, D.C. to construct railroad spur-tracks at the Naval Air Station, Sunnyvale. Specifications obtainable from the Commandant, Twelfth Naval District, 100 Harrison St., San Francisco on deposit of \$10, returnable, checks for same to be made payable to Chief of the Bureau of Yards and Docks.

MARE ISLAND, Cal.—Appropriation of \$250,000 for construction of a 1000-ft. extension to the seawall at the Mare Island Navy Yard has been made to the Navy Department. In addition \$90,000 is provided for the construction of a rail and fresh water extension to the present system.

RESERVOIRS AND DAMS

SAN JOSE, Santa Clara Co., Cal.—Plans are being prepared and bids will be asked early in August by the Santa Clara Valley Conservation District, 95 Auzerals Bldg., San Jose, to construct a small concrete diversion dam and diversion ditches on Stevens Creek near Sunnyvale, involving approximately 300 ft. 36-in. concrete pipe. Fred H. Tibbetts, Alaska Commercial Bldg., San Francisco, engineer. Engineer's estimate \$5000.

SAN JOSE, Santa Clara Co., Cal.—Plans are being prepared by the Santa Clara Valley Water Conservation District, 95 Auzerals Bldg., San Jose, to

construct a concrete diversion dam on Coyote River near San Jose. Fred H. Tibbetts, Alaska Commercial Bldg., San Francisco, engineer. Estimated cost, \$40,000. Work is contemplated for next spring.

TUSCON, Ariz.—R. E. Butler, city manager, and Paul E. Fernald, city engineer, completing surveys toward enlarging the capacity of the Osborn streets reservoir from 1,500,000 gallons to \$3,000,000 gallons. Mr. Fernald states that what the city really needs is a gravity pressure reservoir on West Congress St. where a site is already owned by the city, but this would require a bond issue which he does not consider feasible at this time.

PASADENA, Cal.—Bids for furnishing needle valves, butterfly valves, pipe, etc., for the Pine Canyon Dam, were opened by the Pasadena city directors July 26. Bids were taken on schedules and items as follows:

SCHEDULE NO. 1
96 x 72-IN. NEEDLE TYPE FREE DISCHARGE VALVES (CAST BODY)

(1) two 96x72-in. diameter cast body, free discharge needle valves at elevation 975, complete with bolts, nuts and gaskets for upstream flange, to be delivered f. o. b. cars Azusa or f. o. b. trucks at Pine Canyon dam site, between Aug. 1, 1933 and Sept. 1, 1933.

SCHEDULE NO. 2
96x72-IN. NEEDLE TYPE FREE DISCHARGE VALVES (PLATE STEEL BODY)

(1) two 96x72-in. diameter plate steel body free discharge needle valves at elevation 975, complete with bolts, nuts and gaskets, for upstream flange, to be delivered f. o. b. cars Azusa or f. o. b. trucks at Pine Canyon dam site, between Aug. 1, 1933, and Sept. 1, 1933.

SCHEDULE NO. 3
48x42-IN. AND 48x36-IN. NEEDLE TYPE FREE DISCHARGE VALVES (CAST BODY)

(1) one 48x42-in. diameter cast body free discharge needle valve at elevation 975, complete with bolts, nuts and gaskets, for upstream flange;

(2) one 48x36-in. diameter cast body free discharge needle valve at elevation 975, complete with bolts, nuts and gaskets, for upstream flange;

(3) two 48x36-in. diameter cast body free discharge needle valves at elevation 960, complete with bolts, nuts and gaskets, for upstream flange.

To be delivered f. o. b. cars at Azusa or f. o. b. trucks Pine Canyon dam site between Aug. 1, 1933, and Sept. 1, 1933.

SCHEDULE NO. 4
NEEDLE TYPE FREE DISCHARGE VALVES (CAST BODY)

(Alternate to Schedules Nos. 1 and 3)
(1) two 96x72-in. diameter cast body free discharge needle valves at elevation 975, complete with bolts, nuts and gaskets, for upstream flange;

(2) one 48-42-in. diameter cast body free discharge needle valve at elevation 975, complete with bolts, nuts and gaskets, for upstream flange;

(3) one 48x36-in. diameter cast body free discharge needle valve at elevation 975, complete with bolts, nuts and gaskets, for upstream flange;

(4) two 48x36-in. diameter cast body free discharge needle valves at elevation 960, complete with bolts, nuts and gaskets, for upstream flange.

To be delivered f. o. b. cars at Azusa or f. o. b. trucks at Pine Can-

yon dam site between Aug. 1, 1933, and Sept. 1, 1933.

SCHEDULE NO. 5

NEEDLE TYPE FREE DISCHARGE VALVES—(96x72-IN. VALVES PLATE STEEL BODY; OTHER VALVES CAST BODY)

(Alternate to Schedules Nos. 2 and 3 or Schedule No. 4)

(1) two 96x72-in. diameter plate steel body free discharge needle valves at elevation 975, complete with bolts, nuts and gaskets, for upstream flange;

(2) one 43x42-in. diameter cast body free discharge needle valve at elevation 975, complete with bolts, nuts and gaskets, for upstream flange;

(3) two 43x36-in. diameter cast body free discharge needle valves at elevation 960, complete with bolts, nuts and gaskets, for upstream flange.

To be delivered f. o. b. cars Azusa or f. o. b. trucks at Pine Canyon dam site between Aug. 1, 1933 and Sept. 1, 1933.

SCHEDULE NO. 6

96-IN. BUTTERFLY VALVES (MECHANICALLY-OPERATED)

(1) two 96-in. inside diameter butterfly valves, complete with bolts, nuts and gaskets for both flanges, to be delivered f. o. b. cars Azusa or f. o. b. trucks at Pine Canyon dam site, between Dec. 1, 1932, and Jan. 1, 1933.

SCHEDULE NO. 7

96-IN. BUTTERFLY VALVES (HYDRAULICALLY-OPERATED)

(Alternate to Schedule No. 6)

(1) two 96-in. inside diameter butterfly valves complete with bolts, nuts and gaskets for both flanges, to be delivered f. o. b. cars Azusa or f. o. b. trucks at Pine Canyon dam site, between Dec. 1, 1932, and Jan. 1, 1933.

SCHEDULE NO. 8

HYDRAULICALLY-OPERATED GATE VALVES

(1) one 54-in. inside diameter hydraulically-operated gate valve, complete with bolts, nuts and gaskets for both flanges;

(2) one 48-in. inside diameter hydraulically-operated gate valve at elevation 975, complete with bolts, nuts and gaskets for both flanges;

(3) two 48-in. inside diameter hydraulically-operated gate valve at elevation 960, complete with bolts, nuts and gaskets for both flanges.

To be delivered f. o. b. cars Azusa or f. o. b. trucks at Pine Canyon dam site, between Nov. 1, 1932, and Dec. 1, 1932.

SCHEDULE NO. 9

HYDRAULICALLY OPERATED SLIDE GATES

(Alternate to Schedule No. 8)

(1) one 54-in. diameter hydraulically-operated slide gate, complete with by-passes, bolts, nuts and gaskets for both flanges;

(2) one 48-in. inside diameter hydraulically-operated slide gate at elevation 975, complete with by-passes, bolts, nuts and gaskets for both flanges;

(3) two 48-in. inside diameter hydraulically-operated slide gates at elevation 960, complete with by-passes, bolts, nuts and gaskets for both flanges.

To be delivered f. o. b. cars Azusa or f. o. b. trucks at Pine Canyon dam site, between Nov. 1, 1932, and Dec. 1, 1932.

SCHEDULE NO. 10

CAST IRON PIPE

(1) 40 ft. cast iron pipe, per ft. (two 96-in. diameter, class "C" flanged cast iron pipes, each approx. 20 ft. long, complete);

(2) 22 ft. cast iron pipe, per ft. (one

54-in. diameter, class "C" flanged cast iron pipe, complete);

(3) 70 ft. 6-in. cast iron pipe, per ft. (three 48-in. inside diameter, class "C" flanged cast iron pipes having a combined length of approx. 70 ft. 6 in. complete);

To be delivered f. o. b. cars Azusa or f. o. b. trucks Pine Canyon dam site, between Nov. 1, 1932, and Dec. 1, 1932.

SCHEDULE NO. 11

CAST IRON TRANSITIONS

(1) one cast iron transition section for 54-in. pipe entrance complete;

(2) three cast iron transition sections for 43-in. pipe entrances, complete.

To be delivered f. o. b. cars Azusa or f. o. b. trucks Pine Canyon dam site, between Nov. 1, 1932, and Dec. 1, 1932.

SCHEDULE NO. 12

WELED STEEL PIPE

(1) 295 ft. pipe (two 96-in. diameter by ½-in. thick welded steel pipes, each 147 ft. 6-in. long);

(2) 107 ft. 10½-in. of pipe (one 54-in. diameter by ¾-in. thick welded steel pipe complete);

(3) 194 ft. 2½-in. of pipe (one 48-in. diameter by ¾-in. thick welded steel pipe, complete);

(4) 314 ft. 1-in. of pipe (two 48-in. diameter by ¾-in. thick welded steel pipes, each 157 ft. ½ in. long, complete);

(5) 48 ft. of pipe (two 48-in. inside diameter by ¾-in. thick welded steel pipes, complete).

To be delivered f. o. b. cars Azusa or f. o. b. trucks at Pine Canyon dam site, between Nov. 1, 1932, and Dec. 1, 1932.

SCHEDULE NO. 13

VENTURI METERS

(1) one 54x43x18-in. welded steel venturi metre, register and appurtenances, complete;

(2) one 48x38½x18-in. welded steel venturi metre, register and appurtenances, complete;

(3) one 20x15x16-in. cast iron venturi metre, register and appurtenances, complete.

To be delivered f. o. b. cars Azusa or f. o. b. trucks Pine Canyon dam site, between Dec. 1, 1932, and Jan. 1, 1933.

CATERPILLAR GATE AND APPURTENANCES

(1) one Caterpillar gate for 8x10-ft. opening, complete with hoist, cable and appurtenances;

(2) two gate frames, semi-steel gate frame for 36-in. diameter inlet complete;

(3) four gate frames, semi-steel gate frame for 54-in. or 48-in. diameter inlets, complete;

(4) six sets of cast iron gate guides, complete.

Item No. 1 to be delivered f. o. b. cars Azusa or f. o. b. trucks Pine Canyon dam site between Oct. 1, 1932, and Nov. 1, 1932, and Items 2, 3 and 4 and appurtenances between Oct. 1, 1932, and Nov. 1, 1932.

The bids which were referred to Samuel E. Morris, Chief Engineer of the Water Department, for tabulation and report, were as follows:

Hardie-Tynes Mfg. Co., Schedule 1, item (1) \$9956, total \$19,900, Schedule 3, (1) \$5330, (2) \$4100, (3) \$4100, total \$17,630, Schedule 4, (1) \$9450, (2) \$5200, (3) \$4000 (4) \$4000, total \$36,100, Schedule 6, (1) \$6075, total \$12,150, Schedule 7, (1) \$7200, total \$14,400, Schedule 8, (1) \$4000, (2) \$2600, (3) \$2600, total \$11,800, Schedule 10, (1) \$122, (2) \$39, (3) \$32, total, \$593, Schedule 11, (1) \$925, (2) \$804, total \$3337, Schedule 14, (1) \$16,500, (2)

\$616, (3) \$754, (4)\$8951, total \$30,699.

Crane Co., Schedule 10, (1) \$190, (2) \$75.25, (3) \$49.64, total \$12,899.37, Schedule 11, (1) \$1875, (2) \$1200, total \$3475.

United States Pipe & Foundry Co., Schedule 10, (1) \$136.50, (2) \$40, (3) \$30, total \$10,495, Schedule 11, (1) \$2000, (2) \$1600, total \$6800, Western Pine & Steel Co., Schedule 12, (1) \$30.40, (2) \$11.10, (3) \$9.95, (4) \$10, (5) \$23.50, total, \$15,471.11.

Phillips & Davies, Inc., Schedule 11, (1) \$1850, (2) \$1850, total \$7400, Schedule 14, (1) \$14,600, (2) \$3200, (3) \$2000, (4) \$17,000, total \$50,000.

International Filter Co., Schedule 13, (1) \$2200, (2) \$2000, (3) \$1400, total \$5600.

Madsen Iron Works, Schedule 10, (1) \$249.50, (2) \$121, (3) \$75.50, total \$18,297.25, Schedule 11, (1) \$2177, (2) \$1733.33, total \$7377.

Water Works Supply Co., Schedule 13, (1) \$4416, (2) \$3762, (3) \$1448, total \$9626.

Rensselaer Valve Co., Schedule 8, (1) \$3128, (2) \$202, (3) \$2042, total \$9293.

Chapman Valve Mfg. Co., Schedule 6, (1) \$3205, total \$18,410, Schedule 7, (1) \$10,948, total \$29,096, Schedule 8, (1) \$2990, (2) \$2240, (3) \$2240, total \$9770.

Joshua Hendy Iron Works, Schedule 6, (1) \$7280, total \$14,560, Schedule 9, (1) \$5905, (2) \$4075, (3) \$4075, total \$17,320, Schedule 10, (1) \$164.60, (2) \$61, (3) \$45.50, total \$11,201.25, Schedule 11, (1) \$1150, (2) \$1100, total \$4450.

Consolidated Steel Corp., Schedule 6, (1) \$4060, total \$8120, Schedule 1, (1) \$4500, total \$8600, Schedule 12, (1) \$32.50, (2) \$11, (3) \$19.25, (4) \$9.25, (5) \$29, total \$15,996.34, Schedule 14, (1) \$11,100, (2) \$1850, (3) \$1700, (4) \$1000, total \$27,600.

S. Morgan Smith Co., Schedule 6, (1) \$6125, total \$12,250, Schedule 7, (1) \$5800, total \$11,600.

A. P. Smith Mfg. Co., Schedule 8, (1) \$2900, (2) \$2000, (3) \$2000, total, \$8900.

Percy Keatinge, Schedule 8, (1) \$2755 (2) \$2623, (3) \$1422, total \$6800.

Goslin-Birmingham Mfg. Co., Inc., Schedule 8, (1) \$2650, (2) \$1940, (3) \$1940, total \$6530, Schedule 9, (1) \$2826, (2) \$2082, (3) \$2082, total \$9072, Schedule 10, (1) \$95, (2) \$41, (3) \$30, total \$663, Schedule 11, (1) \$300, (2) \$660, total \$2780.

California Pipe & Supply Co., Schedule 8, (1) \$2500, (2) \$1638, (3) \$1775, total \$7538, Schedule 9, (1) \$3500, (2) \$2400, (3) \$2500, total \$10,900.

Southwest Foundry & Machine Co., Ltd., bid was not signed, Schedule 10, (1) \$199.99, (2) \$66.75, (3) \$48.37, total \$12,941.33, Schedule 11, (1) \$1449.53, (2) \$1156.19, total \$4918.

Southwest Welding & Mfg. Co., Inc., Schedule 12, (1) \$24.75, (2) \$11.65, (3) \$10.40, (4) \$10.60, (5) \$19.55, total, \$13,167.94.

Pelton Water Wheel Co., Schedule 2, (1) \$18,144, total \$36,288, Schedule 3, (1) \$5977, (2) \$4310, (3) \$4310, total \$18,907, Schedule 5, (1) \$17,250, (2) \$5691, (3) \$4105, (4) \$4105, total, \$32,551, Schedule 6, (1) \$8105, total \$12,210; Schedule 7 (1) \$8425, total, \$16,850.

PIPE LINES, WELLS, ETC.

SAN FRANCISCO.—Montague Pipe & Steel Co., 1933 3rd St., at \$745 ft. awarded contract by City Purchasing Agent to furnish 2700 ft. 14-in. 14-gauge asphalt double dipped, riveted or welded steel pipe, slip joint.

GILROY, Santa Clara Co., Calif.—Wilkinson & Co., N. Monterey Road, Gilroy, at \$3150 awarded contract by city council to drill a water well.

SEWERS AND SEWAGE DISPOSAL PLANTS

VENTURA, Ventura Co., Cal.—Until 10 A. M., Aug. 16, bids will be received by county supervisors to construct storm water sewer in Ventura Ave., just outside the city of Ventura in accordance with plans prepared by Chas. W. Petit, county surveyor. The work will be paid for in cash. The estimated quantities of the principal items are:

- (1) 1300 ft. 36-in. reinforced concrete pipe;
- (2) 1200 ft. 42-in. reinforced concrete pipe.

LOS ANGELES, Calif.—R. J. G. Whinery, 398 Loma Drive, awarded the contract by board of public works July 22 on Type No. 1, at \$16,662 to construct extension of the by-pass channel and Section 1 of the work pier over north outfall sewer at the Hyperion sewage treatment plant.

LOS ANGELES, Cal.—Until 3:30 P. M., Aug. 13, bids will be received by the directors of County Sanitation District No. 2, 202 Law Bldg., 139 North Broadway, to construct reinforced concrete vent stack at the Sewage Treatment Plant located at Figueroa Blvd. and Lomita Blvd., in accordance with plans prepared by the chief engineer, A. K. Warren, 202 Law Bldg., obtainable upon deposit of \$5. A certified check or bond for 10% must accompany each proposal. The proposed stack will be approximately 100 ft. in height with an average inside diameter of 6 ft. A. S. Soule, Secretary.

FORT SHAFTER, T. H.—Marks Const. Co., Honolulu, awarded contract by Constructing Quartermaster, Honolulu, at \$64,888 to construct sewer lines, sewage disposal plant, sprinkling filter, dosing tank and house, sludge bed, and discharge lines at Wheeler Field. The bids were opened June 14. The other bids were: Ralph E. Woolly, Honolulu, \$65,300; Hawaiian Contr. Co., Honolulu, \$68,086; Walker E. Olund, Honolulu, \$71,169; R. R. Ames, \$72,474; Chas. H. Will, Honolulu, \$75,000; John Hansen, Honolulu, \$92,785.

OAKLAND, Cal.—Until August 11, 9 P. M., bids will be received by W. W. Chappell, city clerk, for sewerage portion of 73rd Ave., involving:

- (1) 23,579 cu. yds. excavation;
- (2) 440 lin. ft. 8-in. pipe sewer;
- (3) 2 manholes;
- (4) one 12-in. lamphole;
- (5) one 8-in. lamphole;
- (6) one lamphole, remove;
- (7) 10 wye branches.

LOS ANGELES, Calif.—Until 10 A. M., August 10, new bids will be received by board of public works to construct sewers in Venice Blvd. bet. Sawtelle Blvd. and Centinella Ave., and other streets, in Venice Blvd. and Lincoln Blvd. Sewer District, a total of 26,306.77 lin. ft. of sewer, under the 1911 act, involving:

1631.55 ft. 27-in. vit. main line sewer, including 91 27x6-in. wyes;

1978.99 ft. 24-in. vit. main line sewer, including 114 24x6-in. wyes;

720.71 ft. 21-in. vit. main line sewer, including 31 21-6-in. wyes;

895.31 ft. 18-in. vit. main line sewer,

including 67 18x6-in. wyes;

4591.13 ft. 15-in. vit. main line sewer, including 220 15x6-in. wyes;

7452.54 ft. 12-in. vit. main line sewer, including 298 12x6-in. wyes;

3300.54 ft. 8-in. cement main line sewer, including 85 12x6-in. wyes;

5734 ft. 6-in. house connections (cem. pipe) including 226 6x½-in. bends;

29 standard manhole B;

23 standard junction chamber F;

8 standard junction chamber G;

3 standard junction chamber H;

3 standard drop manholes S;

2 standard trap manholes;

6 standard flushing structures No. 0, special shallow;

1 standard flushing structure No. 1, shallow;

1 standard flushing structure No. 2, shallow;

95 standard manhole frame and cover sets;

4 existing structures to be remodeled

12 10x6-in. saddles;

186 vert. ft. 6-in. chimney pipe, inc. 26 6-in. ½-in. bends, 26 6-in. ¼-bends, 26 6x6-in. wyes;

26,420 sq. ft. Class AA resurf.;

649 sq. ft. Class A resurf.;

177 sq. ft. Class C resurf. (4-in.);

20,025 sq. ft. Class C resurf. (8-in.);

211 sq. ft. Class C resurf. (10-in.);

638 sq. ft. Class D resurf.;

1,641 sq. ft. D. G. resurf. (4-in.).

This job, previously advertised, was awarded to Mike Radich on June 29 at \$129,775, but Radich failed to sign the contract. 33

WATERWORKS

MODESTO, Stanislaus Co., Calif.—Frank J. Rossi, city engineer, in his annual report to the city council recommends enlargement of the municipal water system.

SANTA CLARA, Santa Clara Co., Cal.—Pittsburg-Des Moines Steel Co., Rialto Bldg., San Francisco, at \$23,625 awarded contract by city council to construct two 1,000,000-gal. reservoirs for municipal water system, under lump sum bids.

LOS ANGELES, Calif.—Until 11 A. M., August 10, bids will be received by Thomas Oughton, Los Angeles City Purchasing Agent, 107 City Hall for steel water pipe. The items are:

- (1) 2000 lin. ft. 6-in. nominal inside diameter steel water pipe;
- (2) 4000 lin. ft. 8-in. do;
- (3) 2000 lin. ft. 12-in. do.

Specification No. 2882.

SAN FRANCISCO—City Construction Department of the Hetch Hetchy Project at \$5,257,665 awarded contract by Public Utilities Commission to construct the Coast Range Tunnel in connection with the completion of the Hetch Hetchy Project, under Contract No. 135. A complete list of unit and total bids received on the project was published in issues of June 8 and 13. The total length of tunnel in the Coast Range Division is about 23.6 miles. Construction of the tunnel is now in progress by City forces, and it is estimated that on June 20, 1932, about 24.8 miles of tunnel will have been excavated and about 7.9 miles completely lined with concrete. The remaining work, which is to be done under the proposed contract or contracts, is divided into three sections. The work in each section consists of the excavation and lining with concrete of the remaining unexcavated portion of the tunnel, and the lining with concrete of the length of tunnel excavated by City forces, and not already lined. Certain incidental con-

struction, also, is included in each of the sections.

The lengths of tunnels to be excavated and to be lined with concrete under the contract in the various sections, as of June 20, 1932, are estimated as follows:

Section No. A, Thomas and Mitchell Shafts, 12,200 lin. ft. excavation, 35,100 lin. ft. concrete lining.

Section No. B, Mochino and Valle Shafts, 6,500 lin. ft. excavation, 41,900 lin. ft. concrete lining.

Section No. C, Indian Creek Shaft, Alameda Creek Portals, 1,700* lin. ft. excavation, 22,700** lin. ft. concrete lining.

Total, All Sections, 20,400 lin. ft. excavation, 109,700 lin. ft. concrete lining.

*Does not include completion of tunnel where small drift has been excavated by City.

**Includes 13,000 feet of sides and arch only, where invert will have been concreted by June 20, 1932.

Figures for concrete lining include partial lining in which further concrete work will be required.

The work to be done under the proposed contract or contracts has been divided into three sections as follows:

- (1) East limit of Section;
 - (2) West limit of section;
 - (3) Approximate length of section.
- Section A (1) Tesla Portal; (2) Sta. 753; (3) 58,423.
- Section B (1) Sta. 753; (2) Sta. 1170; (3) 41,900.

Section C (1) Sta. 1170; (2) Irvington; (3) 50,902.

Total length of tunnel, 151,226.

OAKLAND, Calif.—Until August 12, 8 P. M., bids will be received by J. H. Kimball, secretary, East Bay Municipal Utility District, 512 16th St., Oakland, to furnish 680 pieces of red brass tubing. Specifications obtainable from above office.

BEVERLY HILLS, Los Angeles Co., Cal.—Until 8 P. M., August 16, bids will be received by the city council to furnish pumping equipment, including a booster pump and a return water pump, for Treatment Plant No. 2 at Melrose and Rugby Avenues. Spec. obtainable from office of Salisbury, Bradshaw & Taylor, 714 W 10th St., Los Angeles.

WHITTIER, Los Angeles Co., Cal.—Chicago Bridge & Iron Works, 523 W 6th St., Los Angeles, will erect four steel gas storage containers on the north side of Santa Fe Springs and Whittier Road. Whittier district, for the Southern Counties Gas Co., 810 S Flower St., Los Angeles. Cost, \$61,000.

MARE ISLAND, Cal.—Appropriation of \$250,000 for construction of a 1000-ft. extension to the seawall at the Mare Island Navy Yard has been made to the Navy Department. In addition 390,000 is provided for the construction of a rail and fresh water extension to the present system.

ORINDA, Contra Costa Co., Cal.—Orinda Water District votes bonds of \$155,000 to finance installation of a water distributing system. The system will tie-in with that of the East Bay Municipal Utilities District.

OAKLAND Cal.—The Phoenix Iron Works, 2nd and Castro, Oakland, at \$3480.40 awarded contract by East Bay Municipal Utility District to furnish 1355 cast iron bell and spigot water pipe fittings, 4- to 8-in.

WEIMAR, Placer Co., Cal.—As previously reported, until August 11, 16 A. M., bids will be received by R. E. Callahan, chairman of the Weimar Joint Sanatorium Hospital Central Committee in the Courthouse, Sacramento, to construct a reservoir and complete water system and for the various units comprising said system, according to specifications of J. A. Shields, county surveyor of Placer County, involving:

- (1) 1,600,000 gal. storage reservoir (5000 yds. unclass. excav.;
- (2) 200,000 gal. sump;
- (3) 2419 lin. ft. trenching;
- (4) 3410 lin. ft. 8-in. 12-gauge welded steel pipe with Onsburg wrapping
- (5) 1 4-in. centrif. pump, capacity 600 gals. per minute against 200 ft. head;
- (6) 1 40 HP. motor direct connected to pump;
- (7) 1410 lin. ft. one-way road;
- (8) 1 12x16 corrug. iron pump house;
- (9) 1500 lin. ft. power line;
- (10) 1050 lin. ft. Page wire fence 6 ft. high.

Specifications obtainable from the county clerk's office at Auburn on deposit of \$10, returnable. Certified check 10% payable to Weimar Joint Sanatorium Hospital Committee, R. E. Callahan, Chairman, required with bid.

OAKLAND, Cal. — R. E. Olson Co., 3494 Mission St., San Francisco, under alternate bid at \$5745.50 submitted low bid to East Bay Municipal Utility District, 712 16th St., Oakland, to furnish 1000 $\frac{1}{2}$ -in. water meters. Complete bids follow:

| | |
|---------------------------------|------------|
| R. E. Olson Co. | \$5745.50 |
| Alternate, 66526.00. | |
| *Pittsburgh Equitable Meter Co. | \$5903.40 |
| Standard Supply Co. | 6218.00 |
| *Thompson Meter Co. | 6303.00 |
| *Neptune Meter Co. | 6474.40 |
| Hersey Mfg. Co. | \$ 7202.40 |

* If awarded contract on Trident or Lambert meters, 5% reduction will be allowed on parts. Bids include allowance for 403 used meters. Bids held under advisement.

SPARKS, Nevada—City Council will file application with the Reconstruction Finance Corporation to secure sufficient funds to finance construction of a municipal owned water system. Estimates of cost are being prepared.

EUREKA, Humboldt Co., Cal.—City Council will solicit aid of the Reconstruction Finance Corporation to finance construction of a municipal water supply system to provide 5,000,000 additional gallons daily. C. C. Kennedy, consulting engineer, Call Bldg., San Francisco, is making preliminary surveys.

STREETS AND HIGHWAYS

SAN FRANCISCO—Pacific Pavements Co., 85 Barstow St., at \$51,811 awarded contract by Public Utilities Commission to repave all streets or sidewalk openings where the paving has been removed for the purposes of the San Francisco Water Department during the fiscal year ending June 30, 1933. C. L. Harney, Call Bldg., at \$50,160 was low bidder for this work but the Utilities Board refused him the contract on the grounds that he did not maintain his plant within the city limits.

CHELAN COUNTY, Wash.—Norris Bros., Burlington, at \$44,256 awarded contract by State Highway Commission, Olympia, to pave with Portland cement concrete .4 mile of State Road No. 2, Wenatchee River Bridge Approaches, unit 2 of F. A. P. No. 149-B, involving:

- (1) 35,790 cu. yds. excavation;
 - (2) 7,145 sq. yds. pavement, and other items.
- MONTANA STATE**—Until August 24, bids will be received by State Highway Commission for constructing portions of state highway as follows:

Grading and surfacing 14 miles of Kalspell - Whitefish Road, Flathead County.

Surfacing 11 miles of Plentywood-Culbertson Road, Sheridan County.

Grading and surfacing 9 miles of Basin-Boulder Road, Jefferson County.

Grading and surfacing 9 miles of highway from Helena west to McDonald Pass Road, Lewis and Clark County.

Grading and surfacing 13 miles of highway from White Sulphur Springs south, Meagher County.

Regarding and surfacing 12 miles of highway from Ryegate west Golden Valley County.

Surfacing 42 miles of Jordan-Miles City Road, Garfield, Rosebud and Custer Counties.

MONTANA STATE—Until Aug. 13, bids will be received by the Montana State Highway Commission for constructing portions of state highway as follows:

Grading, surfacing and construction of bridges on 6 miles of Wolf Point-Scobey Road, Dawson County.

Grading, surfacing and constructing bridges on 10 miles of Box Elder-Big Sandy Road, Chouteau County.

Grading, surfacing and constructing bridges on 12 miles of Portage-Carter Road, Chouteau County.

Grading and constructing bridges on 7 miles of Whitehall-Cardwell Road, Jefferson County.

Grading and surfacing on 13 miles of Missoula-Evaro Road, Missoula County.

Grading and surfacing on 12 miles of Avon-Elliston Road, Powell County.

Grading and surfacing on 26 miles of highway from Harlowton west, Wheatland County.

Surfacing on 23 miles of Custer-Hyshan Road, Yellowstone and Treasure Counties.

Surfacing on 2 miles of Volberg-Olive Road, Custer and Powder River Counties.

CALAVERAS COUNTY, Cal.—Until August 8, 2 P. M., bids will be received by R. E. Pierce, district engineer State Highway Commission, 502 State Office Bldg., Sacramento, to construct property fences in Calaveras County, approximately 1 mile north-erly from Angels Camp at the Alta-ville Maintenance Station.

SAN BERNARDINO COUNTY, Cal.—Until August 17, 2 P. M., bids will be received by State Highway Commission to improve 24.7 miles of highway between the Los Angeles County Line and San Bernardino, and between San Bernardino and Anderson street, shoulders to be treated with fuel oil. Project involves 11,013 barrels of heavy fuel oil.

SAN FRANCISCO—Until Aug. 10, 2:30 P. M., bids will be received by Department of Public Works for improving 34th Avenue between Rivera and Santiago Streets, involving:

- (1) 150 ft. a/c curb;
 - (2) 3,750 sq. ft. asphalt conc. pave.
- Specifications obtainable from John J. Casey, 3rd floor, City Hall.

TULARE COUNTY, Cal.—Centonles Construction Co., Hearst Bldg., San Francisco, at \$157,706 awarded contract by U. S. Bureau of Public Roads to grade 2.881 miles of Section D-3 of Route No. 1, The Generals Highway, Sequoia National Park. Complete list of unit and total bids received on this project published in issue of July 6. Project involves (prices listed are those of the successful bidder):

- (1) 30 acres clearing, \$400.
- (2) 75,008 cu. yds. unclass. excav. Sta. 486-510 plus 20, 567 plus 95, 647 plus 80, \$.92.
- (3) 51,200 cu. yds. unclass. excav. Sta. 510 plus 20, 567 plus 95, \$1.10.
- (4) 570 cu. yds. excav. for struc., \$1.50
- (5) 40,000 sta. yds. overhaul, \$.03.
- (6) 2.881 miles finishing, \$300.
- (7) 2500 cu. yds. nil. haul material for backfill, \$1.10.
- (8) 47 cu. yds. masonry, \$22.
- (9) 32 lin. ft. 8-in. corrug. metal pipe (asphalt dipped), \$1.00.
- (10) 906 lin. ft. 18-in. corrug. metal pipe, \$1.65.
- (11) 1,098 lin. ft. 24-in. do, \$2.50.
- (12) 100 lin. ft. 30-in. do, \$2.75.
- (13) 2150 cu. yds. hard laid rock embankment, \$5.00.
- (14) 3 spillway inlets, \$30.
- (15) minimum wage scale, \$4.00.
- (16) deduct for meals, \$1.50.

LOS ANGELES, Cal.—Until 10 A. M. August 10, bids will be received by board of public works for improving Pennsylvania Ave. bet. St. Louis St. and Boyle Ave., in accordance with the provisions of the 1911 Act. Initial proceedings were taken under the Assessment Limitation Act of 1931. The estimated quantities are:

- (1) grading (7 cu. yds. cut);
 - (2) 32 sq. ft. 4-in. concrete driveway;
 - (3) 108 sq. ft. unplastered light curb;
 - (4) 40 sq. ft. one-course walk;
 - (5) 108 sq. ft. 6-in. gutter.
- Remove 32 sq. ft. driveway, 40 sq. ft. walk, 108 sq. ft. oiled roadway. Engineer's estimate, \$243.10.

REDWOOD CITY, San Mateo Co., Cal.—County Surveyor Jas. S. James has completed specifications, and bids will be asked early in August to widen and grade about four miles of the Pescadero road, also known as Haskins Hill road, from Memorial Park to the Alpine road. Road will be 21,800 ft. long with a 30-ft. roadway, and work consists of a 5-in. waterbound base to be constructed with $\frac{3}{4}$ -inch oiled wearing surface, involving:

- (1) 6,500 cu. yds. base rock;
- (2) 436,000 sq. ft. wearing surface.

E. B. Hinman is county clerk.

CAPITAL CITY TITLE COMPANY

▼

J. C. PALEN,
Manager

▼

914 Seventh Street
Sacramento :: California

TEHAMA COUNTY, Cal.—Until August 16, 2 P. M., bids will be received by C. H. Sweetser, district engineer, U. S. Bureau of Public Roads, Sheldon Bldg., 461 Market St., San Francisco, for 4.123 miles of grading Section C of Route 21, to Deer Creek Meadows National Forest Highway, Lassen National Forest, Tehama County, involving in the main:

- (1) 22 acres clearing;
- (2) 97,500 cu. yds. unclass. excav.;
- (3) 1000 cu. yds. unclass. excav. for structures;
- (4) 52,000 sta. yds. overhaul;
- (5) 4.102 miles finishing earth graded roads;
- (6) 200 lin. ft. logs for pier posts;
- (7) 24 M.B.M. untreated timber;
- (8) 3 log truss spans;
- (9) 1200 sq. ft. crib face;
- (10) 237 cu. yds. concrete;
- (11) 23,020 lbs. reinf. steel;
- (12) 39 cu. yds. cement rubble masonry;
- (13) 2560 lin. ft. corrugated metal pipe
- (14) 31,000 lbs. structural steel;
- (15) 180 cu. yds. H.P. rock fill for log cribs;
- (16) 105 cu. yds. H.L. rock embankment;
- (17) 200 cu. yds. crushed rock or crushed gravel for backfill.

Plans obtainable from engineer on deposit of \$10, returnable, checks for same to be made payable to Regional Fiscal Agent, U. S. Forest Service.

COCOONINO COUNTY, Ariz.—Until August 16, 10 A. M., bids will be received by C. H. Sweetser, district engineer, U. S. Bureau of Public Roads, 802 Title and Trust Bldg., Phoenix, for 8,693 miles of grading a portion of Section J of Route 12, the Globe-Holbrook National Forest Highway, Cocoonino and Tonto National Forests, involving in the main:

- (1) 43 acres clearing;
- (2) 7500 cu. yds. unclassified excav.;
- (3) 170 cu. yds. unclass. excav. for structures;
- (4) 34,000 cu. yds. borrow;
- (5) 35,000 sta. yds. overhaul;
- (6) 8.693 miles finishing earth graded road;
- (7) 11 cu. yds. cement rubble masonry;
- (8) 1030 lin. ft. corr. metal pipe;
- (9) 9200 lin. ft. protection ditch;
- (10) 1 cattle guard.

Plans obtainable from engineer on deposit of \$10, returnable, checks for same to be made payable to Regional Fiscal Agent, U. S. Forest Service.

MARIPOSA COUNTY, Cal.—Until August 16, 2 P. M., bids will be received by C. H. Sweetser, district engineer, U. S. Bureau of Public Roads, Sheldon Bldg., 461 Market St., San Francisco, for surfacing and performing miscellaneous construction work on a portion of the Turtleback Dome-Valley Flood Section of the Wawona Road in Yosemite National Park, involving:

- (1) 70 cu. yds. structure excav.;
- (2) 11,750 sq. yds. prepare subgrade for P. C. concrete pavement;
- (3) 2200 cu. yds. P. C. concrete pave.;
- (4) 1540 cu. yds. Class A concrete;
- (5) 83,300 lbs. reinf. steel;
- (6) 1500 lin. ft. drill holes;
- (7) 1000 lin. ft. 4-in. tile underdrain;
- (8) 150 lin. ft. corr. metal pipe;
- (9) 4-in. steel air pipe (pump sum);
- (10) 2100 tons crushed rock leveling course;
- (11) 2600 tons crushed rock for bituminous surface course;
- (12) 2000 tons supplemental crushed rock;

(13) 88 tons bituminous binder;

(14) 124 tons emulsified bituminous binder;

(15) 2400 lin. ft. stone curb;

(16) 2700 sq. yds. ditch paving. Plans obtainable from engineer on deposit of \$10, returnable, checks for same to be made payable to Federal Reserve Bank of San Francisco.

NATIONAL FOREST, Arizona—According to a recent report, the U. S. Bureau of Public Roads will expend \$500,000 for highway construction in National Forests in Arizona. Included in a list of projects announced by the department, are:

Fredonia-House Rock Valley highway, grading, \$155,000.

Pine-Winslow highway, Clint's well to north forest boundary section, subgrade reinforcing, \$115,000.

Globe-Holbrook highway, Heber-Cocoonino-Gila county line, grading, \$35,000.

Ashfork-Flagstaff highway, Ashfork hill section, grading and subgrading reinforcement, \$100,000.

Globe-Holbrook highway, Young to Cocoonino-Gila county line, drainage and betterment, \$15,000.

WASHINGTON COUNTY, Ore.—C. A. Mills, Verona, at \$11,499 under Alternative A submitted low bid to State Highway Department for 1.22 miles of grading and surfacing on Beaver Creek Section of Secondary State Highway No. 102 in Washington County, involving 20,000 cu. yds. excavation, 1,500 cu. yds. crushed rock and 46 lin. ft. pile trestle.

Bids held under advisement.

OREGON STATE.—Following contracts awarded by the State Highway Commission for highway construction as follows:

O. N. Pierce, 206 Russell, Portland, at \$1,500 awarded contract for Umatilla County, Vinson-Nye Section, Oregon-Washington Highway and Nye-Lazinka Ranch Section, Pendleton-John Day Highway, 12,500 cu. yds. crushed rock in stockpile.

O. N. Pierce, 206 Russell, Portland, at \$27,000 for concrete pipe, awarded contract for Yamhill County, Holdredge Section, Secondary Highway No. 154, 0.65 miles grading and surfacing, 3,500 cu. yds. excavation and 1,400 cu. yds. crushed gravel.

LOS ANGELES, Cal.—Until 10 A. M. August 10, bids will be received by board of public works for improving Roscove Ave. between Vermont Ave. and New Hampshire Ave., under Cash Contract, involving:

- (1) grading, incl. removal of existing improvements;
- (2) 236 tons asph. conc. wearing surface;
- (3) 267 tons asphalt concrete base;
- (4) 433 ft. unplastered light curb;
- (5) 31 ft. curb armor;
- (6) 2329 sq. ft. 3-in. walk;
- (7) 127 sq. ft. 4-in. walk (driveaway);
- (8) 653 sq. ft. 6-in. concrete gutter;
- (9) ornamental lighting conduit complete;
- (10) remove & reset ornamental light post, cable and conduit, complete;
- (11) 1 manhole to be reset.

EUGENE, Ore.—Bids are to be called shortly for surfacing on the short link of the Oregon Coast Highway following an agreement between Lane County and the U. S. Bureau of Public Roads. The proposed work includes 13.5 miles from Berry Creek north of Florence to Lane-Lincoln county line. The estimated cost is \$135,000 of which

the county will pay 25 per cent. The surfacing will be completed this fall and the oiling in 1933. W. H. Lynch, 316 New Post Office Bldg., Portland, is the district engineer of the Bureau of Public Roads.

IDAHO STATE.—Lyon and Price, Spokane, Wash., at \$55,940 awarded contract by Department of Public Works, Boise, to grade, drain and surface with crushed rock 10,313 miles of the Palouse Highway bet. Potlatch and the Benewah County line and furnish and place crushed rock surfacing in windrows on the Potlatch and North and South Highway west of Potlatch in Latah County, involving in the main:

- 15,000 cu. yds. excav. solid rock;
- 100,000 cu. yds. excav., common;
- 50,000 sq. yds. overhaul;
- 17,500 cu. yds. crushed rock surf., 3-in.
- 15,400 cu. yds. do 1-in.;
- 14,000 mi. yds. haul on blinder;
- 580 cu. yds. Class A concrete;
- 73,000 lbs. metal reinf.;
- 12 to 36-in. corr. metal pipe;
- 1,160 lin. ft. type C guard rail;
- 6,600 cu. yds. crushed rock surfacing in windrows;
- 1,500 cu. yds. ¾-in. crushed rock surf. in stockpile.

REDWOOD CITY, San Mateo Co., Cal.—County Surveyor Jas. S. James has completed specifications, and bids will be asked about the middle of August to straighten and grade about 1½ mile of the La Honda road westward from the Skyline boulevard junction. Road will be 6,500 ft. long with a 20-ft. width. Average paving width, 22-ft., involving:

- (1) 55,000 cu. yds. grading;
- (2) 3,500 cu. yds. macadam base;
- (3) 143,000 sq. ft. asphalt wearing surface.

E. B. Hinman is county clerk.

LOS ANGELES, Cal.—Until 2 P. M. August 15, bids will be received by the County Supervisors for the improvement of Azusa Ave. in Azusa, from Foothill Blvd. to Sierra Madre Ave., 4800 lin. ft. or 0.91 mile, Cash Contract No. 437, involving:

- (1) 165 tons 2-in. asph. conc. wearing surface;
- (2) 2150 tons 3-in. do;
- (3) 330 tons 4-in. asph. conc. base.

Geo. W. Jones is the County Road Commissioner. Mame B. Beatty, 541 Hall of Records, Clerk of the Board.

SISKIYOU & SHASTA COUNTIES, Cal.—Until August 18, 2 P. M., bids will be received by C. H. Sweetser, District Engineer, U. S. Bureau of Public Roads, 461 Market Street, San Francisco, for 21.291 miles of grading Sections D and E of Route 77, the Mt. Shasta-Mt. Lassen National Forest Highway, Shasta National Forest, involving:

- (1) 107 acres clearing;
- (2) 153,500 cu. yds. excav., unclass.;
- (3) 1,180 cu. yds. unclass. excavation, structure;
- (4) 148,000 sta. yds. overhaul;
- (5) 21,354 miles finish earth graded roads;
- (6) 200 lin. ft. logs for pier posts;
- (7) 182 M.B.M. untreated timber;
- (8) 65,400 cu. yds. unclass. excav., borrow;
- (9) 375 cu. yds. concrete;
- (10) 23,300 lbs. reinf. steel;
- (11) 4,328 lin. ft. corr. metal pipe;
- (12) 143 right-of-way monuments;
- (13) 100 sq. yds. asph. plank wearing surface.

Specifications obtainable from above on deposit of \$10, returnable. Certified checks payable to Regional Fiscal Agent, U. S. Forest Service.

CALIFORNIA STATE.—California Highway Commission has completed an exhaustive study of state highway conditions and needs and will recommend to the next legislature for inclusion in the secondary highway system, 31 projects, 12 in the northern counties of the state and 19 in the southern counties, with one overlapping unit divided between the north and the south, a total of 86 miles in the north, 259 miles in the south, making a grand total of 345 miles.

Mendocino County (a) State Highway Route 48, Navarro River to near Mendocino; 10.3 miles.

Contra Costa County (b) Walnut Creek to Willow Pass; 9 miles.

Madera County (c) Near Bates Station to Coarse Gold; 18 miles.

San Benito County (d) San Juan Bautista to State Highway Route 2; 2.5 miles.

Monterey County (e) Salinas-Castroville Road near Castroville to State Highway, Route 2 near Prunedale; 5 miles.

Napa County (f) State Highway Route 49 near Callstoga to Saint Helena; 8 miles.

Solano County (g) State Highway Route 7 near Vacaville northerly; 5 miles.

San Mateo-Santa Clara Counties (h) State Highway Route 55 to Portola Road Junction; 6 miles.

Lake County (i) State Highway Route 49 near Middletown northwesterly toward Cobb Mountain; 7 miles.

Tuolumne County (j) State Highway Route 40 near Mocassin Creek southeasterly; 4 miles.

San Mateo County (k) San Mateo to State Highway Route 55; 3.2 miles.

Kings, Kern, San Luis Obispo Counties (l) State Highway Route 33 in Cholame Valley to Coalinga-McKittick Road; 8 miles south.

Los Angeles-Orange Counties (m) State Highway Route 60 near Hermosa Beach to State Highway Route 43 in Santa Ana Canyon; 26 miles.

Los Angeles (n) State Highway Route 60 near Mines Field to State Highway Route 4 near San Fernando; 2 miles.

Los Angeles County (o) State Highway Route 0 near Long Beach and Seal Beach to State Highway Route 9 near Lamanda Park; 27 miles.

Ventura, Santa Barbara Counties (p) State Highway Route 2 near Rincon Creek to Ojai Valley via Casitas Pass; 18 miles.

Orange County (q) State Highway Route 2 near Ilfracombe to Norwalk; 11 miles.

San Bernardino (r) State Highway Route 9 near Etiwanda to State Highway Route 31 in Cajon Canyon; 12.0 miles.

Los Angeles, Orange Counties (s) State Highway Route 60 near Long Beach and Seal Beach to Santa Ana; 12 miles.

San Bernardino County (t) South side of Big Bear Lake, connecting State Highway Route 43; 4 miles.

Kern County (u) State Institution to State Highway Route 53 near Old Town; 7 miles.

San Luis Obispo (v) State Highway Route 56 near Morro Beach to State Highway Route 2 near Atascadero; 16 miles.

San Diego (w) Oceanside to State Highway Route 77 near Bonsall; 8.3 miles.

Imperial County (x) State Highway Route 25 near Brawley to Niland-Mecca Road; 20 miles.

Riverside County (y) State Highway Route 26 near Whitewater to Palm Springs; 9 miles.

Orange County (z) State Highway

Route 69 near Huntington Beach to State Highway Route 2; 20 miles.

Orange County (aa) Anaheim to State Highway Route 43 near Olive; 4 miles.

San Diego (bb) Silver Strand State Park to State Highway Route 2; 6.0 miles.

Los Angeles, Orange Counties (cc) Los Angeles near Compton to State Highway Route 2 near El Toro; 29 miles.

Tulare County (dd) State Highway Route 10 near Merryman to Tipton-Strathmore Road; 15 miles.

San Bernardino County (ee) State Highway Route 43 to Lake Arrowhead; 1-7 miles.

SAN DIEGO, Cal.—Fred W. Steffen, 221 Spreckels Theater Bldg., San Diego, awarded contract by Bureau of Yards and Docks, Navy Dept., at \$142-993.99 for repairs to seaplane runway, San Diego; Spec. No. 6937.

SAN FRANCISCO.—Fay Imp. Co., 753 Phelan Bldg., at \$2,633 awarded contract by State Board of Harbor Commissioners for paving Pier No. 44. Work involves:

- (1) 23,500 sq. ft. 2-in. Topeka wearing surface;
- (2) 17,500 sq. ft. 1-in. do;
- (3) 17,000 sq. ft. 1-in. Topeka wearing surface (second floor).

Total bids follow:

| | |
|-----------------------|------------|
| (A) Fay Imp. Co. | \$2,633.00 |
| (B) Pacific Pave. Co. | 2,687.00 |
| (C) Eaton & Smith | 2,725.00 |
| (D) A. G. Raitsch | 3,018.45 |

Unit bids follow:

| | (A) | (B) | (C) | (D) |
|----------|--------|--------|-------|---------|
| (1)..... | \$.068 | \$.055 | \$.05 | \$.0552 |
| (2)..... | .03 | .035 | .04 | .0425 |
| (3)..... | .03 | .046 | .05 | .0575 |

COCONINO COUNTY, Ariz.—Until August 18, 10 A. M., bids will be received by C. H. Sweetser, District Engineer, U. S. Bureau of Public Roads, 461 Market St., San Francisco, for 15,448 miles grading Sections B and C of Route 4, the Ashfork-Flagstaff Angell National Forest Highway, Tusayan National Forest, involving:

- (1) 120 acres clearing;
- (2) 119,000 cu. yds. unclass. excav.;
- (3) 2,030 cu. yds. unclass. excavation, struc.;
- (4) 91,000 cu. yds. do, borrow;
- (5) 204,700 sta. yds. overhaul;
- (6) 78,800 cu. yds. subgrade stabilizer
- (7) 183,700 cu. yd. mi. haul subgrade stabilizer;
- (8) 863 cu. yds. concrete;
- (9) 63,100 lbs. reinf. steel;
- (10) 2,286 lin. ft. corr. metal pipe;
- (11) 92 cu. yds. hand-laid riprap;
- (12) 2 cattle guards.

Specifications obtainable from above on deposit of \$10, returnable. Certified checks payable to Regional Fiscal Agent, U. S. Forest Service.

PLUMAS COUNTY, Cal.—Until August 16, 2 P. M., bids will be received by C. H. Sweetser, District Engineer, U. S. Bureau of Public Roads, Sheldon Bldg., 461 Market St., San Francisco, for 16,394 miles of placing a crushed gravel base course on Sections E and F of Route 23, Quincy-Beckwith National Forest Highway, Plumas County, involving in the main:

- (1) 950 cu. yds. unclass. excav. for structures;
- (2) 48,200 tons crushed gravel base course;
- (3) 2,400 tons supplemental crushed gravel;
- (4) 2,200 M. gallons watering;
- (5) 16,331 miles rolling;
- (6) 4,616 lin. ft. corr. metal pipe in place;

(7) 920 cu. yds. crushed gravel for backfill.

Plans obtainable from engineer on deposit of \$10, returnable, checks for same to be made payable to Regional Fiscal Agent, U. S. Forest Service.

GRAND CANYON NATIONAL PK., Ariz.—O. A. Lindberg, 448 N American St., Stockton, Calif., at \$59,460 submitted only bid to U. S. Bureau of Public Roads, 461 Market St., San Francisco, to place a seal coat and bit surface treatment over 35,819 miles on Route 3, the Bright Angel Point-Cape Royal Highway and Route 4, the Bright Angel Springs-North Entrance Highway, involving:

- (1) 2,500 cu. yds. unclass. excavation;
- (2) 2,500 tons coarse screenings;
- (3) 3,200 tons fine screenings;
- (4) 440 tons apply asphalt oil;
- (5) 27,000 gals. apply fuel oil;
- (6) 600 sq. yds. salvage and replace surface material;
- (7) E. W. remodeling existing surfacing.

Unit bids follow:

| | Lindberg | Engineer's Est. |
|----------|----------|-----------------|
| (1)..... | \$ 1.50 | \$ 1.50 |
| (2)..... | 5.50 | 5.65 |
| (3)..... | 5.50 | 5.75 |
| (4)..... | 40.00 | 24.00 |
| (5)..... | .18 | .105 |
| (6)..... | 1.50 | 1.00 |
| (7)..... | 1,000.00 | 1,000.00 |

Engineer's estimate, \$51,270. Bid recommended for award.

WASHINGTON STATE—Standard Asphalt Paving Co., Chronicle Bldg., Spokane, awarded contract by State Highway Department at \$77,906 for bituminous surfacing on 10.6 miles of State Road No. 2, Creston to Wilbur, Lincoln County, 17 miles of State Road No. 3, Barstow to Laurier, Ferry County. The items follow:

SEC. 1—ROCKLYN TO WILBUR

- (1) 10.6 miles preparation of rdwy.;
- (2) 220 M gallons water in place on roadway;
- (3) 765 bbls. furnish, apply bituminous cement (No. 2 road oil) to roadway (tack coat);
- (4) 15,900 tons drying, mixing, placing bituminous treated mineral;
- (5) 4606 bbls. furnishing bituminous cement (No. 2 road oil) for "plant mix";

SEC. 2—BARSTOW TO LAURIER

- (6) 16.7 miles preparation of rdwy.;
- (7) 120 M gallons water in place on roadway;
- (8) 1200 bbls. furnishing, applying bituminous cement (No. 2 road oil) on roadway (tack coat);
- (9) 25,050 tons drying, heating, mixing and placing bituminous treated mineral aggregate on roadway;
- (10) 7300 bbls. furnishing bituminous cement (No. 2 road oil) for "plant mix";

The total bids were:

- (A) Standard Asphalt Paving Company \$77,906.
- (B) Kern and Kibbe, Portland, and Newport Constr. Co., Portland, \$83,687.

The unit bids follow:

| | (A) | (B) |
|-----------|----------|----------|
| (1)..... | \$100.00 | \$320.00 |
| (2)..... | 2.50 | 1.50 |
| (3)..... | 2.75 | 2.40 |
| (4)..... | 1.05 | 1.00 |
| (5)..... | 2.40 | 2.20 |
| (6)..... | .75 | 3.20 |
| (7)..... | 2.00 | 1.50 |
| (8)..... | 2.75 | 2.75 |
| (9)..... | .90 | 1.00 |
| (10)..... | 2.60 | 2.50 |

YAKIMA, Wash.—J. B. Covello, 1510 Sturgis, Se., Seattle, at \$55,839.89 submitted low bid to County Commissioners to pave Permanent Highway No. 54, known as Summit View-Cowiche road, involving:
 12,890 cu. yds. of excavation;
 208 cu. yds. struc. excavation;
 51,190 sta. yds. overhaul;
 11,403 ft. finish shoulders and ditches;
 23,115.4 sq. yds. cement concrete pave-
 Bids held under advisement.

WASHINGTON STATE.—Until August 16, 10 A. M., bids will be received by Samuel J. Humes, Director of Highways, Olympia, for the following highway construction:

Construct bituminous mat by the plant mix method on 10 miles State Road No. 6, Newport North and South in Pend Oreille County.

Pave with Portland cement concrete 0.6 mi. of State Road No. 5, Auburn vicinity in the city of Auburn, King County.

Resurface with 11,310 cu. yds. of crushed stone 15. miles of State Road No. 15, Merritt west in Chelan County.

Grade and surface 1.7 miles of the Methow Valley highway, Pateros, north in Okanogan County, involving 73,490 cu. yds. of excavation, 5,930 cu. yds. crushed stone, 787 lin. ft. pipe culverts and other items.

Pave with Portland cement concrete 2.6 miles of the Old Pacific Highway-Valley Route, Fife to 2nd Milwaukee crossing in Pierce County.

Specifications on file in office of the county engineer of county in which work is located, and obtainable from above office on deposit of \$2, returnable. Certified check 5% payable to State Treasurer required with bid.

LOS ANGELES, Cal.—Until 10 A. M. August 10, bids will be received by office of public works for improving Banning St. and Santa Fe Ave. Improvement District, under Cash Contract, involving:

- (1) grading (2280 cu. yds. excavation a non-fill) incl. removal of existing improvement;
- (2) 120 tons asph. concrete base;
- (3) 37,848 sq. ft. 2-in. asph. concrete wearing surface;
- (4) 165 sq. ft. 8-in. concrete pave. (local depression);
- (5) 23,735 sq. ft. 6-in. concrete base;
- (6) 1537 ft. unplastered heavy curb;
- (7) 251 ft. curb armor;
- (8) 10,138 sq. ft. 3-in. walk;
- (9) 868 sq. ft. 6-in. walk (drive-way);
- (10) 1513 sq. ft. 8-in. comb. gutter;
- (11) 540 ft. 6-inch house connection sewer;
- (12) 37.3 vert. ft. of chimney pipe;
- (13) storm drain culverts;
- (14) 18 traffic markers.

NAPA COUNTY, Cal.—Until Aug. 8, 2 P. M., bids will be received by John H. Skeggs, district engineer, State Highway Commission, 211 State Bldg., San Francisco, to improve 11.9 miles of highway between the Sonoma-Napa County Line and Napa and between Napa Wye and Napa-Solano County Line, rock borders to be bituminous treated by the road mix method on both side of the pavement. Project involves:

- (1) 250 tons cut-back asphalt;
- (2) 1167 sta. mix cut-back asphalt and mineral aggregate.

COCONINO COUNTY, Ariz.—H. L. Royden, Phoenix, awarded contract by U. S. Bureau of Public Roads, at \$26,825 for constructing the Clear Creek Bridge, Section C of Route 8, the Clarkdale-Globe-National Forest Highway, Coconino National Forest, Yavapai County, Arizona, involving:

- (1) 420 cu. yds. excav. unclassified for structures;
 - (2) 155 cu. yds. "A" concrete;
 - (3) 35 cu. yds. "B" concrete;
 - (4) 237 cu. yds. "D" concrete;
 - (5) 61,000 lbs. reinforcing steel;
 - (6) 230,000 lbs. structural steel;
 - (7) 345 cu. yds. basket rip-rap.
- The bids were opened at Phoenix June 16.

VALLEJO, Solano Co., Cal.—Delta Dredging Company, at \$5290 awarded contract by city council to construct a water treatment plant at Fleming Hill reservoirs.

SAN FRANCISCO.—Until August 10 2:30 P. M., bids will be received by Department of Public Works, for improvements to Rivera Street between 33rd and 34th Aves., involving:

- (1) 82 ft. a/c curb;
 - (2) 2,062 sq. ft. asphalt concrete pave.
- Specifications obtainable from John J. Casey, 3rd floor, City Hall.

WASHINGTON STATE.—Until August 23, 10 A. M., bids will be received by Samuel J. Humes, Director of Highways, Olympia, Washington, to grade and surface 6.5 miles of State Road No. 3, Wallula to Oregon State Line, Employment Relief Project No. E-173-A in Walla Walla County, involving:

- (1) 246,000 cu. yds. excavation;
- (2) 19,500 cu. yds. crushed stone;
- (3) 1,785 lin. ft. pipe culverts;
- (4) one 30-ft. reinf. concrete T-beam bridge;

and other items.

Certified check 5%, payable to State Treasurer required with bid. Specifications obtainable from office of the county engineer on deposit of \$2, returnable.

SHASTA COUNTY, Calif.—T. M. Morgan Paving Co., 5410 Wilshire Boulevard, Los Angeles, at \$255,248.25 awarded contract by State Highway Commission, Sacramento, to grade and surface with crusher run base and bituminous treated crushed gravel or stone surfacing (plant mixed) about 10.2 miles between Canyon Creek and Hat Creek Summit.

SAN FRANCISCO.—Eaton & Smith, 715 Ocean Ave., at \$16,567.50 plus \$825 for incidentals, awarded contract by Department of Public Works to resurface Mission St. from Silver Ave. to the county line, involving:

- (1) 300,000 sq. ft. asph. concrete wearing surface, remove and replace.
- Proposition No. 2**
- (1) 200,000 sq. ft. asph. concrete wearing surface, removed to depth of 1-in. by heating and replaced;
 - (2) 50 tons asphalt concrete binder;
 - (3) 200 ft. granite curb to be reset.

SANTA ROSA, Sonoma Co., Calif.—Bids rejected by county supervisors to construct one mi. of bituminous treated surface on roads in the First Supervisorial District over one mile on Washington St. from Petaluma City to Elmore Road, involving:

- (1) 60 bbls. light oil;
 - (2) 1000 tons crushed rock or gravel;
 - (3) 60 tons cut-back asphalt;
- and to construct four miles of bituminous treated road mix in First Supervisorial District, consisting of 2 miles on Elmore Road and 2 miles on Adobe Road, involving:
- (1) 160 tons cut-back asphalt;
 - (2) 1500 tons mineral aggregate to be added.

Bids on both projects were submitted by Helwig Const. Co., Sebastopol,

and T. Jensen, Stockton. Work will be done by day labor.

LOS ANGELES COUNTY, Calif.—Until August 10, 2 P. M., bids will be received by State Highway Commission, Sacramento, to pave with Portland cement concrete about 14.5 miles between Castaic School and Piru Creek, involving:

- (1) 68,000 cu. yds. rdwy. excav. without class;
- (2) 85,000 cu. yds. excav. (slide removal);
- (3) 6,050,000 sta. yds. overhaul;
- (4) 254,000 sq. yds. subgrade for pave.
- (5) 53,400 cu. yds. Class A Portland cement concrete (pave.);
- (6) 1,255,000 lbs. bar reinforcing steel (pavement);
- (7) 1,550 tons crushed gravel or stone (bit. treated surface);
- (8) 75 tons cut-back asphalt;
- (9) 190 cu. yds. Port. cem. conc. remove from existing pave. and dispose of;
- (10) 2,600 timber guideposts;
- (11) 270 timber culvert markers;
- (12) 760 sta. finish roadway.

SAN BERNARDINO COUNTY, Cal.—Until August 10, 2 P. M., bids will be received by State Highway Commission, Sacramento, to grade and surface with oil treated crushed gravel or stone about 4.5 miles between Camp Waterman and Arrowhead Springs, involving:

- (1) 75 acres clear and grub right-of-way;
- (2) 774,000 cu. yds. roadway excav. without class;
- (3) 2,201,000 sta. yds. overhaul;
- (4) 33,500 cu. yds. struc. excav.;
- (5) 14,500 tons cur. gravel or stone surf.;
- (6) 47 tons cut-back asphalt (seal coat);
- (7) 3625 bbls. fuel oil (surfacing);
- (8) 407 cu. yds. Class "A" Port. cem. conc. (struc.);
- (9) 38,500 lbs. bar reinf. steel (struc.);
- (10) 2230 lin. ft. 8-in. corr. metal pipe;
- (11) 856 lin. ft. 13-in. do;
- (12) 2428 lin. ft. 24-in. do;
- (13) 222 lin. ft. 30-in. do;
- (14) 1882 lin. ft. 36-in. do;
- (15) 1074 lin. ft. 48-in. do;
- (16) 823 timber guide posts;
- (17) 12,000 M. gals. water (embank.);
- (18) 7960 lin. ft. lam. timber guard rail;
- (19) 260 sta. finish roadway;
- (20) 140 monuments complete in place;

ALTERNATIVE ITEMS

- Alternative "A"**
- (21) 1155 5-in.x6-in.x6-ft. 8-in. reinf. concrete headers;
 - (22) 3994 5-in x10-in.x6-ft. 8-in. do;
 - (23) 4492 6-in.x6-in-6-ft. 0-in. reinf. concrete stretchers;
 - (24) 2746 6-in.x8-in.x6-ft. 0-in. do;
 - (25) 1309 8-in.x10-in.x6-ft. 0-in. do;
 - (26) 196 concrete filler blocks.
- Alternative "B"**
- (27) 3172 8-in.x6-in.x6-ft. 0-in. metal headers;
 - (28) 234 6-in.x6-in.x4-ft. 0-in. do;
 - (29) 414 6-in.x6-in.x8-ft. 0-in. do;
 - (30) 5375 6-in.x8-in.x6-ft. 0-in. metal stretchers;
 - (31) 786 6-in.x8-in.x8-ft. 0-in. do;
 - (32) 3145 metal header caps;
 - (33) 414 metal header inserts;
 - (34) 283 metal header spacers;
 - (35) 574 metal stretcher inserts.

NOTE.—Alternatives "A" and "B" are alternative types of cribbing members and the contract may be awarded on the basis of the use of either type at the option of the Department of Public Works.

State will furnish corrugated metal

pipe, spillway assemblies, and either reinforced concrete or metal cribbing members.

IMPERIAL COUNTY, Cal.—Until August 19, 2 P. M., bids will be received by State Highway Commission, Sacramento, to grade and pave with asphalt concrete about 7.9 miles between Sand Hills and Arax Junction, involving:

- (1) 205,000 cu. yds. rdwy., excav. without class;
- (2) 775,000 sta. yds. overhaul;
- (3) 144,000 cu. yds. ditch and channel excav.;
- (4) 51,300 cu. yds. sel. material;
- (5) 10,000 cu. yds. struc. excav.;
- (6) 30,100 sq. yds. subgrade for pave.
- (7) 35,500 tons asph. conc.;
- (8) 400 hbs. heavy fuel oil (detour);
- (9) 30 lin. ft. 24-in. corr. metal pipe
- (10) 890 lin. ft. 36-in. do;
- (11) 80 lin. ft. solid timber guard rail;
- (12) 26,600 lin. ft. furnish treated piles;
- (13) 1603 drive piles;
- (14) 56,000 lbs. struc. metal;
- (15) 377 M. ft. b. m. redwood timber, dense sel. all-heart struc. grade;
- (16) 361 M. ft. b. m. redwood timber, sel. all-heart struc. grade;
- (17) rearrange existing improvements;
- (18) 466 sta. finishing roadway;
- (19) 150 monuments complete in place.

State will furnish corrugated metal pipe.

LOS ANGELES COUNTY, Cal.—Guy F. Atkinson, 601 Russ Bldg., San Francisco, awarded contract by U. S. Bureau of Public Roads at \$568,599, for 7.704 mls of highway grading and structures, Section B of the San Gabriel National Forest Highway, Angeles National Forest, Los Angeles County. Work started at 8 A. M., July 25.

- (1) 75 acres clearing;
 - (2) 1,708,000 cu. yds. unclass. excav.;
 - (3) 10,900 cu. yds. unclass. excav. struc.;
 - (4) 4260 sta. yds. overhaul;
 - (5) 7630 m. finish ear graded road;
 - (6) 3310 cu. yds. tunnel excav. circular section;
 - (7) 3430 (alt.) cu. yds. tunnel excav. horseshoe section;
 - (8) 3250 cu. yds. class A conc.;
 - (9) 446 cu. yds. class B conc.;
 - (10) 710 cu. yds. class D conc.;
 - (11) 920 cu. yds. class A conc. lining, circular tunnel;
 - (12) 950 (alt.) cu. yds. class A conc. lining, horseshoe tunnel;
 - (13) 450,000 lbs. reinf. steel;
 - (14) 2200 lbs. bronze bearing plates;
 - (15) 332 lin. ft., 8-in. C.M.P. (16-ga.);
 - (16) 3610 lin. ft., 24-in., do, 14-gauge;
 - (17) 536 lin. ft. 24-in., do, 12-gauge;
 - (18) 109 lin. ft. 30-in., do, 14-gauge;
 - (19) 112 lin. ft. 30-in., do, 12-gauge;
 - (20) 54 lin. ft. 36-in., do, 12-gauge;
 - (21) 252 lin. ft. 36-in., do, 10-gauge;
 - (22) 14,000 lbs. wire mesh for rip-rap;
 - (23) 400 cu. yds. wire basket rip-rap;
 - (24) 2180 lin. ft. 6-in. porous tile underdrain;
 - (25) 21,400 lin. ft. guard rail;
 - (26) 2360 lin. ft. concrete hand-rail;
 - (27) 4 type A spillway inlets;
 - (28) 3 type B do;
 - (29) 100 right-of-way monuments;
- Referring to the totals, Total (1) is exclusive of items 7 and 12; Total (2) is exclusive of items (6) and (11). Complete list of unit and total bids on this project published in issue of June 20.

COLORADO STATE—M. E. Carlson, Denver, awarded contract by State Highway Department, at \$153,839.04 for highway oiling on Com-

hined F. A. Projects Nos. 149-C, Const. Div. No. 3, 149-D, Const. Div. No. 1, 149-FR Const. Div. No. 1, 149-GR Const. Div. No. 1, and 149-HR Const. Div. No. 1, a plant mix oil processed surfacing project, 55.321 miles long, located between Denver and Limon, on State Highway No. 5, Adams, Arapahoe, and Elbert Counties.

UTAH STATE.—J. W. Whiting, Springville, Utah, at \$60,566.55 awarded contract by State Road Commission, Salt Lake City, to construct a gravel surfaced road 13.567 miles between Timple and Grantsville in Tooele County, F. A. P. 86-C, involving:

- (1) 115,000 cu. yds. unclass. excav.;
 - (2) 170,000 sq. yds. overhaul, Class A;
 - (3) 3,200 yd. m. overhaul, Class B;
 - (4) 37,000 cu. yds. gravel surf., load;
 - (5) 12,000 cu. yds. gravel sub-base, load;
 - (6) 181,000 yd. m. gravel surf., haul;
 - (7) 13,567 mi. gravel surf., place;
 - (8) 700 cu. yds. binder, load;
 - (9) 352 cu. yds. struc. excav.;
 - (10) 180 cu. yds. concrete, Class A;
 - (11) 150.5 cu. yds. concrete, Class B;
 - (12) 30,000 lbs. reinf. steel, furnish & place;
 - (13) 120 lin. ft. 15-in. corr. metal pipe
 - (14) 502 lin. ft. 18-in. do;
 - (15) 1,002 lin. ft. 24-in. do;
 - (16) 46 lin. ft. 30-in. do;
 - (17) 1,228 lin. ft. 36-in. do;
 - (18) 60 lin. ft. 48-in. do;
 - (19) 19.8 MFBM lumber;
 - (20) 720 lin. ft. guard rail, wire cable;
 - (21) 150 F. A. P. markers;
 - (22) 4 cleanout boxes and covers.
- Complete bids follow:
 J. W. Whiting, Springville.....\$60,566.55
 W. W. Clyde & Co., Springville.....11,029.82
 Dodge Bros., Fallon.....63,685.45
 Olof Nelson, Logan.....65,557.70
 Utah Const. Co., Ogden.....67,350.70
 Nevada Rock and Sand Co., Reno, Nevada.....68,786.90
 J. J. Burke & Co., Salt Lake City.....72,590.30
 Reynolds-Ely Const. Co., Springville.....72,658.95
 Wheelwright Con. Co., Ogden.....75,178.80
 B. D. Palfreyman, Provo.....81,651.90
 Gibbons & Reed, Salt Lake City.....82,990.70
 Engineer's estimate.....81,938.40

NATIONAL FOREST, Nev.—Bids for furnishing approximately 227,000 gallons fuel oil and approximately 55 tons cut-back asphalt for use in oil processing the existing crushed gravel surfacing on Section A of Route 13, the Midland Trail (Ely-Hoit Creek) National Forest Highway, Nevada National Forest, and on Nevada Federal Lands Project No. 1, part of Midland Trail (Ely-Tonopah) State Route No. 4, both in White Pine County, Nev., opened by the U. S. Bureau of Public Roads at San Francisco, follow:

Nevada Federal Highway Project No. 13-A-2: (1) 127,000 gallons fuel oil or 30,238.09 bbls and (2) 30 tons cut-back asphalt.

Nevada Federal Lands Project No. 1, oiling: (3) 100,000 gallons fuel oil and (2) 23,809.52 barrels, and (4) 25 tons cut-back asphalt.

Gilmore Oil Co. (1) 59.5c bbl. f.o.b. Seguro, Calif.; (2) \$6.86 ton f.o.b. Richmond, Calif.; (3) 59.5c bbl. f.o.b. Seguro, and (4) \$6.86 ton f.o.b. Richmond; total bid, \$3533.13.
 Union Oil Co., (1) 59.5c. bbl. f.o.b. Maltha, Cal.; (2) \$6.86 ton f.o.b. Oleum Cal.; (3) 59.5c gal. f.o.b. Maltha; (4) \$6.86 ton f.o.b. Oleum; total bid, \$3,535.14.
 Standard Oil Co., (1) \$59.5c bbl. f. o. b. Bakersfield, 73c bbl. f.o.b. Richmond, and 59.5c bbl. f.o.b. Seguro; (2) \$7.37 ton f.o.b. Bakersfield, \$6.86

ton f.o. b. Richmond, and \$7.37 ton f. o. b. Seguro; (3) 59.5c bbl. Bakersfield 73c bbl. Richmond, 59.5c bbl. Seguro; (4) \$7.37 ton Bakersfield, \$6.86 ton Richmond and \$7.37 ton Seguro; total bids; Bakersfield, \$3621.18; Richmond, \$4593.01, and Seguro, \$3621.18.

Associated Oil Co., (1) 1.85c gal. f.o.b. Avon, Cal.; (2) \$6.86 ton f.o.b. Avon; (3) 1.85c gal. f.o.b. Avon; (4) \$6.86 ton f.o.b. Avon; total bid, \$4,576.80.

Tarr & McComb Oil Co., Ltd., Los Angeles, (1) 62.5c bbl. f.o.b. Maltha, Cal.; (2) no bid; (3) 62.5c bbl. f.o.b. Maltha; (4) no bid; total bid on (1) and (3) \$3377.98.

Shell Oil Co. bid received too late and was returned.

UTAH STATE.—Dodge Bros., Fallon, Nevada, at \$25,805 awarded contract by State Road Commission, Salt Lake City, to construct a gravel surfaced road over 7.04 miles between Brigham City and Call's Fort, Box Elder County, State Project No. 365, involving:

- (1) 42,000 cu. yds. unclass. excav.;
- (2) 150,000 sq. yds. overhaul, Class A
- (3) 9,000 yd. m. overhaul, Class B;
- (4) 16,500 cu. yds. gravel surf., load;
- (5) 2,000 cu. yds. sub-base, load;
- (6) 35,000 y. m. gravel surf., haul;
- (7) 7,040 miles gravel surf., place;
- (8) 100 cu. yds. binder, load;
- (9) 300 lin. ft. lay 12-in. corr. metal pipe;
- (10) 439 lin. ft. lay 15-in. do;
- (11) 1,532 lin. ft. lay 18-in. do;
- (12) 162 lin. ft. lay 24-in. do;
- (13) 42 lin. ft. lay 30-in. do;
- (14) 100 lin. ft. lay 48-in. do;
- (15) 4,530 lin. ft. 6-in. drain tile, furnish and place.
- (16) 720 lin. ft. 8-in. do.

Complete bids follow:
 Dodge Bros., Fallon, Nev.....\$25,805.00
 Wheelwright Con. Co., Ogden.....23,104.50
 A. O. Thorn, Springville.....30,355.10
 W. W. Clyde & Co.,.....30,932.40
 B. D. Palfreyman, Provo.....31,199.60
 Olof Nelson, Logan.....33,372.20
 Utah Const. Co., Ogden.....33,831.60
 Engineer's estimate.....32,716.80

UTAH STATE.—J. M. Sumsion, Springville, Utah, at \$10,175.50 awarded contract by State Road Commission, Salt Lake City, to surface 5.872 miles of road bet. the Weber County line and Morgan, in Morgan County, F. A. P. 41-A. Reop., involving:

- (1) 7,900 cu. yds. gravel surf., load;
- (2) 18,600 yd. m. gravel surf., haul;
- (3) 2,800 miles gravel surf., place;
- (4) 3,600 cu. yds. sub-base, load;

State Project 372
 (5) 3,500 cu. yds. gravel surf., load;
 (6) 25,600 yd. m. gravel surf., haul;
 (7) 250 cu. yds. sand, load.
 Complete bids follow:
 J. M. Sumsion, Springville.....\$10,175.50
 Wheelwright Con. Co., Ogden.....11,087.00
 Utah Const. Co., Ogden.....11,272.50
 Olof Nelson, Logan.....13,093.00
 W. W. Clyde & Co., Springville.....16,929.00
 Engineer's estimate.....11,330.00

ELKO COUNTY, Nev.—Until Sept. 7 (approximate date) bids will be received by S. C. Durkee, State Highway Engineer, Carson City, to furnish, apply and mix asphaltic fuel oil with the roadway surface over 2.33 miles between Wells and East Foot of Pequois. Specifications obtainable about Aug. 24 at the above office, the County Clerk's office at Elko. Certified check 5% required with bid.

BUILDING NEWS

CHURCHES

Preparing Plans.
CHURCH Cost, \$10,000
VALLEJO, Solano Co., Calif. Florida
 and Napa Streets.
 One-story frame and stucco church
 (Mission Spanish type; Sunday
 school, social hall, chapel; 55x22).
 Owner—Church of the Redeemer (1st
 Lutheran) Reverend W. E. Menz-
 led, Cordella, pastor.
 Architect—Geo. F. Simonds, 1276 A St.
 Hayward.

FACTORIES AND WARE- HOUSES

Contracts Awarded.
DISTRIBUTING PLANT Cost, \$300,000
SAN FRANCISCO, Potrero Ave., bet.
 25th and Army Streets.
 Three-story Class A steel frame and
 concrete distributing plant and
 offices; 3-story Class A steel frame
 and concrete pasteurizing building;
 1-story Class A steel and concrete
 boiler and compressor bldg. with
 steel trusses, steel frame loading
 shed, galvanized roof; Class B
 steel frame and galvanized iron
 garage and repair shop, composi-
 tion roof; 1-story Class A steel
 and concrete hutter and by-pro-
 ducts building; brick exterior walls
 and concrete and tile floors.
 Owner—Dairy Delivery Co., 2550 19th
 St., San Francisco.
 Architect—W. H. Toepke, Call Bldg.,
 San Francisco.
 Associated Architect—Otto G. Hinter-
 mann Call Bldg., San Francisco.
General Work — H. H. Larsen Co., 64
 South Park, \$91,500.
Brick and Terra Cotta—Cahill Bros.,
 206 Sansome St., \$94,150.
Heating—Frank J. Klimm, 45 6 Ellis
 St., \$4056.
Electric Wiring—Enterprise Electric
 Works, 1164 Mission St., \$7560.
Sheet Metal—Fire Protection Products
 Co., 1101 16th St., \$23,730.
Elevator—Otis Elevator Co., 1 Beach
 St., \$3,223.
 Plumbing contract will be awarded
 shortly.

As previously reported, structural
 steel contract awarded to McClinton-
 Marshall Co., 2050 Bryant St.

GARAGES AND SERVICE STATIONS

Planned.
SERVICE STATION Cost, \$30,000
GILROY, Santa Clara Co., Cal. Old
 Gilroy and Monterey Sts. (80x110).
 Super-service station.
 Owner—Shell Oil Co., Shell Bldg., San
 Francisco.
 Plans by Eng. Dept. of Owner.
 Present building on site to be razed.

GOVERNMENT WORK AND SUPPLIES

Preparing Plans.
OFFICERS' QUARTERS \$110,000
SAN FRANCISCO, Fort Mason.
 Eight sets officers' quarters, 2 double
 sets of non-commissioned officers'
 quarters (concrete or hollow tile
 construction).
 Owner—United States Government.
 Plans by Constructing Quartermaster,
 Fort Mason, San Francisco.

Contract Awarded.
BUILDINGS Cont. Price, \$237,900
SUNNYVALE, Santa Clara Co., Cal.
 Five buildings (aerological building,
 house, bachelor officers' quarters,
 cafe and recreation building); in-
 volving concrete work, stucco fin-
 ish, pan and covered, tile roofing,
 heating and electric work, lathing
 and plastering, plumbing, etc.
 Spec. No. 6374.

Owner—United States Government.
 Plans by Bureau of Yards and Docks,
 Navy Dept., Washington, D. C.
 Contractor—Robert McKee, 103 W.
 Sixth St., Los Angeles.

SAN DIEGO, Cal.—Fred W. Steffen,
 221 Spreckels Theater Bldg., San
 Diego, awarded contract by Bureau of
 Yards and Docks, Navy Dept., at \$142-
 953.90 for repairs to seaplane runway,
 San Diego; Spec. No. 6937.

July 25, 1932
 Bids Wanted—To Close August 30, 3
 P. M.
POST OFFICE Cost, \$150,000
MARYSVILLE, Yuba Co., Cal. NE
 Fourth and C Sts. (160x160 ft.)
 One-story and basement Class A steel
 concrete and brick Post Office.
 Owner—United States Government.
 Architect—J. J. Donovan, 1916 Broad-
 way, Oakland.
 Structural Engineer—Frank A. John-
 son, 1915 Broadway, Oakland.
 Mechanical Engineer—Atkins & Park-
 er, Hobart Bldg., San Francisco.
 Previously reported to be opened
 August 13, which was in error.

WINSLOW, Ariz.—Robert E. McKee
 1900 Texas St., El Paso, Texas, and
 Central Bldg., Los Angeles, submitted
 low bid to Department of the Interior,
 Bureau of Indian Affairs, at \$112,300,
 for complete construction (except
 elevator) of a hospital building, nurses'
 quarters, physician's cottage and gar-
 age at Winslow, Arizona, under the
 jurisdiction of the Hopi Indian Agency,
 Keams Canyon, Ariz.

Plans Completed.
POST OFFICE Cost, \$300,000
SAN JOSE, Santa Clara Co., Cal. 1st
 and St. John Streets.
 Two-story and basement Class A Post
 Office (buff terra cotta exterior);
 Spanish type.
 Owner—United States Government.
 Architect—Ralph Wyckoff, San Jose
 National Bank Bldg., San Jose.
 Structural Engineer—L. H. Nishimura,
 525 Market St., San Francisco, and
 Earl Cope, 111 Sutter St., San
 Francisco.
 Mechanical Engineer—Leland & Haley
 53 Sutter St., San Francisco.
 Plans have been forwarded to
 Washington for approval and bids will
 probably be asked in about six weeks.

Bids Wanted—To Close August 13.
POST OFFICE Total Cost, \$200,000
EL CENTRO, Imperial Co., Cal.
 One-story and basement Class A Post
 Office (101x77 feet).
 Owner—United States Government.
 Plans by Supervising Architect, Wash-
 ington, D. C.
 Concrete foundations, steel frame,
 brick walls, stucco, granite, stone and
 terra cotta exterior, clay tile and
 composition roof, wrought iron girdles,

steel and wood casement and double-
 hung windows, concrete floors, cork
 carpet and wood block floor covering,
 marble and tile work, metal skylights,
 metal stairs, 2 vaults, metal flagpole,
 1-pipe low pressure steam heating sys-
 tem with oil-burning boilers.

Bids previously received were re-
 jected. Lowest bid was submitted by
 Associated Constructors, Inc., Los An-
 geles, at \$121,278.

Final Plans Approved.
POST OFFICE Cost, \$140,000
NAPA, Napa Co., Cal. Randolph and
 Second Sts. (240x120 ft.)
 One-story, basement and mezzanine
 floor Class A steel and concrete
 Post Office (brick and terra cotta
 exterior, granite base).

Owner—United States Government.
 Architect—Reed & Corlett, Oakland
 Bank Bldg., Oakland.
 Bids will be asked shortly.

Preparing Working Drawings.
HOSPITAL BLDGS. Cost, \$1,500,000
SAN FRANCISCO, Fort Miley.
 Six-story steel frame and reinforced
 concrete hospital (300 beds); three
 story steel and concrete adminis-
 tration building, nurses' home,
 garage and storehouses, laundry,
 etc.

Owner—United States Government.
 Plans by U. S. Veterans' Administra-
 tion, Veterans' Hospital, Palo Alto

MARE ISLAND, Cal.—Until Aug.
 10, 11 A. M., under Specification No.
 6587, bids will be received by Bureau
 of Yards and Docks, Nav Department,
 Washington, D. C., for 740,000-gallon
 steel tank at the Navy Yard, Mare
 Island, Calif. Specifications obtainable
 from above office or from Command-
 ant, Navy Yard, Mare Island, on
 deposit of \$10, check payable to Chief
 of Bureau of Yards and Docks.

Plans Being Completed.
FEDERAL BLDG. Total cost \$3,500,000
SAN FRANCISCO, Civic Center.
 Six-story and basement reinforced
 concrete Federal office bldg. (gran-
 ite exterior, terra cotta court lin-
 ing, lead covered copper roofing,
 terrazzo and promenade tile floor-
 ing, mastic tile floors in offices,
 steam heat).

Owner—United States Government.
 Architect—Arthur Brown, Jr., 251
 Kearny Street.
 Mechanical Engineer—Leland & Haley
 53 Sutter Street.
 Structural Engineer—C. H. Snyder,
 251 Kearny Street.
 Plans will be forwarded to Wash-
 ington for approval about Sept. 15.

Contract Awarded.
POST OFFICE Cont. Price, \$265,400
GLENDALE, Los Angeles Co., Cal.
 Broadway bet. Jackson and Louise
 Street.

Two-story and basement reinforced
 concrete post office (100x230 feet;
 exterior brick walls, granite base,
 and entrance steps, terra cotta
 tile partitions, bronze doors, etc.)
 Owner—United States Government.
 Architect—George M. Lindsey and E.
 P. Elden, Union Insurance Bldg.,
 Los Angeles.
 Contractor—Sarver & Zoss, 1015 W.
 4th St., Los Angeles.

Contract Awarded.
POST OFFICE Cont. Price, \$93,340
MERCED, Merced Co., Cal. NE 18th
 and K Streets.
 Two-story Class A steel and masonry
 Post Office (130x84 feet); stucco,
 terra cotta and stone exterior, tile
 roofing, steel and bronze windows
 and doors, marble and tile work,
 steam heat, hardwood trim, etc.
 Owner—United States Government.
 Architect—Allison & Allison, Edison
 Bldg., Los Angeles.
 Contractor—North Moller Co., Jack-
 son, Michigan.

Plans Being Completed.
BUILDINGS Cost, \$—
ALAMEDA, Alameda Co., Cal. Gov-
 ernment Island.

Two-story steel frame administration
 building (92x92) hollow tile walls,
 concrete floors and roof.

One-story warehouse and shop (140x
 430) steel frame, hollow tile walls
 concrete floors, wood roof, Bureau
 of Public Roads building.

One-story storage building (170x265)
 steel frame, hollow tile walls, con-
 crete floors, wood roof) Forest
 Service Bldg.

One-story coast guard warehouse (55x
 164) steel frame, hollow tile walls,
 concrete floors and wood roof.

Owner—United States Government.
 Plans by Bureau of Public Roads,
 Washington, D. C.

This is the first group of buildings
 to be constructed under the \$700,000
 appropriation. Bids will be asked in
 three to four weeks. Future work will
 include streets, roadways and utiliti-
 ties.

SAN FRANCISCO—Mare Island
 Navy Yard, Mare Island, submitted
 low bid at \$31,250, and prices ranging
 to \$37,450 to Superintendent of Light-
 houses, 425 Customhouse, for recon-
 ditioning boiler room and bunkers of
 Lightship No. 76 to provide for use
 of oil fuel; furnishing and installing
 two water tube boilers with oil burn-
 ing equipment. Following is a com-
 plete list of the bids:

Mare Island Navy Yard, Mare Is-
 land, \$31,250 to \$37,450.
 General Engineering Co., San Fran-
 cisco, \$34,500 to \$39,500.
 Moore Dry Dock Co., San Francisco,
 \$37,671 to \$43,785.

United Engineering Co., San Fran-
 cisco, \$37,873 to \$38,973.

Bethlehem Shipbuilding Corp., San
 Francisco, \$41,760 to \$48,500.

Crowley Launch & Tugboat Co., San
 Francisco, \$49,550 to \$54,350.

Variation in bids concerns the dif-
 ferent combinations of equipment to
 be used.

SUNNYVALE, Santa Clara Co., Cal.
 Until August 24, bids will be received
 by Bureau of Yards and Docks, Navy
 Department, to construct railroad
 spur-tracks at Naval Air Station, at
 Sunnyvale. See item under "Rail-
 roads", this issue.

**HALLS AND SOCIETY
 BUILDINGS**

Site Selected—Plans To Be Prepared.
MEMORIAL Cost, \$80,000
SAN LEANDRO, Alameda Co., Cal.
 Bancroft Avenue.

Two-story concrete and brick Vet-
 erans' Memorial.

Owner—County of Alameda.
 Architect—Henry H. Meyers, Kohl
 Bldg., San Francisco.

General Contract Awarded.
COMMUNITY CENTER
 Contract Price, \$150,512
SAN FRANCISCO, California St. and
 Presidio Avenue.

Two-story and basement reinforced
 concrete community center.

Owner—Jewish Community Center, S.
 M. Ehrman, chairman, 68 Post St.
 Architect—Hyman & Appleton, 68 Post
 Street and Arthur Brown, Jr., 251
 Kearny St.

Contractor—Barrett & Hilp, 918 Har-
 rison Street.

Building will contain gymnasium,
 swimming pool, handball courts, audi-
 torium, theatre, club rooms, lecture
 hall, game rooms, lounge rooms and
 kitchen.

Preparing Working Drawings.
CLUB Cost, \$600,000
SAN FRANCISCO, NE Taylor and
 Post Streets.

Six-story Class A brick and terra cot-
 ta club (gymnasium, dormitory,
 dining room, kitchen, elevators,
 etc.)

Owner—Bohemian Club (Timothy
 Healy, secretary).
 Architect—Lewis P. Hobart, Crocker
 Building.

Work Started.
IMPROVEMENTS Cost, \$100,000
LONG BEACH, Los Angeles Co., Cal.
 600 Acre Tract.

Eighteen-hole golf course and lake,
 tennis courts, bridge paths, club-
 house and plunge.

Owner—The Montana Land Co., (G. J.
 Strodtzoff, Mgr.), and C. H.
 Windham Development Co., Secu-
 rity Bldg., Long Beach.

Architect—William Bell, Pasadena.

Excavation and Grading—Graham
 Bros., Long Beach.

Plans Completed.
ALTERATIONS Cost, \$25,000
NAPA, Napa Co., Cal.

Alterations to second floor of Masonic
 Temple (banquet facilities will be
 provided).

Owner—Masonic Hall Association.

Architect—Reed & Corlett, Oakland
 Bank of Savings Bldg., Oakland.

Whether bids will be asked or not
 is not determined at this time.

Plans Being Completed.
LODGE BLDG. Cost, \$18,000
SANTA CRUZ, Santa Cruz Co., Cal.
 No. 206 Pacific Avenue.

Three-story Class C reinforced con-
 crete lodge building (tile and com-
 position roof, hot air heating sys-
 tem, ventilating system, hardwood
 and pine floors).

Owner—Royal Order of Moose (E. C.
 Kramer, Secretary), Santa Cruz.
 Architect—Edwards & Schary, 550
 Montgomery St., San Francisco.

Bids will be asked in about two
 weeks.

HOSPITALS

Contract Awarded.
HOSPITAL Cost, \$25,000
EL CENTRO, Imperial Co., Cal.

One-story Class A reinforced con-
 crete hospital (brick filler walls,
 tile roof, air conditioning system,
 steel sash, electric heating, etc.)

Owner—Not Given.

Architect—Glenn Elwood Smith, 695
 E. Colorado St., Pasadena.

Contractor—Howard E. Baker, 1537
 E. Walnut St., Pasadena.

Taking Segregated Bids.
HOME Cost, \$—
LOS ANGELES, Los Angeles Co., Cal.
 No. 11,000 Beverly Blvd.

Home for Aged.

Owner—Eastern Star Home for Aged.
 Architect—Wm. Mooser, Chamber of
 Commerce Bldg., and Train and
 Cressley, Western Mutual Life Bldg
 Los Angeles, Associated.

Supt. of Constr.—K. R. Bradley Con-
 struction Co., 1332 W. Pico St.,
 Los Angeles.

Bids wanted on painting, landscap-
 ing, hardwood floors, glass, electric
 fixtures, rubber and cork floors,
 furniture and carpets.

Plans Being Figured.
STORES & GARAGE Cost, \$49,000
SANTA BARBARA, Santa Barbara
 Co., Cal. Quarantina and Nopal
 Streets.

One-story steel and concrete store
 and garage (100x145 feet); frame
 cottage.

Owner—Southern California Edison
 Co., Edison Bldg., Los Angeles.

Plans by Engineering Dept. of Owner.

POWER PLANTS

LOS ANGELES, Cal.—Until 11 A. M.
 August 23 (time extended from Aug.
 22) bids will be received by City
 Purchasing Agent, Thomas Oughton, 107
 City Hall, for furnishing steam tur-
 bine electric generator unit f.o.b. cars
 (bidder to designate point) in accor-
 dance with Spec. No. 2827 which may
 be obtained at the office of the Pur-
 chasing Agent, 107 City Hall. Equip-
 ment is to be substantially of the fol-
 lowing specifications: \$1,250 K.V.A.;
 65,000 K.V.; power factor, 0.80; volt-
 age, 13,800; phases, 3-Y connector; 50
 cycles.

LOS ANGELES, Cal.—Until 11 A. M.
 August 12, bids will be received by
 Thomas Oughton, Los Angeles City
 Purchasing Agent, 107 City Hall, for
 18,472 ft., 750,000 C. M., 2-conductor,
 35,000-volt, lead-covered cable, f. o. b.
 cars bidder's designated factory with
 full freight allowed to 257 E. 3rd St.
 Spec. No. 2880.

PASO ROBLES, San Luis Obispo Co.
 Cal.—City Clerk Lillian Henis has
 been instructed by the city council
 to secure additional estimates of cost
 on 150-hp. Diesel engines in connec-
 tion with a municipally-owned and
 operated light and power plant.

SALTM, Ore.—F. W. Horstkotte,
 Engineer, American Bank Bldg., Port-
 land, commissioned by State Board
 of Control to prepare plans for a
 new boiler and other improvements at
 the state prison; estimated cost \$16,-
 000. Proposal to construct a \$150,000
 state-owned power plant at the prison
 has been postponed indefinitely.

**PUBLIC BUILDINGS, FIRE
 HOUSES AND JAILS**

Preparing Preliminary Plans.
JAIL Bonds of \$80,000 Voted
SNEATH RANCH, San Mateo Co.

Class A jail.

Owner—City and County of San Fran-
 cisco.

Architect—Albert E. Roller, Crocker
 First National Bank Bldg., San
 Francisco, and Dodge A. Riedy,
 Jacinto Bldg., Associate Architect.

Structural Engineer—H. J. Brunner,
 Sharon Bldg., San Francisco.

SAN QUENTIN, Marin Co., Cal.—Judson-Pacific Co., 409 Mission St., San Francisco, at \$13,616 awarded contract by State Purchasing Department, Sacramento, for jail equipment for the prison at San Quentin.

RESIDENCES

Contract Awarded.
RESIDENCE Cost, \$—
SACRAMENTO, Sacramento Co., Cal.
NW 45th and M Streets.
Two - story and basement frame and brick veneer residence (10 rooms) shingle tile roof, French style.
Owner—Alden Anderson, Pres. Capital National Bank, Sacramento.
Architect—Harry Devine, California State Life Bldg., Sacramento.
Contractor—Azevedo & Sarmiento, 920 O Street, Sacramento.

Completing Plans.
RESIDENCE Cost, \$15,000
ROSS, Marin Co., Cal.
Two - story and basement frame and white shakes residence (9 rooms, 4 baths) slate roof, gas heat, hardwood floors, etc.
Owner—E. H. Margard, San Rafael.
Architect—Warren C. Perry, 260 California St., San Francisco.
Bids will be asked shortly.

Preparing Working Drawings.
RESIDENCE Cost, \$10,000
SAN FRANCISCO, Clarendon Heights
Two - story and basement frame and stucco residence (6 rooms and 2 baths) English type, shingle, tile or slate roof, etc.
Owner—Withheld.
Architect—M. J. Rist, Phelan Building.
Bids will be asked in about 1 week.

Preparing Working Drawings.
RESIDENCE Cost, \$14,000
SAN FRANCISCO, St. Francis Wood.
Two - story and basement frame and stucco residence (8 rooms and 2 baths).
Owner—Withheld.
Architect—M. J. Rist, Phelan Bldg.
Bids will be asked in about 1 week.

Preparing Plans.
RESIDENCE Cost, \$—
BEL AIR, Los Angeles Co., Cal.
Two - story frame and stucco residence (15 rooms and 7 baths), electric refrigeration, sprinkling system, wood sash, gas unit heating, etc.
Owner—Paul G. Overton.
Architect—Richard F. King, 925 S. Highland Ave., Los Angeles.

Plans Being Completed.
RESIDENCE Cost, \$14,000
SAN FRANCISCO, St. Francis Wood.
Two - story and basement frame and stucco residence (8 rooms and 2 baths).
Owner—Withheld.
Architect—M. J. Rist, Phelan Bldg.
Bids will be asked in about three weeks.

Bids Wanted—To Close August 16, 2 P. M.
COTTAGE Cost, \$—
ELDRIDGE, Sonoma Co., Cal. Sonoma State Home.
One - story frame and stucco superintendent's cottage (6 rooms); concrete foundations.
Owner—State of California.
Architect—George E. McDougall, State Architect, Public Works Bldg., Sacramento.
Deposit of \$25 required for plans.

Contract Awarded.
RESIDENCES Cost, \$16,000
LOS ANGELES, Los Angeles Co., Cal.
No. 1412½-1418½ Echo Park Ave.
Three three - story six - room and three 8 - room frame and stucco 2 - family residences (25x25 ft. each, tile roofs, ornamental trim, etc.)
Owner—George L. McAllister, 1429 Echo Park Ave., Los Angeles.
Architect—Milton J. Black, % Owner.
Contractor—Security Finance & Bldg. Co., 6331 Hollywood Blvd., L. A.

Plans Completed.
DUPLIX RESIDENCE Cost, \$12,500
SAN FRANCISCO, Mission District.
Two two - story and basement frame, stucco and brick veneer duplex residences (2 4 - room & 2 5 - room) asphalt & tile roof, warm air furnaces, gas heat, tile baths and refrigeration.
Owner and Builder—Gust L. Peterson, 12 Montezuma St., San Francisco.
Plans by L. O. Berg, 675 Corbett Ave., San Francisco.
Sub - bids will be asked shortly.

Preparing Plans.
RESIDENCE Cost, \$16,000
OAKLAND, Alameda Co., Calif. Estates Drive.
Two - story and basement frame and stucco residence.
Owner—Dr. T. E. Reynolds, 1624 Franklin St., Oakland.
Architect—J. K. Ballantine, 37 Harlan Place, San Francisco.

Plans Being Completed.
RESIDENCE Cost approx. \$80,000
HILLSBOROUGH, San Mateo Co., Cal., 14 - acre tract.
Two - story and basement, brick, frame and stucco residence (English type) chauffeurs' quarters, stables swimming pool, etc.
Owner—Thomas Fortune Ryan, Hillsborough.
Architect—Willis Polk Co., 277 Pine St., San Francisco.
Bids will be asked shortly.

Plans Being Prepared.
RESIDENCE Cost, \$10,000
ATHERTON, San Mateo Co., Cal.
One - story and basement frame and brick veneer residence (8 rooms, 2 baths); wood shakes roof, gas hot air heating system, oak trim, colored tile baths and fixtures, stucco walls and ceilings, etc.
Owner—Mr. and Mrs. Olson.
Architect—Chas. Strothoff, 2274 15th St., San Francisco.
Contractor—Withheld.

SCHOOLS

Plans Completed.
ADDITION Cost, \$15,000
SALINAS, Monterey Co., Cal.
School addition (structure will contain two new classrooms, an auditorium, library and a teachers' room).
Owner—Spring School District.
Architect—Chas. E. Dutner, Glikbarg Bldg., Salinas.

Plans will be submitted to the trustees of the School District for approval August 1st, at which time a date for opening bids will be set.

Bids Wanted—To Close Aug. 10.
SCHOOL ADDITION Cost, \$125,000
CLAREMONT, Los Angeles Co., Cal.
Reinforced concrete additions to high school (223x176 feet) auditorium, domestic science room, library, etc.
Owner—Claremont High School Dist.
Architect—Marsh, Smith & Powell, Architects Bldg., Los Angeles.

Commissioned To Prepare Plans.
SCHOOL Cost, \$30,000
MARYSVILLE, Yuba Co., Cal.
New primary school (to replace building recently destroyed by fire).
Owner—Marysville Primary School District.
Architect—James Arnot, Fresno.

Preparing Plans.
SCHOOL Cost, \$—
BEN LOMOND, Santa Cruz Co., Cal.
One - story brick veneer grammar school (2 classrooms, library); tile roof.
Owner—Ben Lomond Grammar School District.
Architect—Paul Dragon and C. R. Schmidts, Mercantile Bank Bldg., Berkeley.
More definite information will be given in one week.

Specifications Being Completed.
HOUSE OF STUDIES Cost, \$55,000 (1st unit)
OAKLAND, Alameda Co., Cal. Chabot Road and College Ave.
Three - story and basement steel frame and brick veneer house of studies (main wing, 140x36 feet) concrete basement, cast stone trim, slate roof.
Owner—College of Saint Albert, The Great (Dominican House of Studies), Steiner and Bush Sts., San Francisco.
Architect—Arnold Constable, 550 Market St., San Francisco.
Bids will be asked shortly.

Plans Complete.
ADDITION Cost, \$125,000
CLAREMONT, Los Angeles Co., Cal.
Foothill and Indian Hill Bldgs.
Two - story and basement reinforced concrete and steel addition to high school (233x176-ft.).
Owner—Claremont High School Dist.
Architect—Marsh, Smith and Powell, Architects' Bldg., Los Angeles.

Plans To Be Prepared.
SHOP Cost, \$15,000
HAYWARD, Alameda Co., Cal.
One - story reinforced concrete shop.
Owner—Hayward Union High School District.
Architect—Henry C. Smith, Humboldt Bank Bldg., San Francisco.

Plans Being Figured—Bids Close Aug. 30th, 3 P. M.
SCHOOL Cost, \$230,000
VALLEJO, Solano Co., Cal.
Two - story Junior High School (reinforced concrete exterior walls, fire resistant construction on interior, tile roof, maple floors in classrooms, linoleum in corridors, steam heating system with vacuum pump).
Owner—Vallejo Junior High School District, Elmer E. Cave, Secretary, Board of Education.
Architect—Frederick H. Reimers, 233 Post St., San Francisco and Davis - Pearce Co., Grant and Weber Sts., Stockton, associated.
Mechanical Engineer—Robert L. St. John, 544 Market St., San Francisco.

Will contain 30 classrooms, auditorium, gymnasium, cafeteria, library, choral room, orchestra room and shops. Auditorium to seat 1,000; locker accommodations for 1,000.
Plans will be available from Elmer L. Cave, Vallejo, and Architect Fred. H. Reimers, 333 Post St., San Francisco, August 1.

BANKS, STORES & OFFICES

Contract Awarded.
ALTERATIONS Cost, \$200,000
SAN FRANCISCO. Montgomery and Bush Streets.
Alterations to elevator shafts; construct pent house.
Owner—Mills Estate, Mills Bldg., San Francisco.
Architect—Lewis P. Hobart, Crocker Bldg., San Francisco.
Contractor—Cahill Bros., 206 Sansome St., San Francisco.
As previously reported elevator contract awarded to Otis Elevator Co., 1 Beach St., San Francisco.

Contract Awarded.
STORE Cost, \$—
WALNUT CREEK, Contra Costa Co., Cal. Main Street.
One-story reinforced concrete store (30x50) stucco finish, show windows, etc.
Owner—William Murry, 1363 Main St., Walnut Creek.
Architect—Not Given.
Contractor—W. D. Kirkham, 2150 Hillside Drive, Walnut Creek.

Plans Being Re-Figured.
MARKET Cost, \$15,000
SAN FRANCISCO. Vallejo St. near Columbus Ave.
Two-story wood and steel frame market (80x80-ft.) glass front, steel sash, electric refrigeration, etc.
Owner—A. Rossi, 627-B Vallejo St.
Plans by Peter Canali, 604 Montgomery Street.
A slight revision will be made in the plans and contractors will re-figure.

Completing Plans.
NEWSPAPER BLDG. Cost, \$—
LOS ANGELES, Los Angeles Co., Cal. First and Spring Sts.
Eight-story Class A steel frame newspaper building (241x165 ft.) central section 180 feet high; 4 passenger elevators, 1 freight elevator, air conditioning system, steam heat, sprinkler system, etc.
Owner—Los Angeles Times.
Architect—Gordon B. Kaufmann, Union Bank Bldg., Los Angeles.
Mgr. of Constr. — P. J. Walker Co., 1111 W. M. Garland Bldg., L. A.

Contract Awarded.
ALTER BLDG. Cost, \$19,500
OAKLAND, Alameda Co., Calif. SE 12th and Washington Streets.
Alterations and additions to 3-story store building.
Owner—M. K. Blake Estate Co., 1121 Washington St., Oakland.
Architect—Edw. T. Foulkes, 357 12th St., Oakland.
Contractor—W. C. Cone, 1744 Broadway, Oakland.

Plans Being Figured.
STORES & OFFICES Cost, \$—
NAPA, Napa Co., Calif. Second and Brown Streets.
Two- or three-story reinforced concrete stores and offices (tar and gravel roof).
Owner—Behlow Estate, 244 Kearny St., San Francisco.
Engineer—Frederick Whitton, 369 Pine St., San Francisco.
Bids are being taken on plumbing, steam work, electrical work, concrete and reinforcements.
As previously reported, E. W. Doughty, Napa, awarded contract for carpentry.

WHARVES AND DOCKS

Plans Completed.
WHARF Cost, \$100,000
OAKLAND, Alameda Co., Cal. Foot of Kirkham Street.
Garbage wharf (160 feet long; wood construction, cresosoted piling).
Owner—City of Oakland (Port Commission) G. B. Hegardt, secretary, Grove Street Pier, Oakland.
Plans by Eng. Dept. of City Port Commission.
Bids will be asked shortly.

MISCELLANEOUS CONSTRUCTION

SANTA MONICA, Los Angeles Co., Cal.—Biltmore Conservation Corp., 5225 Wilshire Blvd., Los Angeles, has offered to build a \$60,000 garbage dehydrator in Santa Monica, if given a ten-year franchise for the operation of the plant. Santa Monica city council has the offer under consideration.

Construction Postponed Until Spring.
BALL PARK Cost, \$160,000
SAN JOSE, Santa Clara Co., Cal. 18th and Williams Streets.
Ball park and plunge.
Owner—San Jose Recreational Park, Inc. A. M. Mortensen, Leon Jacobs, Arthur Grey, et al, Directors
Architect—Frederick H. Reimers, 233 Post St., San Francisco.
Contractor—J. Dawson, 1507 Lincoln St., Berkeley.

The plunge will be divided into two sections, one 35 by 100 feet and from one to three feet deep for children, leaving 265 feet of the pool for adults. A modern cafe will also be constructed.

LOS ANGELES, Cal.—Until 3:30 P. M., Aug. 13, bids will be received by the directors of County Sanitation District No. 2, 202 Law Bldg., 139 North Broadway, to construct reinforced concrete vent stack at the Sewage Treatment Plant located at Figueroa Blvd. and Lomita Blvd., in accordance with plans prepared by the chief engineer, A. K. Warren, 202 Law Bldg., obtainable upon deposit of \$5. A certified check or bond for 10% must accompany each proposal. The proposed stack will be approximately 100 ft. in height with an average inside diameter of 6 ft. A. S. Soule, Secretary.

Plans Being Figured.
DOG TRACK Cost, \$100,000
ALVISO, Santa Clara Co., Cal.
Dog racing track.
Owner—Alviso Greyhound Breeders Assn. (Arthur Gray, % Cooper-Challen Real Estate Co., 7 W. Santa Clara St., San Jose.
Private plans.
Bids are being taken for a general contract and segregated bid basis. Track will be an exact duplicate of the Belmont track.

MISCELLANEOUS SUPPLIES AND MATERIALS

OAKLAND, Cal.—Until August 12, 8:00 P. M., bids will be received by John H. Kimball, secretary, East Bay Municipal Utility District, 512 16th St., Oakland, to furnish the year's supply, approximately 1200 tons, of aluminum sulphate, under Proposal No. 420. Specifications obtainable from above office.

SAN JOSE, Santa Clara Co., Cal.—Until August 9, 8 P. M., bids will be received by Walter L. Bachrodt, secretary, Board of Education, to furnish fuel oil for School Department during school year 1932-33. Specifications obtainable from the superintendent of schools.

STREETS AND HIGHWAYS

(Continued from page 33)

MONTEZUMA COUNTY, Colorado—Recommendation that an award of contract for placing bituminous top surfacing on 20.4 miles of Project 1, Al to El, North and South Highway, Mesa Verde National Park, Montezuma County, Colo., to New Mexico Construction Co., Inc., 4080 Galapago St., Denver, at \$126,235.90, has been made to the Bureau of Public Roads by A. E. Palen, District Engineer. The work, bids for which were opened July 6, involves:

- (1) providing and maintaining roller, lump sum;
- (2) operation of roller, 125 days;
- (3) prime coat treatment, 20,367 ml.;
- (4) pre-mixed oil surf., 31,500 tons;
- (5) supplemental pre-mixed oil surf., 1500 tons;
- (6) road oil 50, 88,000 gallons;
- (7) maintenance of detours lump sum (extra work);
- (8) stone screenings, 750 cu. yds.;
- (9) road oil 70, 395,000 gallons;
- (10) cut-back asphalt, C. B. 2, 20,000 gals.

TULARE COUNTY, Cal.—Western Motor Transfer Co., Inc., 116 State St., Santa Barbara, awarded contract by Bureau of Public Roads, San Francisco, at \$77,290.08 for 19,555 miles of improvement of Section B, Route 1, the Generals Highway, Sequoia National Park, Tulare County, involving:

- (1) 14,000 cu. yds. unclass. excav.;
 - (2) 880 cu. yds. unclass. excavation (struc.);
 - (3) 9100 sta. yds. overhaul;
 - (4) 450 M. gals. watering;
 - (5) 19,500 cu. yds. crushed rock for subgrade reinf.;
 - (6) 500 cu. yds. supplement crushed rock;
 - (7) 585 cu. yds. masonry;
 - (8) 222 lin. ft. 18-in. corr metal pipe;
 - (9) 92 lin. ft. 24-in. corr. metal pipe;
 - (10) 122 lin. ft. 36-in. corr. metal pipe;
 - (11) 114 lin. ft. remove, clean and re-lay corr. metal pipe;
 - (12) 118 lin. ft. remove, clear and stockpile corr. metal pipe;
 - (13) 175 cu. yds. hand laid rock embankment;
 - (14) 1250 lin. ft. stone guard rail;
 - (15) 6400 lin. ft. cable guard rail;
 - (16) 145,000 gals. apply oil (furnished by government);
 - (17) 10,555 miles process oil treated crushed rock subgrade reinf.;
 - (18) minimum wage scale;
 - (19) deduct for board.
- Bids were opened at San Francisco on June 23.

UTAH STATE—Until July 27, 2 P. M., bids will be received by State Road Commission to construct an oil mix gravel road over 25.5 mi. in Millard and Beaver Counties, State Project 378, between Beaver and Dog Valley (including F.A.P. 68-A, 98-A-B, 26 and 82-C), involving:

- (1) 16,350 bbls. apply oil;
- (2) 25,531 mt. scarifying and mixing.

Specifications obtainable from above office and from District Engineer's office at Cedar City, on deposit of \$2, returnable to bidders. Certified check 5% required with bid.

MEMBERS OF THE ASSOCIATED GENERAL CONTRACTORS

PACIFIC COAST AND INTERMOUNTAIN TERRITORY

CALIFORNIA STATE BRANCH

1318 Pershing Square Bldg.—Trinity 9418—Los Angeles

O. C. STRUTHERS, President

E. L. KIER, Vice-President

GEORGE HERZ, Secretary

MELVILLE DOZIER, JR., Manager

NORTHERN CALIFORNIA CHAPTER

206 Sansome St.—Garfield 7107—San Francisco, Calif.

C. W. Wood, President Geo. G. Pollock, Vice-President

Floyd O. Booe, Secretary-Manager

Atkinson, Lynn S. (HPR).....1316-17 Edwards & Wildey Bldg., L. A., Tr. 7451
 Atkinson, Guy F., Co., Inc. (BHPR) 601 Russ Bldg., S. F., Sut. 3629
 Ball, N. M. (HP).....1889 Yosemite Rd., Berkeley, AS. 6722
 Basalt Rock Co., Inc. (HP).....900 8th St., Napa, 105
 Bechtel Co., W. A. (BHPR).....155 Sansome St., S. F., GA. 0780
 Bevanda, M. J. (HP).....319 Elks Bldg., Stockton 7470
 Bishop, E. B. (HP).....900 Forum Bldg., Sacramento, Capital 2456
 Bodenhamer Const. Co. (HPR).....
 Box 643, 354 Hobart St., Oakland, GLencourt 5022
 Calif. Const. Co. (BHPR).....715 Standard Oil Bldg., S. F., DO. 4820
 Cannon, Jack A. (HP).....Hayward, Calif., Hayward 856
 Clark & Henry Const. Co. (HP).....564 Market St., F. A., DO. 2233
 Colley, W. C. (HPR).....35 Northampton Ave., Berkeley, ASH. 1323
 Conner, J. L. (HP).....P. O. Box No. 86, Monterey 1137-M
 Connolly, T. E. (BHPR).....461 Market St., S. F., Kearny 6408
 Conyes, R. A. (HP).....1043 38th St., Oakland, Olym. 9391
 Currie, James (HPR).....1100 Peninsula Ave., Burlingame, Burl. 3497
 Delin, C. M. (HPR).....206 Sansome St., San Francisco, Gar. 7107
 Dodge Bros., Inc. (HP).....Fallon, Nevada, Main 1761
 Drumm, A. D. (HP).....Fallon, Nevada, Main 1761
 Eaton & Smith (HPR).....715 Ocean Ave., San Francisco, DE. 6700
 Fairbanks, A. J. & J. L., Inc. (HPR).....Linden Ave., So. S. F., 436
 Fay Improvement Co., The (HPR).....Phelan Bldg., S. F., KE. 4044
 Fitzmaurice, J. H. (HP).....2857 Hamon St., Oakland, Higate 2490
 Force Const. Co. (HP).....70 Bellevue, Piedmont, Calif., HU. 9349
 Franks Contractg. Co. (RPW).....260 California St., S. F., DOug. 6684
 Frederickson Bros. (BHP).....First Natl. Bank Bldg., Stockton, 5974
 Frederickson & Watson Const. (BPHR).....
 873 81st Ave., Oakland, SW. 1264
 French, George J., Jr. (HP).....P. O. Box No. 675, Stockton, 6676
 Gerwick, Ben C., Inc. (HP).....112 Market St., S. F., SU. 8454
 Granite Construction Co. (HP).....Watsonville, California, 9488
 Hanrahan Co. (HP).....Hobart Bldg., San Francisco, CA. 1639
 Harney, Charles L. (HP).....74 New Montgomery St., S. F., GA. 1711
 Hauser, W. H. (HPR).....3129 E. 7th St., Oakland, Fruitvale 6790
 Heafey-Moore Co. (HP).....344 High St., Oakland, AN. 0466
 Hemstreet & Bell (HP).....411 "C" Street, Marysville, 433
 Hodgman & MacVicar (HP).....714 Plymouth, Pasadena, Ter. 1563
 Holland, J. P., Inc. (HPR).....1834 McKinnon Ave., S. F., MI. 5400
 Iabell Const. Co. (HP).....Carson City, Nev., Ph. 1754 (Also Fresno)
 Jenkins, M. A. (HP).....3560 Y St., Sacramento Capital 472
 Jones & King (HPR).....Hayward, Calif., Hay. 74
 Kaiser Paving Co. (BHPR).....Latham Square Bldg., Oak., HI. 2614
 Knapp, J. F. (HPR).....916 Financial Center Bldg., Oak., OL. 1620
 Larsen Bros. Co. (HP).....P. O. Box 903, Sacramento, CA. 1639
 Lee, U. B. (HP).....10059 Carpenter St., San Leandro, Sweet. 1717
 Le Tourneau, R. G. (HPR).....122 Moss Ave., Stockton, 471
 Lord & Bishop (HPR).....Native Sons Bldg., Sacramento, Main 3981
 Lovelace, Natl. (HP).....P. O. Box 903, Sacramento, CA. 1639
 Malcom, C. T. (HPR).....Walnut Creek, Calif., W. C. 277
 McDonald, D. (HPR).....204 23rd St., Sacramento, Cap. 1806
 McGillivray Const. Co. (HPR).....Box 927, Sacramento, Capital 2170
 McMillan, W. C. (HP).....2088 Howard St., San Francisco, MA. 3813
 Mercer-Fraser Co. (BHPR).....Eureka, Eureka 808
 Nevada Contracting Co. (HPR).....Fallon, Nevada, Phone 1851
 Nevada Rock & Sand Co. (HP).....Reno, Nevada, Reno 5291
 Nighbert, Fred W. (HP).....P. O. Box 10 "H" St., Bakersfield 4128
 Pacific Pavements Co., Ltd. (HP).....85 Barstow St., S. F., DO. 0879
 Pacific States Construction Co. (HP).....Call Bldg., S. F., DO. 0879
 Phillips, John Co. (HP).....582 Market St., San Francisco, KE. 4471
 Pollock, Geo. G. (HPR).....P. O. Box 903, Sacramento, Main 1457
 Rohl, H. W., Co. (HPR).....4351 Alhambra Ave., San Francisco, CA. 1639
 Six Companies, Inc. (BHPR) Financial Center Bldg., S. F., Gar. 3842
 Siems-Helmens, Inc. (BHPR).....206 Sansome St., S. F., DA. 3235
 Skeels & Graham Co. (HPR).....P. O. Box 576, Roseville, Calif. 461
 Tedford, J. N. (HP).....Fallon, Nevada, Main 1761
 Teichert, A. & Son, Inc. (HP) 1846 37th St., Sacramento, Main 6586
 Tieslaus Bros. (HP).....2819 Grove St., Berkeley, BE. 8635
 Tucker, H. V., Co. (HP).....300 Vermont St., S. F., MA. 7583
 Ulich Const. Co., Geo. J. (BHP).....P. O. Box 903, Sacramento, CA. 1639
 Von der Hellen & Pierson (HPR).....Castaic, Calif.
 Ward Engineering Co. (HP) 315 Montgomery St., S. F., DOug. 6072
 Wood, C. W. (HP).....P. O. Box 1435, Stockton, 8743
 Young, Clarence (HP).....5250 Broadway Ter., Oakland, OL. 3748
 Young & Sons Co., Ltd. (HP) 599 Colusa Ave., Berkeley, Berk 5541

Associate Members

American Bitumuls Co. (Bitumuls).....200 Bush St., S. F., GA. 6653
 Anderson Bros. Supply Co. (Commissary).....Boulder City, Nev.
 Andrews, F. T., Co. (C. P. A.).....1650 Russ Bldg., S. F., GA. 7712
 Associated Oil Co. (Asso. Prod.).....79 N. Monty St., S. F., KE. 4800
 Austin Western Road Machinery Co. (Road Machinery).....
 435 Brannan St., San Francisco, DO. 2183
 Autocar Sales & Service Co. (Autocar Trucks).....
 326 Howard, San Francisco, SU. 1730
 Bacon, Edward R., Co. (Roat Machinery).....Folsom and 17th Sts., San Francisco, HE. 3700
 Blake Bros. Co. (Crushed Rock).....Balboa Bldg., S. F., KE. 5320
 Calaveras Cement Co.....315 Montgomery, San Francisco, DO. 4224
 California Corrugated Culvert Co. (Corrugated Pipe).....
 5th & Parker, West Berkeley, BE. 5420
 Cement Gun Construction Co. (Gunite).....
 55 Second St., San Francisco, SU. 8306
 Contractors' Ins. Agency (Insurance) 206 Sansome, S. F., SU. 3400
 Cowell Lime & Cement Co. (Cement).....2 Market St., S. F., CA. 4870
 Garfield & Co. (Equipment) Hearst Bldg., San Francisco, SU. 1036
 Geiger Iron Works (Equip.).....P. O. Box 423, Stockton, Stock. 1898
 Granite Rock Co. (Crushed Rock).....Watsonville, Wat. 988
 Harneschfeger Sales Corp. (Equip.).....42 Beale St., S. F., DO. 2313
 Harron, Rickard & McCone Co. (Equip.).....
 1600 Bryant St., San Francisco, UN. 3740
 Link-Belt Co. (Equip.).....40 Paul Ave., San Francisco, DE. 6400
 Marion Steam Shovel Co. (Power Shovels).....
 571 Howard St., San Francisco, KE. 7493
 Modern Vehicle Co. (Mrs. Steel Dump Bodies).....
 437 4th St., San Francisco, CA. 1402
 Murray & Ready (Lab Agency) 784 Howard St., S. F., SU. 1205
 Northwest Engineering Co. (Shovels).....23 Main St., S. F., SU. 7053
 Pacific Coast Aggregates.....700 Wells Fargo Bldg., S. F., SU. 8940
 Pacific Coast Engineering Co. (Structural Steel).....
 115 Howard St., Oakland, HI. 1322
 Pacific H. B. A. Steel Co., Inc. (Drill Steel).....
 540 Brannan St., San Francisco, GA. 6683
 Pacific Portland Cement Co. (Golden Gate).....
 Hunter-Dulin Bldg., San Francisco, CA. 4100
 Pland-Evans (Commissary).....Merchants' Ex. Bldg., S. F., GA. 5923
 Robinson Tractor Co. (Caterpillar Tractors).....
 1705-09 E. 12th St., Oakland, FR. 2485
 Roebbling's, Jno. A., Sons Co. (Wire Rope).....
 1175 Howard St., San Francisco, CA. 6490
 Santa Cruz Portland Cement Co. (Santa Cruz).....
 Crocker Bldg., San Francisco, CA. 3307
 Shell Oil Co. (Shell Products).....100 Bush St., S. F., EX. 5400
 Soule Steel Co. (Reinforcing Steel).....1750 Army St., S. F., VA. 4141
 Spears-Wells Machinery Co. (Equip.) 1832 9th St., Oak., HO. 4100
 Standard Oil Co. of Calif. (Standard Products).....
 Standard Oil Bldg., San Francisco, SU. 7700
 Traffic Service Bureau (Freight Audits) 24 Calif. St., S. F., CA. 6194
 Union Oil Co. of Calif. (Union Prod.) Mills Bldg., S. F., SU. 1400
 United Commercial Co., Inc. (Equip.) 234 Steuart St., S. F., DO. 6144
 Western Pipe & Steel Co. (Steel Pipe) 444 Market, S. F., CA. 6788

SOUTHERN CALIFORNIA CHAPTER

1318 Pershing Square Bldg.—Trinity 9418
 Los Angeles, Calif.

C. G. FitzGerald, President Melville Dozier, Jr., Manager

LYNN S. ATKINSON, First Vice-President (Engineering Div.)

WM. A. SIMPSON, Second Vice-President (Building Div.)

The address of the firm is the same city in which is located the Chapter office unless otherwise shown in membership list.

Building Contractors

Atkinson, J. F.1102 Story Bldg., Wandaik 7783
 Baruch Co. Herber W.1015 Main Bldg., Trinity 5473
 Bradley Constr. Co., K. R.1833 West Pico, Washington 2786
 Burgin, V. Jay1100 Redondo Ave., Long Beach, L. B. 81103
 Byerts & Dunn7908 Santa Monica Blvd., Crestview 9602
 Clinton Construction Co., 1103 Spring Arcade Bldg., Madison 2597
 Crowell, Wm. C.495 S. Bdwy., Pasadena, Wakefield 6692
 Crowell Co., Weymouth2104 E. 15th St., Westmore 5708
 DeCamp-Hudson Co., Ltd.1277 W. 24th St., Westmore 3382
 Dixon, L. E., Co.609 So. Grand Ave., Trinity 4925
 Escherich Bros.234 W. 37th Place, Adams 6294

Class of Construction: (B) Building; (H) Highway; (P) Public Works; (R) Railroad.

| | | |
|--------------------------|---|------|
| Hall, J. F. | 531 Douglas Bldg., Mutual | 6722 |
| Houghton & Anderson | 42 Rose St., Mutual | 5430 |
| K. P. Lovell & Co., Ltd. | 606 Union Bank Bldg., Vandike | 4072 |
| Macdonald & Driver | 311 Board of Trade Bldg., Tucker | 6467 |
| McKee, Robert E. | 1128 Central Bldg., Trinity | 9291 |
| Miller, Geo. E. | 401 N. Canon Dr., B. H., Oxford | 7404 |
| Simpson Construction Co. | 1007 Architects Bldg., Mutual | 7261 |
| Snell, Fred C. | 339 N. Beverly Dr., Beverly Hills, Oxford | 6409 |
| Willard-Brent Co. | 254 E. 27th St., Richmond | 2101 |

Bridges, Foundations

| | | |
|---------------------------|---------------------------------|-------|
| Ledbetter Co., W. M. | Box 1264, Arcade St., Capitol | 13415 |
| Oberg Brothers | 707 San Fernando Bldg., Angelus | 8759 |
| Raymond Concrete Pipe Co. | 1008 Washington Bldg., Vandike | 6536 |

Highways, Paving, Grading

| | | |
|-----------------------------|---|--------|
| Basich Bros. | Torrance, Gardena | 446 |
| Bock, Geo. J. | 1007 S. Harvard, Empire | 7614 |
| Denovan & Sons, J. G. | 4031 Goodwin Ave., Olympic | 9423 |
| Ferry, Peter L. | San Fernando Rd. and Bdwy., Glendale, Gl. | 0164 |
| Fleming Construction Co. | Pomona | |
| Griffith Company | L. A. Railway Bldg., Westmore | 9343 |
| Hall-Johnson Co. | P. O. Box 387, Alhambra, Eliot | 1855 |
| Herz & Co., Geo. | 310 Platte Bldg., San Bernardino, S. B. | 241-42 |
| Heuser, Chas. U. | 316 Allen Ave., Glendale, Douglas | 3965 |
| Hudson, Chas. H. | 408 Rives-Strong Bldg., Vandike | 3274 |
| Jahn & Bressi | 701 Lane Mortgage Bldg., Trinity | 8674 |
| Lang Transportation Co. | 5591 Santa Fe Ave., Jefferson | 3104 |
| Lewis Construction Co. | 300 S. Juanita St., Washington | 1407 |
| Packard & Tanner | 905 W. Latham St., Phoenix, Ariz. | |
| Pearson & Dickerson | 4485 Cypress, Riverside, 1600 | |
| Ross, M. S. | 4011 Goodwin Ave., Capitol | 7603 |
| Wells & Bressler | P. O. Box 596, Santa Ana, 227 | |
| Willis, C. G., & Sons, Inc. | 2119 E. 25th St., Lafayette | 9826 |

Pipe Lines, Water Works

| | | |
|----------------------------|------------------------------------|------|
| American Concrete Pipe Co. | P. O. Box 1428, Arcade Sta., J.E. | 4211 |
| Haverty Co., Thos. | 316 E. 6th St., Vandike | 1171 |
| United Concrete Pipe Co. | Box 1, Station H. L. A., TWincoaks | 9196 |

Subways, Conduits

| | | |
|------------------------|-----------------------|--|
| Delta Construction Co. | P. O. Box 79, Compton | |
|------------------------|-----------------------|--|

General Engineering

| | | |
|--------------------------------|-------------------------------------|------|
| Atkinson, Lynn S. | 609 S. Grand, Trinity | 7451 |
| Bartmus, Peter | Hollywood Riviera, Redondo, Redondo | 6404 |
| Bent Bros., Inc. | 418 S. Pecan S., Angelus | 7510 |
| Campbell-Reichert Co. | 4000 Whiteside Ave., Angelus | 0598 |
| Cox, R. L. | 1100 Westminister, Alhambra | 1699 |
| EmSCO Conc. Cutting Corp. | 1517 Santa Fe Ave., Vandike | 7168 |
| Fitz-Gerald Eng. & Constr. Co. | 216 Rowan Bldg., Trinity | 5088 |
| Foley, D. A., Construc. Co. | 716 Grant Bldg., Tucker | 7814 |
| Kemper Const. Co., Ltd. | 3701 Overland, Los Angeles | |
| Macco Construction Co. | Hynes, Jefferson | 1148 |
| Merritt-Chapman-Scott Corp. | P. O. Box 507, San Pedro, 2880 | |
| Mittry Bros. Construction Co. | 722 Detwiler Bldg., Mutual | 0210 |
| Morrison-Knudsen Co. | 411 West Fifth St., Mutual | 7684 |
| Robinson-Roberts Co. | 706 Rives-Strong Bldg., Trinity | 2889 |
| Spicer, C. A. | 818 Financial Central Bldg., Tucker | 9570 |
| Standard Dredging Co. | 325 Central Bldg., Trinity | 3253 |
| Watson, R. A. | 1026 N. McCadden Pl., Granite | 4121 |

Affiliates

| | | |
|------------------------------|---------------------------------------|-------|
| Brashears & Co., G. | 501 Security Bldg., Trinity | 5091 |
| Consolidated Rock Prod. Co. | 656 S. Los Angeles St., Trinity | 0241 |
| Gilmore Oil Co. | 2423 E. 28th St., Jefferson | 1211 |
| Graham Brothers | 1215 W. 7th St., Long Beach, L. B. | 65251 |
| Hartford Accident & Ind. Co. | 348 S. Spring St., Madison | 1471 |
| L. A. Brick Co. | 1078 Mission Road, Angelus | 5684 |
| Sun Lumber Co. | Crescent Drive, Beverly Hills, Oxford | 6091 |
| Union Oil Co. | Union Oil Bldg., Tucker | 7191 |

ALAMEDA COUNTY CHAPTER

354 Hobart St., Rm. 410—Glencourt 7400—Oakland, Calif.

S. G. Johnson, President H. J. Christensen, Treasurer
Geo. J. Maurer, Vice-President W. E. Hague, Manager

| | | |
|----------------------------|---------------------------------|------|
| Brennan, J. P. (B.) | 2820 Regent, Berkeley, BE. | 0346 |
| Christensen, H. J. (B.) | 1924 Broadway, Oakland, LA. | 7164 |
| DeVelbiss, C. Dudley (B.) | 369 Pine St., S. F., GA. | 3225 |
| Dyer Construction (B.) | 337 17th St., Oakland, GL. | 3203 |
| Furlong, Thos. H. L. (B.) | 460 Jerome Ave., Piedmont, HU. | 0620 |
| Jacobs & Pattiani (BP) | 337 17th St., Oakland, GL. | 3203 |
| Johnson, S. G. (B.) | 4652 Dolores Ave., Oakland, FR. | 6650 |
| Keating, W. C. (B.) | 925 Forum Bldg., Sacramento | |
| Lesure, E. T. (B.) | 87 Ross Circle, Oakland, OL. | 0389 |
| Littlefield, R. W. (B.) | 337 17th St., Oakland, HI. | 0994 |
| Lyons, W. E. (B.) | 354 Hobart SST., Oakland, HO. | 5325 |
| Maurer, George J. Co. (B.) | 50 York Drive, Oakland, HU. | 3457 |
| Nordstrom, David H. (B.) | 354 Hobart St., Oakland, GL. | 7400 |
| Pedgrift, James H. (B.) | 4106 Broadway, Oakland, HU. | 1300 |
| Petersen, George (B.) | 1841 Bancroft, San Leandro, TR. | 2043 |
| Petersen, James B. (B.) | 4021 Agua Vista, Oakland, FR. | 9887 |
| Schultz, Herbert (B.) | 811 Mendocino, Berkeley, AS. | 2360 |
| Sullivan & Sullivan (B.) | 2653 Best Ave., Oakland, AN. | 4724 |
| Thornally, W. G. (B.) | 354 Hobart St., Oakland, GL. | 8476 |
| Westlund, Fred J. (B.) | 354 Hobart St., Oakland, GL. | 7400 |

Associate Members

| | | |
|---------------------------------|-------------------------------------|------|
| Calaveras Cement Co. | 315 Montgomery St., San Francisco | |
| Cowell, Henry, Lime & Cemt. Co. | 81 Franklin St., Oakland, HI. | 3398 |
| East Bay Glass Co. | 621 Sixth St., Oakland | |
| Lannon Bros. Mfg. Co. | Fifth and Magnolia Sts., Oakland | |
| Maxwell Hardware Co. | 1320 Washington St., Oakland | |
| Melrose Building Materials Co. | 4591 Tidewater Ave., Oakland | |
| Oakland Planing Mill. | Second and Washington Sts., Oakland | |
| Pacific Portland Cement Co. | 111 Sutter, San Francisco, CA. | 4100 |
| Santa Cruz Portland Cement Co. | 354 Hobart St., Oakland | |
| Sunset Lumber Co. | 400 High St., Oakland | |
| Tilden Lumber Co. | Foot of University Ave., Berkeley | |

SAN DIEGO CHAPTER

Spreckels Theater Bldg.—Main 4289—San Diego, Calif.

George R. Dalry, President M. A. Mathias, Manager
M. H. Golden, Vice-President

| | | |
|--------------------------------|---------------------------------------|--------|
| Carroll, B. G. | 4396 Maryland St., Hillcrest | 5274-M |
| Daley Corporation (HP) | 4430 Boundary St., Randolph | 1136 |
| Dennis Constr. Co., V. R. (HP) | Box 183, Sta. A, Hillcrest | 8293 |
| Ford, E. Paul (HP) | Box 201, E. San Diego, Randolph | 5101 |
| Golden, M. H. (B.) | 404 California Bank Bldg., Franklin | 7983 |
| Grove, Cecil B. | 4316 Island Ave., Franklin | 7474 |
| Hazard Constr. Co., R. E. (HP) | 2508 Kettner Blvd., Franklin | 6315 |
| Jarboe Constr. Co. (B.) | 208 Spreckels Theatre Bldg., Franklin | 3792 |
| Kier Const. Co., W. E. (B.) | First National Bank Bldg., Main | 2427 |
| Larsen, B. O. (B.) | 1340 E. St., Main | 4752 |
| Miracle Const. Co. (HP) | Box 601, E. San Diego, Main | 2295 |
| Penick & Sons, T. B. (HP) | 3075 L. St., Main | 4582 |

PACIFIC NORTHWEST BRANCH

4134 Arcade Building, Seattle, Wash.

JAS. MURDOCK, President H. V. BOGERT, Rec. Secretary J. B. WARRACK, Treasurer
J. C. COMPTON, Vice-President P. L. CROOKS, Vice-Pres. and Secretary

PORTLAND CHAPTER

Multnomah Hotel—Atwater 7883—Portland, Ore.

Paul L. Crooks, President Philip Hart, 2nd Vice-President
Ross B. Hammond, 1st Vice-President J. A. Lyons, Treasurer
G. B. Herington, Executive Secretary

| | | |
|--------------------------------|-----------------------|------|
| Baker Construction Co. (B.) | Security Bldg., Atw. | 9211 |
| Christensen, Fred, Inc. (BHP) | 187 E. 34th St., Ea. | 8934 |
| Cochrane Construction Co. (HP) | 65th & Ainsworth, Tr. | 5944 |

Class of Construction: (B) BUILDING; (H) HIGHWAY; (P) PUBLIC WORKS; (R) RAILROAD.

| | | |
|-------------------------------------|---------------------------------|------|
| Compton, J. C. (HP) | McMinnville, Ore., McM. | 106 |
| Crooks, P. L., Inc. (HPR) | Henry Bldg., Atw. | 7767 |
| Dann, J. J. (PHR) | 300 Henry Bldg., Atw. | 5837 |
| Edlfsen-Weygandt Co. (HP) | Foot of Jefferson, Atwater | 4090 |
| Endicott, Wm. | Corvallis, Oregon | |
| Gates, E. L. (HPR) | Eugene, Oregon | |
| Gilpin Construction Co. (HPR) | Henry Bldg., Atw. | 6220 |
| Greenwood, A. C. (HPR) | 500 N. Front St., Fr. | 3030 |
| Guthrie & Co., A., Inc. (BPHR) | 552 Sherlock Bldg., Atw. | 8516 |
| Hammond, Ross B. (B) | 1312 Public Service Bldg., Atw. | 2159 |
| Hauser Bros. Construction Co. (PHR) | Multnomah Hotel, Atw. | 7441 |

| | |
|---|-----------------------------------|
| Hoffman, L. H. (BP) | Public Service Bldg., Atw. 3181 |
| Jacobsen-Jensen Co. (PH) | 407 Stanton, Gar. 3313 |
| Johnson Contract Co. (HPR) | 414 Exchange Bldg., Atw. 0678 |
| Johnson-Gardner Co. (HPR) | 414 Exchange Bldg., Atw. 0678 |
| Kern & Kibbe (HPR) | 290 E. Salmon St., Ea. 4116 |
| Kernan, F. J. | Porter Bldg., At. 2055 |
| La Pointe Constr Co. | 1291 Cumberland Rd., Be. 6000 |
| Lindstrom & Felgenson (BPHR) | 1991 Halsey St., Ta. 9226 |
| Lyons, J. A. (BPHR) | 1001 Halsey St., Tr. 2841 |
| Milne Constr. Co. | 1853 E. Broadway, Tab. 7277 |
| Morrison & Knudsen (BHPR) | 319 Broadway, Boise, Idaho |
| Morgan, T. M. (H) | 5410 Wilshire Blvd., Los Angeles |
| Newport Construction Co. (PHR) | 317 Exchange Bldg., Atw. 5900 |
| Pacific Bridge Co. (BPHR) | Ft. of E. Salmon St., Ea. 2164 |
| Parker & Banfield (BP) | 984 E. 17th St., Sel. 6182 |
| Parker-Schram Co. (PHR) | Couch Bldg., Atw. 4375 |
| Peck, E. C. & Co. (PH) | Aberdeen, Wash. |
| Puckett, W. H. Co. (PHR) | 319 Broadway, Boise, Idaho |
| Quinn, J. L. (B) | Box 1109, Klamath Falls, Ore. |
| Rebman, J. (PH) | 343 Vancouver Ave., Tr. 7825 |
| Robertson, Hay & Wallace (B) | 605 Weatherly Bldg., Ea. 3613 |
| *Saxton & Looney | Corvallis, Ore. |
| Seed, John S. (B) | 201 Worcester Bldg., Atw. 6444 |
| Honorary Member and Director of Chapter | |
| Shea & Co., J. F. (PHR) | 211 Henry Bldg., Atw. 2435 |
| Sullivan & Doyle (PHR) | Ft. of Curry St., Atw. 5297 |
| | Box 104, Portland, Ore. |
| United Contracting Co. (BPHR) | 309-10 Stock Ex. Bldg., Atw. 5296 |
| von der Hellen & Pierson (HR) | Naches, Wash. |
| White, Ernest & Co. (B) | Twin Falls, Idaho |
| Wren & Greenough (PHR) | 1037 Com. Bldg., At. 9882 |
| Wright Constr. Co. (BPH) | Aberdeen, Wash. |
| Young, I. L. (BPH) | 524 Henry Bldg., At. 0297 |

Associate Members Portland Chapter

| | |
|-------------------------------------|----------------------------------|
| Bealzer Machinery Co. | 275 Pine St., Atw. 9391 |
| Ball Pipe & Tank Co. | 85 Columbia Blvd., Wa. 3171 |
| Clyde Equipment Co. | 555 Thurman St., Br. 5561 |
| Collins Concrete Pipe Co. | 410 River St., Wa. 7670 |
| Feenaughty Machinery Co. | 309 E. Yamhill, Ea. 2187 |
| Grand Sheet Metal Works | 60 E. Third N., Ea. 2181 |
| Latture, J. L. Equip. Co. | 312-314 E. Madison St., Ea. 8166 |
| Loggers & Contractors Machy. Co. | 345 E. Madison St., Ea. 4128 |
| Metropolitan Casualty Ins. Co., The | Wilcox Bldg., Atw. 7521 |
| National Hospital Assn. | 400 Mohawk Bldg., Atw. 5291 |
| Oregon Portland Cement | 321 E. Madison, Ea. 3116 |
| Phoenix Iron Works | 360 Hawthorne, Ea. 0029 |
| Pomeroy, J. H., & Co. | Box 48, Seattle, Wash. |
| Pure Iron Culvert & Mfg. Co. | 763 Gladstone, Sel. 2275 |
| Santa Cruz Portland Cement | 45 Fourth St., Atw. 9848 |
| Standard Oil Co. | Pacific Bldg., Bea. 4161 |
| Swigert, Hart & Yett | Ft. of E. Salmon St., Lan. 1125 |
| Union Oil Co. of California | Yeon Bldg., Atw. 9521 |
| Wallace Bridge & Structural Steel | P. O. Box 48, Seattle, Wash. |
| Shell Oil Co. | Commerce Bldg., At. 7321 |

SPOKANE CHAPTER

West 515 First Avenue—Main 6822—Spokane

| | |
|-------------------------------|--------------------------------|
| Max J. Kunej, President | I. G. Anderson, Vice-President |
| Nick Norman, Vice-President | Dan Hannah, Secty.-Treas. |
| Alloway & Georg (B) | Hutton Bldg. |
| Auld & Shinn (B) | 1121 Indiana |
| Burnette, C. A. (H) | 1118 Ide Ave. |
| Byers, W. A. (H) | W. 1204 Mansfield |
| Clifton & Applegate (HPR) | Hutton Bldg. |
| Collins, J. H. & Co. (H) | Colville, Wash. |
| Colonial Building Co. (BH) | Hutton Bldg. |
| Crick, James (H) | Realty Bldg. |
| Degerstrom, N. A. (HPR) | Peyton Bldg. |
| Edwards, J. E. (H) | S. 1423 Adams |
| Geist, W. L. (H) | W. 444 23rd Ave. |
| Hansen Construction Co. | W. 1517 Jackson |
| Harding, Geo. (H) | Walla Walla, Wash. |
| Hargrave Construction Co. (H) | W. 418 Twentieth |
| Hewett, F. R. (H) | W. 420 Twenty-second |
| Joslin & McAllister (H) | Realty Bldg. |
| Kunej, Max J. (H) | Hutton Bldg. |
| Larson Bros. (B) | Hyde Bldg. |
| Long, Oliver J. (H) | W. 1924 Mansfield |
| Lyong & Price (H) | W. 503 Fourteenth |
| March Construction Co. | W. 1002 Riverside, Spokane |

| | |
|----------------------------------|----------------------|
| Martin, F. E. (B) | Galax Hotel |
| McLellan, A. (B) | E. 932 Ermina |
| Medby, M. C. (B) | S. 3614 Arthur |
| Meyers, W. G. | S. 2217 Tekoa St. |
| Morin, S. G. (B) | Paulsen Bldg. |
| Norman, Nick (B) | 231 Waverly Place |
| Nyberg, Carl (H) | Realty Bldg. |
| Orino, Sam (H) | Realty Bldg. |
| Payne, Mrs. C. M. | N. 2602 Hamilton St. |
| Power, C. A. (H) | S. 1703 Grand |
| Siems, Spokane Co. (BPHR) | Realty Bldg. |
| Standard Asphalt Paving Co. (HP) | Chronicle Bldg. |
| D. A. Sullivan & Co. | Realty Building |
| Terteling, J. A., & Sons (HP) | 511 Sound Ave. |
| Tobin, James, & Son (H) | Box 916 |
| Triangle Construction Co. (H) | W. 1220 Ide |
| True-House Construction Co. (B) | N. 119 Wall |
| Wheeler & England (HP) | Coeur d'Alene, Idaho |
| Young, Peter J. (B) | S. 11 Cedar St. |

Associate Members

| | |
|---|----------------------------------|
| Beall Pipe & Tank Corp. | Realty Bldg. |
| Brandt Bros. | W. 14 Main Ave. |
| Coeur d'Alene Hardware & Foundry | Wallace, Idaho |
| Commercial Importing Co. | 617 Western Ave., Seattle, Wash. |
| Consolidated Supply Co. | W. 1310 Ide Ave. |
| Construction Equipment Co. | 1118 Ide Ave. |
| Feenaughty Machinery Co. | N. 715 Division St. |
| W. P. Fuller & Co. | N. 229 Post St. |
| General Machinery Co. | E. 3501 Riverside |
| Gladding-McBean & Co. | 524 Old National Bldg. |
| Haweys Fuel Co. | N. 740 Division St. |
| Hofus-Ferris Equipment Co. | W. 728 Mallon |
| Holley-Mason Hardware Co. | S. 157 Howard |
| Jones & Dillingham Co. | W. 715 First Ave. |
| Jones & Mitchell | Hutton Bldg. |
| Long Lake Lumber Co. | N. 348 Wall St. |
| W. S. McCrea & Co. | 212 Symons Bldg. |
| J. E. McGovern Co. | 550 Peyton Bldg. |
| Nott-Atwater Co. | S. 157 Monroe St. |
| Old National Insurance Agency | Old National Bank Bldg. |
| Oriental Importing Tea & Coffee Co. | W. 917 First |
| Spokane Concrete Pipe Co. | N. 2627 Dakota |
| Spokane Culvert & Tank Co. | N. End Division Street Bridge |
| Spokane Paper & Stationery Co. | S. 152 Jefferson |
| Standard Oil Co. of Calif. | Old National Bldg. |
| Union Oil Co. | 611 Chronicle Bldg. |
| Washington Brick, Lime & Sewer Pipe Co. | S. 151 Washington St. |
| Washington Machinery & Supply Co. | W. 9 Cataldo |

MOUNTAIN PACIFIC CHAPTER

(Strictly a Public Works Chapter, practically every member carrying on highway, public works and railroad construction)

Washington Hotel—Seattle, Wash.

| | |
|-----------------------------------|---|
| John W. Rumsey, President | Lee Johnson, Secretary, Treasurer |
| John M. Clifton, Vice-President | James D. Brown, Manager |
| Allen & Coven | Olympia, Wash. |
| Barnard Curtiss Co. | Ellensburg, Wash. |
| Clifton, Applegate & Toole | Hutton Bldg., Spokane, Ma. 4415 |
| Columbia Power & Investment Co. | Stevenson, Wash. |
| Coyle Construction Co. | 901 Westlake N., Seattle, Gar. 5741 |
| N. A. Degerstrom | 444 Peyton Bldg., Spokane |
| Dorsey & Wilder, Inc. | 2006 State St., Bellingham, Wash., 1310 |
| Fuel Oil Service | Olympia, Wash. |
| Goodfellow Bros. | Wenatchee, Wash. |
| Grays Harbor Const. | Hoquiam, Wash., Hoq. 303 |
| Hargrave Construction Co. | W. 418, 20th Ave., Spokane |
| Hendricks & Co. | Chehalis, Wash. |
| F. R. Hewitt | 420 W. 22nd, Spokane, Riv. 7554 |
| Johnson, Homer G. | Perkins Hotel, Portland |
| Joslin & McAllister | Spokane, Wash. |
| Lee H. Johnson | 920 N. Tacoma Ave., Tacoma, Ma. 6241 |
| Lidral, Wiley | Securities Bldg., Seattle |
| Lyon & Price | 503 W. 14th, Spokane, Riv. 5319-R |
| Norris Bros. | Burlington, Wash. |
| Chas. A. Powers | S. 1703 Grand, Spokane, Riv. 3540 |
| Puget Sound Bridge & Dredging Co. | Seattle, El. 7300 |
| Puget Sound Construction Co. | Colman Bldg., Seattle, El. 7311 |
| Fred G. Redmon | 206 S. 4th Ave., Yakima, 9133 |
| Rumsey & Co. | Lumber Exchange Bldg., Seattle, Ma. 8751 |
| Standard Asphalt Co. | Chronicle Bldg., Spokane, Wash., Ma. 1689 |
| von der Hellen & Pierson | Enumclaw, Wash. |
| Winston Bros. | 4580 Colorado Ave., Seattle, Glen. 2268 |

PACIFIC

25¢
per Copy

SKILL - INTEGRITY



RESPONSIBILITY

CONSTRUCTOR

CONSOLIDATED WITH

Building and Engineering News

IN THIS ISSUE



ROLLED FILL DAM ON SANTIAGO CREEK

By S. P. McCasland

LABOR REGULATIONS ON EMERGENCY
FEDERAL AID HIGHWAY WORK

A.S.C.E. SURVEYS PROJECTS IN NEED
OF IMMEDIATE FINANCING

STATE HIGHWAY PROJECTS TO BE RECOM-
MENDED TO LEGISLATURE

CO-OPERATIVE CONSTRUCTION CREDIT

UNIT BID TABULATIONS
CONSTRUCTION NEWS



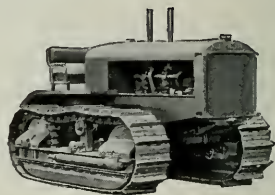
The A-C Model "L"

Establishes Horsepower Record

All the power you will ever need—wide range of speeds—clean-cut design—clearance—durability—are features of the Allis-Chalmers Model "L."

Six cylinders, six forward speeds—up to 6½ miles per hour. Same kind of responsive power, economy and performance as in the K35—only in a large tractor.

See us for the facts regarding a new horsepower record recently established by the Model "L."



ALLIS-CHALMERS
TRACTORS and
EQUIPMENT

Eby Machinery
Company, Ltd.

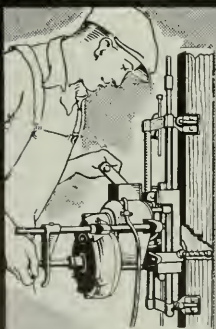
35 MAIN STREET

Power...Economy...Performance

DOuglas 1068

San Francisco

WAPPAT *Electric* TOOLS



Are Built to Last Longer

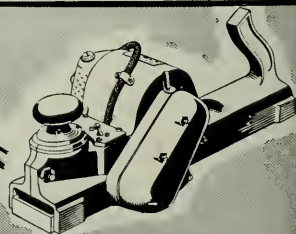
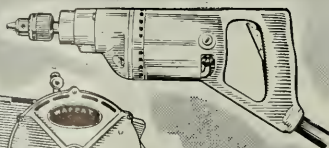
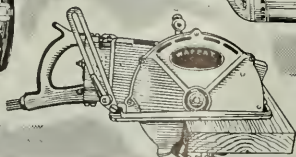
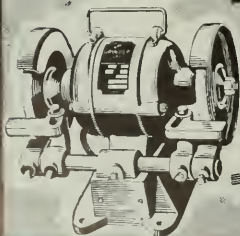
Cuts production costs . . . Speeds up the job . . . Makes for greater efficiency . . .
A size and type for every purpose.

Ask for a Demonstration

M. N. THACKABERRY

228 First Street, San Francisco
KEarny 4467

308 E. Third St., Los Angeles
TOOLS RENTED MUtual 7508



PACIFIC CONSTRUCTOR

With which is Consolidated Building and Engineering News

Official Publication of the Associated General Contractors of America
for the Eleven Pacific Coast States

J. P. FARRELL, *Editor*

S. P. McCASLAND, *Assoc. Editor, Am. Soc. C. E.*

VOL. 15

SAN FRANCISCO, CALIF., AUGUST 15, 1932

No. 15

Editorial Comment

Many inside the industry—as well as many outside—regard contracting as a gamble! If it has been a gamble in the past, what does the future hold for the industry under the requirements for the expenditure of \$120,000,000 by the Federal Government for construction under the Emergency Relief and Construction Act of 1932?

Three vitally important regulations are contained in the provisions specified by the Secretary of Agriculture and should be thoroughly studied by contractors who intend to submit bids on projects affected by the Federal regulations.

Sections 6, 7, 8 and 9 of the secretary's rules and regulations read as follows:

Section 6. "All contracts for the construction of emergency construction highway projects shall prescribe the minimum rates of wages, as predetermined by the State highway department, which contractors shall pay to skilled and unskilled labor, and such minimum rates shall be stated also in the advertisement for bids and in proposals or bids which may be submitted. The wage rates so determined may be a minimum rate for unskilled labor and a minimum for skilled labor, or for skilled labor a minimum rate may be fixed for each class of such labor."

Section 7. "Contracts for all emergency construction highway projects shall contain stipulations that (except in executive, administrative and supervisory positions), so far as practicable, no individual directly employed on any such project shall be permitted to work more than thirty hours per week, and that in the employment of labor preference shall be given to available ex-service men who are found to be qualified and who have dependents."

Section 8. "In order to give effect to the requirement in the statute for maximum employment of local labor consistent with reasonable economy in construction, hand labor methods will be required to the extent possible without interfering with the quality of the work or unreasonably increasing its total cost."

Section 9. "The specifications for each emergency construction highway project shall contain special provisions, which shall be in conformity with instructions issued by the Bureau of Public Roads, for carrying into effect the stipulations required by Sections 6, 7 and 8 of this regulation, which shall include a requirement that the contractor shall promptly furnish to the State highway department copies of each payroll certified under oath by the contractor or his authorized representative."

The complete text of the Bureau of Public Roads' memorandum to district engineers is published in another section of this issue. It should be carefully studied by every member of the construction fraternity who proposes to undertake work under the provisions of the Emergency Relief Act.

The final step in construction for actual completion of the Hetch Hetchy Water Project for the City and County of San Francisco was taken last month with the award of contract to the construction department of the Public Utilities Commission for the construction of the Coast Range Tunnel, involving an expenditure of five and one-half million dollars.

The municipal construction forces offered to complete the work for \$5,257,665, while the next lowest bidder, a private contractor, submitted a bona-fide bid of \$5,815,335. The private contractor presented his figure with a certified check for \$325,000 guaranteeing his entry into the contract, and further, if awarded the contract, would put up a fifty per cent bond, absolutely guaranteeing the work to be completed within the time limit and at a fixed sum.

What if the contractor failed to complete the work within the time specified in his contract? He would according to this contract, pay a forfeit \$500.00 for each day the project is delayed.

Suppose the contractor failed to complete the project for the price stipulated in his contract? His bond would take care of that.

Briefly, no matter what happens the taxpayer is protected.

Apply the same questions to the contract awarded to the city construction forces and what have you?

We are promised a ten-day report on the progress of the Hetch Hetchy Coast Range Tunnel project. While we are interested in that portion of the report which will disclose the progress of the work as regards the time limit, we shall be especially interested in the construction costs.

There appears to be a general feeling the last few days that an important change for the better in business is taking place or is about to take place. Have you sensed it? A feeling of confidence is in the air. There is something present, something vague—something that has not been on the surface for the past two years. If we continue to think so—we possibly will find it so. Confidence, in these times, is the stimulator that is needed. We all, more or less, have lacked confidence these past two years. Now is the time to think, talk and act with confidence.

Limit Stakes and Levels

By THE EDITOR

The minimum wage that can be paid workers on the \$23,000 Memorial Park road project has been set at \$4.50 a day by the San Mateo County Board of Supervisors when it adopted a wage scale. The minimum wage was set for common labor. The maximum wage was set at \$10 a day for power shovel and steamroller operators.

T. A. Reardon, State Labor Commissioner, announces collection of \$2,025,409 in unpaid wage claims for the biennium ending June 30, a negligible decrease from the two-year collections ending 1930. Wage claims settled totaled 37,001, with an average collection for each complainant of \$54.74.

Judge J. A. Allen of Tulare County has accepted the \$234,946 deposit of Kern County and the State Highway Department for the purchase of rights-of-way under possible condemnation proceedings for the rerouting of the Golden State Highway through Bakersfield. Over \$1,000,000 has been set aside for the work, which will involve the construction of a \$500,000 bridge over Kern River, grading, paving and widening of three and one-half miles of street and highway inside and outside of Bakersfield. The State has allotted \$850,000 for the work and Kern County has pledged \$240,000.

Day laborers employed by the city of San Leandro will receive \$2.50 daily wages in future, it is announced by Allen E. Pelton, city manager. The action was taken following a conference with Mayor George A. Weldon and city councilmen. The low wage, Mayor Weldon pointed out when suggesting the reduction from the present \$3 rate, is offered as a means of increasing the number of employes for the city as an unemployment relief measure. This cut marks the third reduction since the new administration officials took office following the April municipal election.

California laws governing the sale of convict-made goods are invalid because of their attempt to discriminate against "foreign" goods from other States, Attorney General U. S. Webb so informed the governor's office. In a letter to W. A. Smith, secretary of Governor James Rolph, Jr., the Attorney General declared that the Hawes bill, approved in 1929 and to become effective in 1934, would not rectify the present situation. He said it was imperative that new legislation be offered to legally control prison manufactured goods. He declared that discrimination against outside articles is unjustified.

Bids on the largest single contract for cement and other construction materials will be called shortly by the city of San Francisco. City Purchasing Agent Thomas A. Brooks announces. The materials will be used by the city in completing the Hetch Hetchy water supply system, for which city forces this week won the contract on a bid of about \$5,200,000. Brooks said that the cement contract alone would total about \$1,225,000, that lumber and steel would bring the total of the materials to be bought to more than \$1,500,000. About 800,000 barrels of cement will be needed to line the tunnels through the Coast Range Mountains, the last link in the gigantic project.

DR. CHAS. MARX, CALIFORNIAN, HEADS ENGINEER R. F. C. BOARD

Dr. Chas. D. Marx, emeritus professor of civil engineering at Stanford University, has been named chairman of the Engineers' Advisory Board of the Reconstruction Finance Corporation, assigned the task of financing self-liquidating projects.

In an effort to give thorough study to the projects to be considered for financial aid by the corporation, the corporation appointed this special advisory board of trained experts.

Members of Dr. Marx' board are John F. Coleman of the John F. Coleman Engineering Company, New Orleans; John Lyle Harrington, a consulting engineer of Kansas City, Mo.; John Herbert Gregory, professor of civil and sanitary engineering at John Hopkins University, Baltimore, and Major General Lytle Brown, chief of engineers of the United States army.

Among the projects to be passed upon are the San Francisco Bay bridge and the Golden Gate span. Professor Marx was a member of the Hoover bay bridge commission which selected Goat Island route.

Opposition to Dr. Marx' appointment, raised by Congressman Richard J. Welsh of San Francisco on the ground of Dr. Marx' former objection to the Golden Gate bridge was not supported by bridge district directors.

William P. Fillmer, chairman of the board of directors of the Golden Gate Bridge and Highway District, said he and some of the other directors did not fear that Dr. Marx would exercise any adverse influence on the project which is expected to be partly financed by loans from the Reconstruction Finance Corporation.

A higher-speed truck mixer is offered by the Jaeger Manufacturing Co., Columbus, Ohio, in 1- and 1½-cubic yard units, mounted on a 1932-model Ford chassis. The 1-yard unit is furnished for use with the 132-inch wheelbase chassis and is driven direct from the truck engine. The 1½-yard unit is furnished with separate engine drive for the 157-inch wheelbase chassis. It is claimed that these new mixer units are particularly suited for commercial concrete plants, road-widening and maintenance work, aprons, bridges, conduit, sewers, and curb and gutter work.

The Pulsometer Steam Pump Co., Irvington, N. J., announces a new series of Type R Pulsometer pumps. The new series, available in suction line sizes from 1½ to 8 in., has redesigned steam ports and valves, requiring less steam than the former models. The pumps will handle semi-solids as well as liquids, and will pass stones and sticks, marsh grass and sludges. They need no foundations, but can be hung in place from any suitable support.

Moritz-Bennet Corp., Effingham, Ill., announces several improvements on the Moritz shoulder-finishing machine. The feature of the pull drawbar being located outside the frame has been retained in making the frame heavier and more rigid. An important new feature is a moldboard couple bar extending from the inner rear end of the blade to the frame, which reverses the side thrust action when the blade is under heavy load. Other improvements are: new sectional boom that accommodates various length blades for finishing shoulders up to 11 ft. wide with all four wheels riding on the pavement; positive screw-type adjustment for sloper blade; and an auxiliary blade for cleaning pavement. Literature describing the improved machine is available from the manufacturer.

Regulations Under the Emergency Relief and Construction Act of 1932

By FLOYD O. BOOE, Secretary-Manager, Northern California Chapter

DISTRICT engineers of the U. S. Bureau of Public Roads have received instructions setting forth the special provisions to be incorporated in all contracts for work under the \$120,000,000 emergency Federal aid appropriations for highways.



FLOYD O. BOOE

The attention of the contracting fraternity is called to Sections 6, 7, 8 and 9 of the rules and regulations of the Secretary of Agriculture for carrying out the Federal Highway Act, providing for the minimum rate of wages, as predetermined by the

regulations for carrying out the foregoing provisions with a view of providing the maximum employment of local labor consistent with reasonable economy of construction.

Under the authority granted the Secretary of Agriculture and in conformity with the rules and regulations, the director of the Bureau of Public Roads has issued instructions to the district engineers and State Highway Department covering the minimum special provisions that will be required, all of which follow herein. It appears, however, that the special provisions in reference to hand labor requirements and restrictions which surround the employment of labor are much more drastic than were contemplated either by the law or the supplemental regulations and are of such a nature that unlimited discretionary powers of inspection and enforcement rest with the engineer and inspector on this job. It is in this respect that the contractors will have to decide how much of a gamble exists in figuring this type of work.

The officials of the government are undecided how they can determine a policy of "reasonable economy in construction." They believe that possibly the only way this can be done is by accepting bids on the basis of the special provisions in regard to employment of hand labor, shorter working days, etc., and compare same with the estimate of cost of construction under the ordinary methods. If found to be too costly, they believe that they will be permitted to reject the bids and readvertise the project with all or some of these restrictions left out and that this would permit the use of the emergency fund under these conditions and would secure "reasonable economy in construction."

The complete text of the Bureau of Public Roads' memorandum to district engineers is published herewith:

Instructions to Engineers

Memorandum to District Engineers: In carrying out the provisions of the Emergency Relief and Construction Act of July 21, 1932, it will be necessary to meet certain special requirements concerning rates of wages, hours of employment, employment of local labor and preference in employment to qualified ex-service men with dependents. Projects submitted under this act will be known as "Emergency Highway Projects."

These requirements must be included in special provisions in the proposals and contracts for projects submitted under the terms of the act.

This memorandum indicates the type of required "Special Provisions," for all work done under the act. The memorandum of April 12, 1932, to district engineers on the subject of employment is not superseded by this memorandum and may still be applied to all regular Federal aid projects.

District engineers shall examine all advertisements for bids, proposals and contracts submitted for projects under the terms of this act to see that suitable "Special Provisions" have been included as outlined in this memorandum.

I.—Selection of Labor

Special provisions must be inserted in the contracts designed to insure that the maximum distribution of employment be obtained, that employment be furnished to persons most in need of it, and that preference in employment be given, when they are qualified, to ex-service men with dependents.

Such special provisions must call for the selection of unskilled labor by the contractor from lists furnished by special agencies, where such agencies are available. Such provision must, however permit the contractor to obtain needed employees elsewhere when such agencies fail to function and to terminate the services of employees deemed by him to be inefficient or unsatisfactory.

The use of clauses designed to forbid the employment of

State highway department; the thirty-hour week; preference in employment to available ex-service men with dependents, and hand labor. The four sections are published herewith:

Section 6. "All contracts for the construction of emergency construction highway projects shall prescribe the minimum rates of wages, as predetermined by the State highway department, which contractors shall pay to skilled and unskilled labor, and such minimum rates shall be stated also in the advertisement for bids and in proposals or bids which may be submitted. The wage rates so determined may be a minimum rate for unskilled labor and a minimum for skilled labor, or for skilled labor a minimum rate may be fixed for each class of such labor."

Section 7. "Contracts for all emergency construction highway projects shall contain stipulations that (except in executive, administrative and supervisory positions), so far as practicable, no individual directly employed on any such project shall be permitted to work more than thirty hours per week, and that in the employment of labor preference shall be given to available ex-service men who are found to be qualified and who have dependents."

Section 8. "In order to give effect to the requirement in the statute for maximum employment of local labor consistent with reasonable economy in construction, hand labor methods will be required to the extent possible without interfering with the quality of the work or unreasonably increasing its total cost."

Section 9. "The specifications for each emergency construction highway project shall contain special provisions, which shall be in conformity with instructions issued by the Bureau of Public Roads, for carrying into effect the stipulations required by Sections 6, 7 and 8 of this regulation, which shall include a requirement that the contractor shall promptly furnish to the State highway department copies of each payroll certified under oath by the contractor or his authorized representative."

The importance of the contractor thoroughly familiarizing himself with the hand labor requirements; requirements regarding employment of labor and hours of labor; the importance of securing in advance, if possible, a definite interpretation from the supervising engineers as to how far they are going in enforcement of the special provisions cannot be too greatly stressed.

The Secretary of Agriculture and the Secretary of the Interior, respectively, are authorized to make rules and

skilled labor not residents of the State in which the work is being done will not be approved.

The use of clauses designed to limit the employment of unskilled labor to residents of the State will be approved, provided such clauses permit the employment of labor not resident in the State, when a sufficient number of satisfactory laborer residents of the State is not found to be available.

Where the term "County Employment Committee" is used herein, other terms may be substituted to indicate other agencies such as State or Federal employment bureaus, the Red Cross or other relief organizations, as may be designated by the State.

The following types of special provisions will be required:

The contractor shall employ labor, as far as it is available, from lists furnished by the County Employment Committee, giving preference in selection from such lists, where qualified, to ex-service men with dependents.

The contractor shall inform the County Employment Committee of his needs for labor and request a list of names from which he may select his requirements. Should the committee fail to supply such lists within 48 hours after the receipt of such request, the contractor shall be free to employ any available labor, provided, however, that, when qualified, ex-service men with dependents, or other labor living in the county, adjacent counties, or in the State, shall be given preference in employment in the order named.

The contractor may employ such men as are necessary for the supervision of the construction and for the operation of power equipment requiring skilled operators without regard to such lists.

Any laborer found to be incompetent may be discharged, but it will be required that replacement be made from lists furnished by the County Employment Committee, when such lists are available.

The contractor may be released from the requirement of obtaining labor from local labor lists upon satisfactory evidence of unfair or discriminatory practices in the establishment of the local labor lists.

II.—Wages, Hours of Employment and Conditions of Employment:

Provisions must be made in the proposal fixing the minimum wages which contractors must pay to both skilled labor and unskilled labor.

Such rates must also be stated in the invitation for bids.

The minimum wages for both skilled and unskilled labor shall be fixed at an hourly rate. In fixing such minimum wages, a minimum may be fixed for each of the various classes of skilled labor, or a single minimum may be fixed to cover all classes of skilled labor. The term "skilled labor" as used herein shall be taken to embrace all employees other than unskilled labor, and other than those in executive administrative and supervisory positions hereinafter defined.

These minimum wages shall be fixed by the State authority, subject to concurrence by the district engineer, but shall not exceed the prevailing wage ordinarily existing for such labor in the locality. The district engineer of the bureau, so far as possible, will check any wage so fixed by the State for reasonable conformity with wages paid on other Federal aid projects in the vicinity, and base his approval or disapproval of the rate thereon.

Provision must also be made in the proposal limiting the hours of work for all employees (except those in executive, administrative and supervisory positions) to not more than 30 hours in any one week. For the purpose of this memorandum, the employees considered to occupy executive or administrative positions are the contractor, his superintendent, any time-keepers, bookkeepers, clerical employees, or other employees in a position of special trust or responsibility. For the purpose of this memorandum, the employees considered to be in supervisory positions are master mechanics, foremen or any employees whose principal duties are to direct the work of others.

The provisions limiting the hours of employment per week shall be so drawn as to permit the selection by the contractor of such working hours as may be most efficient to the conduct of the work subject to the limitations of the laws of the State.

Provisions shall be made governing rates of board and similar charges. Rates of board in the proposal shall be fixed with due regard to the minimum wage and the limitation of 30 hours work per week. Such rates must not be in excess of a fair charge for board.

Provision shall be made requiring the contractor to furnish the State Highway Department copies of all pay rolls, certified under oath by the contractor or his approved representative.

One copy of all such pay rolls shall be transmitted by the State to the district engineer of the bureau.

Minimum Scale of Wages

The following types of special provisions will be required:

Skilled and unskilled laborers shall not be permitted to work more than 30 hours in any one week. The minimum wage paid to all unskilled labor employed on this contract, shall be — per hour. The minimum wage paid to all skilled labor employed on this contract shall be — per hour (If desired, the State Highway Department may use in lieu of the above provisions relating to the minimum wages the following):

The following minimum rates of wages shall be paid all labor employed on this contract:

Unskilled labor, — per hour; oiler, — per hour; power shovel operator, — per hour; truck driver, operator, — per hour; roller operator, — per hour; tractor driver, — per hour; drill grader operator, — per hour; blacksmith, — per hour; mason, — per hour; teamster, — per hour; mixer operator, — per hour; any classification not contained herein, — per hour.

Copies of all pay rolls, certified under oath by the contractor or his authorized representative shall be filed with the engineer, showing the name of each employee, place of legal residence, class of work, rate paid, hours worked and the county from which the name was obtained. Deviation from this procedure will not be permitted.

Where camps are operated by the contractor, or by persons affiliated with the contractor, a charge of more than — per week (or day) for board and lodging will be considered a violation of the minimum wage specified herein. Charges in excess of a fair market price for supplies from company stores will not be permitted.

No fee of any kind shall be charged or accepted by the contractor or any of his agents from any person who obtains work on the project, nor shall any person be required to pay any fee to any other person or agency obtaining employment for him on the project.

No charge shall be made for tools used in connection with the duties performed except for loss or damage of property.

Every employe on the work covered by this contract shall lodge, board and trade where and with whom he elects, and neither the contractor nor his agents, nor his employes, shall directly or indirectly require as a condition of employment that an employe shall lodge, board or trade at a particular place or with a particular person.

Where transportation is furnished by the contractor or his agents to any person employed on the work from the point of hiring to the point where work is to be done the charge for such transportation shall not exceed the rate charged by railroad, bus line or other public utility for similar service.

All of the above provisions shall also apply where work is to be performed by piecework, station work or by subcontract. The minimum wage shall be exclusive of equipment rental on any equipment which the worker or subcontractor may furnish in connection with his work.

III.—Provisions to Insure the Maximum Employment of Human Labor in Carrying Out the Work:

Special provisions to insure the maximum employment of direct labor in preference to machine methods in certain construction details will be required to be included in all contracts awarded under this Act.

Provisions of the type shown below or others equally effective to accomplish the purpose intended will be required. The purpose as defined in the Act is to "provide the maximum employment of local labor consistent with reasonable economy of construction."

All proposals for work to be done by the States under this Act will be examined by the district engineers to see that sufficient and suitable provisions, as outlined herein, to insure "the maximum employment of local labor consistent with reasonable economy of construction," are included.

The Bureau will approve only such projects as carry sufficient and suitable "special provisions" in the contracts for the work. Approval will not be given to any procedure or requirement designed to prevent the award of contracts to qualified contractors nonresident of a State or to restrict the use of materials to those produced within a State.

The Bureau will consider "special provisions" of the character shown below, to be consistent with reasonable economy of construction. "Special provisions" of any other character than those outlined will be approved only if it is clearly shown that for the particular project the proposed provisions provide

for the "maximum employment of local labor consistent with reasonable economy of construction."

Required Special Provisions For All Work

GENERAL.—The work covered by this contract shall be conducted in such a manner that maximum employment is afforded so far as is practicable during the life of the contract.

CLEARING AND GRUBBING.—All incidental or ordinary clearing and grubbing shall be done by hand labor, or teams or both. The use of explosives will be permitted for loosening stumps.

GRADING (for all grading jobs).—All trimming of slopes in cuts and fills shall be done by hand labor. Spreading of fills, when the material contains little or no rock, shall be done by hand labor.

"Turnpike" sections may be constructed by means of power-hauled graders. Ditches, other than in turnpike sections, shall be trimmed by hand, or by the use of board scrapers. Finishing of earth road surface may be done by power-operated graders.

GRADING (for all work of grading, sub-grading and building shoulders included in the same contract with paving work).—All sub-grading or fine grading between forms shall be done by hand labor methods. Fine grading of foundations to place and set forms for paving shall be done by hand labor methods. The fine grading of sub-grade to prepare it for the pavement, when no forms are used, shall be done by hand labor methods. The finishing or trimming of slopes, shoulders and ditches after the pavement is completed shall be done by hand labor methods.

PIPE AND UNDERDRAINS.—Trenches for pipe, tile drains and similar structures shall be dug by hand or team labor methods. The use of explosives will be permitted where necessary. Pipe shall be unloaded and placed by hand methods. The use of cranes, block and tackle, and any other equipment operated by hand or team power will be permitted. Backfilling of excavated material shall be done by hand or team labor methods. Hand labor mixing of concrete for head walls and pipe encasement will be required.

CULVERTS AND MASONRY STRUCTURES AND SMALL BRIDGES UP TO 50-FOOT SPAN.—All excavation and backfilling shall be done by hand tools such as picks, shovels and wheelbarrows, or by team tools, such as scrapers and carts. The use of explosives will be permitted, also power operated pumps where necessary. Where the excavated material is required to be lifted more than six (6) feet, hoists, operated by animal or manual power will be permitted.

Other Work to Be Done by Hand Labor

Cement and reinforcing steel shall be unloaded by hand labor methods, may be hauled by trucks but shall be placed by hand labor.

Aggregates shall be unloaded from cars by hand labor methods, shall be handled from the stock pile at the structure to the mixer by hand shovels, wheelbarrows or carts, or other hand or team labor methods.

All carpenter and form work shall be done by hand labor. The use of steel forms, where allowed by the specifications, will be permitted.

Concrete shall be transported from the mixer to the place of use by carts or wheelbarrows. Chutes, where allowed in the specifications, will be permitted.

Finishing of structural concrete surfaces shall be done by hand rubbing, or other hand methods.

All other work not specifically listed above shall be done by hand labor methods in so far as is practicable.

CURBS AND GUTTERS.—Sub-grading for curbs and gutters shall be done by hand labor or by team or both. Concrete and its constituent materials shall be handled as specified under culverts and small bridges.

GUARD RAILS.—All post holes shall be dug by hand labor. Special hand tools will be permitted. Posts, where available in the quantity and quality required, shall be cut in the vicinity of the proposed work. All painting shall be done by hand labor.

DRYBOUND AND WATERBOUND BASES (macadam, gravel, lime-rock caliche, etc.), AND WATERBOUND SURFACE COURSES.—Initial spreading of the slag, stone or gravel shall be done by hand labor. All filler (dust, screenings, chips, sand, etc.), shall be spread by hand labor. Filler shall be broomed into the surface by hand brooms.

SURFACE TREATMENTS, RETREADS AND MIXED-IN-PLACE TYPES.—Spreading of cover coats by hand labor will be required. All handling of stone, slag or gravel from railroad cars to hauling equipment shall be done without the use of power equipment. Sweeping of roadway, where required, shall be done by hand brooms or by team-operated equipment.

BITUMINOUS MACADAM SURFACE COURSE.—Sweeping and cleaning of base course in preparation to receive the surface

course, where necessary, shall be done by hand labor methods. Initial spreading of coarse stone shall be done by hand labor methods. Chips shall be spread by hand labor methods. Chips may be broomed by hand labor methods.

BITUMINOUS CONCRETE SURFACE COURSE.—Sweeping and cleaning of base course in preparation to receive the surface course shall be done by hand labor methods. Premixed bituminous mixtures and natural asphalts which are delivered cold shall be unloaded from railroad cars by hand labor methods. Finishing and smoothing of surface may be done by machine methods.

CEMENT CONCRETE PAVEMENTS.—The use of concrete mixers in tandem will not be permitted. Curing shall be done by the earth covering method, except where the adjacent soil contains so much rock as to render it impracticable to obtain sufficient suitable covering material from the shoulders. Covering material shall be spread by hand labor methods. Removal of earth cover shall be done by hand labor methods.

Roadside Production of Rock

ROADSIDE PRODUCTION OF CRUSHED STONE AND GRAVEL.—Stone shall be loaded in the quarry by hand. Where the crusher is set at approximately the same elevation as the floor of the quarry, the stone shall be transported to the crusher by hand or team methods. Where feasible team power or hand labor will be used in gravel pits for transporting material to screening plants or loading traps. Stripping of quarries and gravel pits, where feasible, shall be done by team or hand labor methods or both.

LARGE BRIDGES.—All painting of steel work shall be done by hand. Cleaning may be done by sand-blast. The use of steel forms will be permitted. As far as practicable, all other work shall be done by hand labor methods.

OPTIONAL TYPES OF SPECIAL PROVISIONS.—The following types of special provisions may be used by the State Highway Departments on specially selected projects, if desired:

GRADING (for special grading jobs.)—For grading work specially selected as being well adapted to team and hand labor methods, provisions of the following types may be used in addition to those given above under grading.

In general such jobs will be those where excavation is at the rate of not to exceed 12,000 cubic yards to the mile, or for very short jobs such as bridge approaches or minor line revisions and improvements. These provisions may also be applied to certain continuous grading sections of heavy grading projects, not less than a mile in length, where the excavation for such sections is at the rate of not to exceed 12,000 cubic yards per mile. Hand or team labor methods shall be used for excavating all earth material. Team equipment or trucks may be used for hauling excavated material. Power equipment and explosives may be used in rock excavation.

HAULING (Other than Excavation).—(On selected projects in locations where it is particularly desirable to provide team employment, where grades and road conditions permit the following clause may be used): Hauling of all material (other than excavation) up to a distance of 2 miles shall be by teams.

Changes in General Regulations

Amendment No. 6 to the Rules and Regulations of the Secretary of Agriculture for carrying out the Federal Highway Act (except the provisions thereof relative to forest roads) promulgated July 22, 1922:

Pursuant to the authority conferred upon the Secretary of Agriculture by the Act of Congress approved November 9, 1921, entitled "An act to amend the act entitled 'An act to provide that the United States shall aid the States in the construction of rural post roads, and for other purposes' approved July 11, 1916, as amended and supplemented, and for other purposes" (42 Stat. 212), known and cited as the Federal Highway Act, the rules and regulations promulgated by the Secretary of Agriculture under date of July 22, 1922, for carrying out the provisions of said Federal Highway Act, are hereby amended by revising Sections 2 and 4, Regulation 16, and by adding a new regulation, to be known and designated as Regulation 18, so that said Sections 2 and 4, Regulation 16, and said Regulation 18, shall read, respectively, as follows:

Regulation 16.—Projects through unappropriated or unreserved public lands nontaxable Indian lands, or other Federal reservations other than forest reservations.

Section 2. Projects for construction under said Act of June 24, 1930, shall be selected and recommended jointly by the district engineer of the Bureau of Public Roads and the State highway department.

Section 4. All provisions of Regulations 1 to 14, both inclusive, and of Regulations 18, in so far as the same may be ap-

licable and not in conflict with this regulation, shall apply to projects hereunder.

Regulation 18.—Projects under the "Emergency Relief and Construction Act of 1932."

Section 1. The term "Emergency Construction Highway Funds," as used in this regulation, shall mean the one hundred twenty million dollars of Federal funds appropriated by the Act of July 21, 1932. (Public No. 302, 72nd Congress), to be used as a temporary advance of funds to meet the States' share of the cost of work performed before July 1, 1933, on Federal-aid projects under the Federal Highway Act. All projects involving the use of such funds shall be designated "Emergency Construction Highway Projects," which shall be indicated on projects by prefixing the letter "E" to the projects number.

Selecting Emergency Projects

Section 2. Emergency construction highway projects shall be initiated by the states and submitted as other Federal-aid projects and all such projects shall be subject to all provisions of the rules and regulations, as heretofore promulgated and amended, except where the same may be in conflict or inconsistent with this regulation.

Section 3. A program of emergency construction highway projects shall be selected to meet the following conditions: A distribution of projects within the State which, measured in terms of both number and cost, shall bear a reasonably uniform relationship to the number of locally unemployed persons; a selection of types of construction that afford reasonable opportunities for employment of available unemployed persons; and the inclusion of types of construction that will permit employment through the winter months.

Section 4. Twenty-five per cent of the emergency construction highway fund shall remain unobligated until November 1 in any State which shall not have established from other sources a reserve fund in at least an equivalent amount available for use for emergency highway employment purposes during the winter months.

Section 5. In the performance of work on emergency construction highway projects, no convict labor shall be directly employed.

Section 6. All contracts for the construction of emergency construction highway projects shall prescribe the minimum rates of wages, as predetermined by the State Highway Department, which contractors shall pay to skilled and unskilled labor, and such minimum rates shall be stated also in the advertisement for bids and in proposals or bids which may be submitted. The wage rates so determined may be minimum rate for unskilled labor and a minimum rate for skilled labor, or for skilled labor a minimum rate may be fixed for each class of such labor.

Section 7. Contracts for all emergency construction highway projects shall contain stipulations that (except in executive, administrative and supervisory positions), so far as practicable, no individual directly employed on any such project shall be permitted to work more than 30 hours per week, and that in the employment of labor preference shall be given to available ex-service men who are found to be qualified and who have dependents.

No Unreasonable Increase in Cost

Section 8. In order to give effect to the requirement in the statute for maximum employment of local labor consistent with reasonable economy in construction, hand labor methods will be required to the extent possible without interfering with the quality of the work or unreasonably increasing its total cost.

Section 9. The specifications for each emergency construction highway project shall contain special provisions, which shall be in conformity with instructions issued by the Bureau of Public Roads for carrying into effect the stipulations required by Sections 6, 7 and 8 of this regulation, which shall include a requirement that the contractor shall promptly furnish to the State highway department copies of each pay roll certified under oath by the contractor or his authorized representative.

Section 10. In view of the need for providing immediate employment and the advanced stage of the current construction season, projects advertised for bids prior to approval of the project statement by the Secretary, and/or prior to recommendation of approval of the plans, specifications, and estimates by the District Engineer of the Bureau of Public Roads, may be submitted as emergency construction highway projects, and the Secretary may approve such projects of this nature as in his judgment merit approval, if they comply in all other respects with the law and regulations.

Section 11. Projects for which contracts were awarded prior to the date of approval of this regulation but are inoperative because of lack of State funds may be submitted as emergency construction highway projects and, if eligible in all other respects, may be approved, if in the judgment of the Secretary the facts warrant such action, subject, however, to the condition

IMMEDIATE CONSTRUCTION UNDER F-A EMERGENCY HIGHWAY PROGRAM

Eight projects approved for immediate construction under the Federal Air Emergency Highway Program, involving an expenditure of \$2,215,000, and for which bids will be asked by the California State Highway Commission in the immediate future are listed herewith:

| COUNTY | LOCATION | APPROXIMATE MILEAGE | COST |
|-------------------------|--|------------------------|-------------|
| Tulare | Limon Cove to Three Rivers | 12 | \$350,000 |
| Kern | Bridge over Kern River at Bakersfield | | 315,000 |
| Shasta | 3 bridges on Route 28-D | | 95,000 |
| Santa Cruz | Inspiration Point to Scott's Valley | 5.5 | 325,000 |
| Los Angeles | La Canada to Tujunga | 4 | 200,000 |
| Fresno | Fancher Creek to Fresno | 2.7 | 160,000 |
| Mendocino | Little Dann Creek to Heagneys | | 70,000 |
| Santa Clara (Bay Shore) | Oregon Avenue, | | |
| Santa Clara (Bay Shore) | Oregon Ave., So. | | |
| | (to be divided into 3 contracts | 8.2 | 700,000 |
| Total | | | \$2,215,000 |

In the selection of projects in which these emergency funds can be used, the Department has been compelled to give first preference to those projects on which plans and specifications are positively complete and rights of way available. It is the intent of the Wagner Bill that in the effort to spread employment the states will select projects in the localities most in need of unemployment relief and so far as possible, this requirement is being observed by California, consistent with the legal restrictions which also surround the Department with reference to expenditure of funds north and south.

The emergency funds must be drawn and expended prior to July 1, 1933, and to absorb the funds within such a short period of time, the states will include a sufficient number of projects to provide an actual overrun in amounts to avoid the possibility of any reversion of funds, as occurred under a similar emergency appropriation in 1931. This means that the amount of emergency funds finally received on a particular project may vary from 50 per cent to 100 per cent of the total cost, depending on construction progress. It also means that regardless of the amount of emergency funds collected, all of the special requirements relating to same may apply to the full project.

The California State Highway Department is now making up an additional list of projects which can be included in the emergency program, and can be completed prior to June 30, 1933, which will absorb the balance of the federal allotment of approximately \$4,600,000.

that the contracts already contain, or that the contractors voluntarily agree to incorporate therein, such stipulations as are required by Sections 6, 7 and 8 of this regulation, and subject also to such other conditions as the Secretary may impose.

Section 12. On each project involving emergency construction highway funds regular Federal Aid funds apportioned to the State under the Federal Highway Act shall be used to the maximum extent permissible by the statute; provided, that the regular Federal Aid on projects in States having relatively small unobligated balances of such funds shall be in such amounts as the Secretary may approve in the project agreement for each project.

Section 13. No contract for any emergency construction highway project hereafter shall be entered into or award therefor made by any State without prior concurrence in such action by the District Engineer of the Bureau of Public Roads.

Section 14. Except as provided in Regulation 16, this regulation shall apply only to "emergency construction highway projects" as defined in Section 1 thereof.

A. S. C. E. Surveys Projects In Need of Immediate Financing

THE American Society of Civil Engineers, through its Local Sections, has for the past two months collected data in regard to State and Municipal projects which have been suspended on account of difficulties in financing at reasonable rates of interest. Disregarding Federal public works, the normal annual program of State and Municipal public works has for the past ten years been between \$2,500,000,000 and \$3,000,000,000. Indications are that this year public works of this class will not aggregate more than \$800,000,000. The result has been that nearly 2,000,000 people who would normally find seasonal employment on public works have not found work and that unemployment has increased at an alarming rate.

The prevalent low rate of operations in the supply industries, such as steel and cement, is partly due to this cause and other industries have suffered greatly through the loss of purchasing power by these two million workers and their dependents totalling over 8,000,000 people. One of the foremost steps in the Federal program for a return to normalcy was the passage of the amendments to the Reconstruction Finance Corporation Act, popularly known as the Wagner Bill, which provides for loans to States, municipalities and political sub-divisions for the construction of self-liquidating projects.

The survey conducted by the American Society of Civil Engineers has not yet been completed and only a partial list can be supplied at this time. This list shows State and Municipal projects aggregating \$1,400,000,000 which are ready to go and others aggregating \$900,000,000 which could rapidly be made ready. There have been omitted from the list roads, streets, public buildings, charitable institutions and recreation facilities, except where self-liquidating, and it is believed that the remaining projects which have been included are either self-supporting or could be made self-supporting by the passage of local legislation.

A large percentage of the public works in the list consists of water-works and sewers which are vital community facilities and in which the health and wellbeing of the communities are involved. The need for such facilities depends upon the growth and concentration of the population and continuous to increase even during a depression.

Three-quarters of the water-works and practically all of the sewers are publicly owned, and indefinite suspension of these public works will involve grave danger, as pollution in many metropolitan areas is already becoming alarming.

Public projects in California aggregating \$397,515,000 are held up for lack of funds, the survey discloses. These projects are classified as follows:

| | |
|-------------------------|---------------|
| Bridges | \$110,000,000 |
| Sewerage | 2,300,000 |
| Waterworks | 263,488,000 |
| Flood Protection | 18,537,000 |
| Power Development | 3,000,000 |

The California survey includes the San Francisco Bay Bridge to cost \$75,000,000; Golden Gate Bridge, \$35,000,000; Yuba City District No. 12 bridge, \$190,000; sewerage improvements at Long Beach and San Diego, \$2,300,000; waterworks at Glendale, Lompoc, Long Beach, Los Angeles, Pasadena, San Francisco and Sacramento, \$43,488,000 and \$220,000,000 for the Metropolitan Water Board of Southern California; \$12,000,000 for port and harbor developments at San Francisco and San Diego; \$18,537,000 for flood protection in Los Angeles and Orange counties, El Dorado Irrigation District at Placerville and on the American River; \$3,000,000 for power development in Los Angeles.

MUNY WATER PLANT HIT—Reversing the decision of two lower courts, the State Supreme Court holds that the contract between the city of Santa Cruz and Fairbanks-Morse & Co. of San Francisco for construction of a \$152,000 water plant was unconstitutional. But—during the three years of litigation the plant was built and has almost paid for itself. In 1928 the city council entered into the contract with the construction company, whose officials agreed to take payment as the plant earned it. But a group of taxpayers brought suit for an injunction. Carey & Gorfinkel, attorneys for the construction company, demurred. The Superior and Appellate courts sustained the demurrer. The Supreme Court decided that a municipality cannot incur in any year an indebtedness greater than its income for that year without a two-thirds vote of the people.

TRIAL
SUBSCRIPTION BLANK



Daily
Construction Reports

PACIFIC CONSTRUCTOR,
545 Mission Street,
San Francisco, Calif.

.....1932

Dear Sirs:

Send me WITHOUT COST for a period of one week, sample copies of PACIFIC CONSTRUCTOR DAILY NEWS SERVICE covering up-to-the-minute tips on work contemplated, bids wanted, bids opened and contracts awarded for all types of engineering construction, materials and equipment.

Name.....

Address.....

City.....

Keeping Ahead

NEW EQUIPMENT NOW READY



TWO SECTION ADJUSTABLE BLADE

9 yd. Carry-all
Scraper

Logging Type
Power Unit

Tractor
Trailer

Bulldozers
for
New Type
TRACTORS

Adjustable
Blade
Sheep Foot
Roller

Sheep's Foot Roller Now Retails at \$750

Improved and Price Reduced. Built in One, Two or Three Sections. It Meets the Specifications. THE ENGINEER DEMANDS IT. *You Profit by Our Experience.* Depreciation and Repairs Forgotten.

NEW PRICES

Engineers Consultation FREE

R. G. LE TOURNEAU, INC.

Box 1513

STOCKTON, CALIF.

Tear Off Here—PLACE CHECK OPPOSITE EQUIPMENT INTERESTED IN—Tear Off Here

Cable Power
Units

Scrapers
 Bulldozers

Rooters
 Wagons

Rollers
 Derricks

Trailers
 Cowdozers

Rolled-Filled Dam on Santiago Creek

By S. P. McCASLAND, Associate Editor



Earth fill dam, contains over 1,100,000 cubic yards of material placed by trucks, tractor-drawn carts and conveyors.

Engineering on the Santiago Creek Dam was under the direction of A. Kempkey, consulting engineer of San Francisco. Mr. Kempkey's experience at this type of construction is very extensive and has included much service as "contractor's engineer," so that his appreciation of the problems of the contractor is unusually keen. It is through his courtesy that the material for this article is made available.

The general contractor on this job was the R. G. Le Tourneau Co. of Stockton. This company is primarily engaged in the design and manufacture of heavy contractors' equipment, but has of late entered the general contracting field with the idea of using and demonstrating the merit of their own equipment.

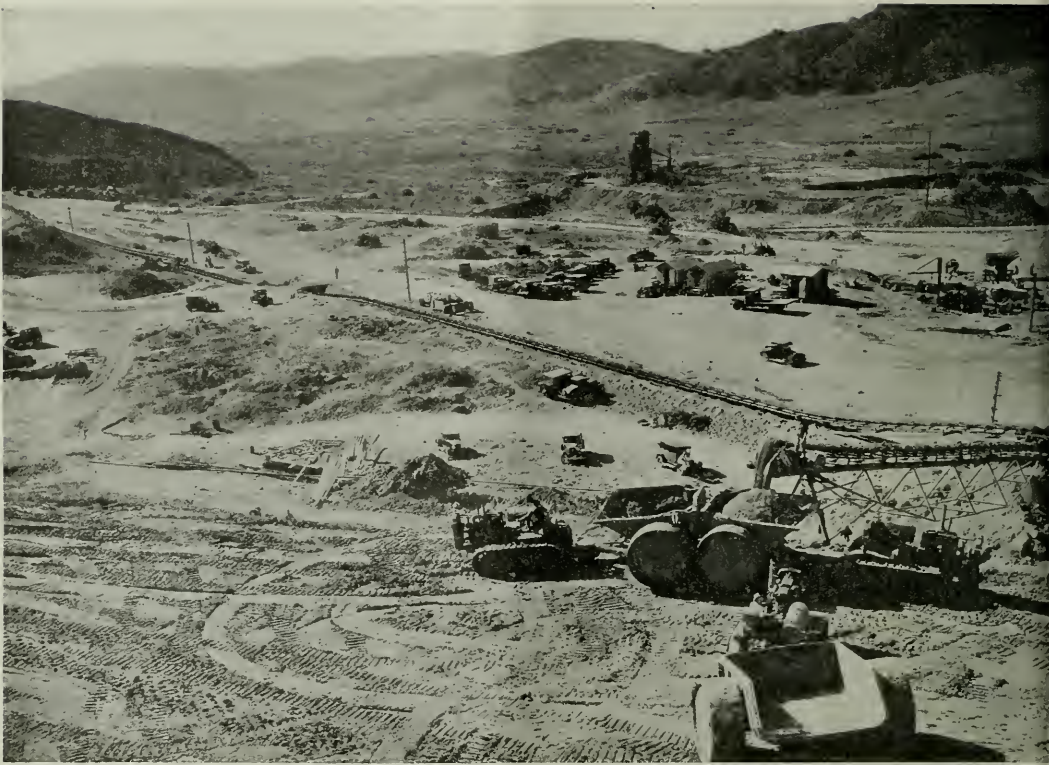
NOW that the construction of the Santiago Creek Dam has reached a satisfactory conclusion, the usual post-mortem of design and construction engineers has brought to light some very interesting data. That which attracts greatest attention is without doubt the remarkable record of performance set by the contractor—R. G. Le Tourneau Co.

At the time the contract was signed, Le Tourneau was

working on a highway job in Nevada which he believed to be on the "wind-up." As in many other cases, however, unforeseen difficulties lengthened the job and five months slipped by before the contractor could get under way in earnest at the dam. During this interval the engineers of the project were experiencing considerable worry over the advancing season lest the rains of an early winter damage a partially built structure before means had been taken to prevent it. When Le Tourneau finally got his equipment into action the results of his operations soon dispelled these fears. The rapidity with which the work progressed is clearly indicated by the yardage placed during the month of August which totaled almost 400,000 cubic yards of rolled fill. The busiest day showed a record of better than 17,000 cubic yards placed. About 51% of this material was transported in carts of Le Tourneau's manufacture and design, and we have Mr. Kempkey's word that they were extraordinarily efficient.



Spillway is excavated in shale of west abutment. Shovels strip valley fill to bedrock in upstream portion of dam.



Conveyor, 2600 feet long, made up of five sections, each equipped with 30-inch belt driven by 25 h.p. motor at speed of 375 feet per minute, delivers impervious fill material to carts drawn by 60 h.p. tractors.

As shown in the accompanying photos, they are mounted on very broad wheels and have large capacity—about twelve yards. The breadth of wheels serves to transport the heavy load without undue sinking and also assists materially in rolling previously deposited material. The real rolling was accomplished by Le Tourneau sheepfoot rollers used in tandem, the fill being rolled until the prongs of the roller no longer penetrated. The inspector's data show that about six passes over the clay accomplished a satisfactory degree of compaction. Mr. Kempkey observes that no difficulty was experienced by the feet or prongs of the roller picking up and collecting material, although this point gave him some concern prior to the time that he had seen the rollers in operation. The carts and rollers were drawn by Caterpillar 60 tractors, of which there was a fleet of seventeen. The carts were supplemented by about thirty dump trucks which moved material on the longer hauls. Material was also handled by a Link-Belt conveyor, using an Emsco belt. The contractor employed equipment of his own make to spread material, and we find in this capacity three of his seven-yard scrapers, four bulldozers and two cowdozers.

Eight power shovels were employed and here again we find a record of unusual performance, the average daily output being about 1600 yards. The best average performance was over 1800 yards in three shifts. Various makes of shovels used were: P & H, Bucyrus, Kohering, Link-Belt and Northwest. Logs kept by the engineers show that it is necessary to allow from 10% to 20% "time out" for overhauling and repairing shovels on this



Moving material at average rate of 147 yards per hour, 2600-foot conveyor transports 90,000 yards to upstream portion of dam.



Dam is typical rolled-earth-fill structure with impervious upstream portion and pervious downstream section.

type of work. The logs showed this to be the case even on a "brand new" shovel.

Other equipment was made up of Rix and Sullivan air compressors, Rex and Multi-Foote concrete mixers, Lincoln welding machines, Buffalo welder, Fairbanks-Morse and Byron Jackson pumps.

The Santiago Creek Dam is located in Orange County, California, not far from the city of Orange. It was constructed by the Serrano and Carpenter Irrigation Districts and the Irvine Company. The expense of construction and the right to the use of water withdrawn were allocated in the same proportion—half to the Irvine Company and one-quarter to each of the irrigation districts. In addition, the Irvine Company furnished the site for the dam and 25,000 acre-foot reservoir, about 750 acres in all.

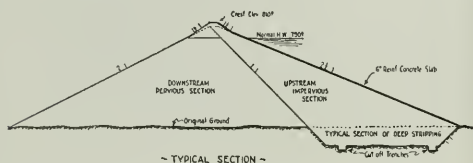
Preliminary field engineering was carried on under the direction of the Irvine Company. Preliminary surveying was complicated by trees and brush throughout the reservoir area, making it necessary to resort to triangulation in many instances. The surveyors succeeded, however, in running in a very accurate grid system, to which the entire job was tied in, and in addition prepared a contour map with a two-foot contour interval with plane tables.

The dam is 165 feet high from foundation to crest, rising about 130 feet above the stream bed. As the stream channel on which the dam is located traverses a highly developed and populous area below the damsite, the element of safety is of paramount importance. Extensive exploration of site selected showed it to be suitable for a structure of the earth-fill type, this type being the economic selection of the engineer. A satisfactory foundation



Seven-yard scrapers spread fill material on dam. Weight of earth-moving aids compaction of impervious fill, which is completed by twenty units of sheep-foot rollers.

of shale and sandstone was uncovered at about 35 feet below the stream bed and a spur of similar composition at each end of the site formed satisfactory abutments. The dam is built up from the foundation in two distinct sections. The downstream section forms the supporting mass and is constructed of pervious material. The upstream section is of highly impervious clay, rolled to a consistency which is absolutely water-tight. As is indicated in the accompanying diagram, the upstream section literally rests upon the downstream section, although both were placed at the same time, and there is no clear-cut



there will be no vertical crack of greater length than ten feet. There was no attempt to secure a bond between squares and reinforcing steel was not carried across joints. It is anticipated that the blocks will remain in intimate contact with the surface of the clay and by their dead-weight produce a dense and extremely water-tight skin on the clay. The concrete will also prevent wave action, and excessive scour caused by water following down cracks between joints will be prevented by the joints being staggered at ten-foot intervals. The fact that the joints between blocks are left without bond will prevent the formation of a layer of water between clay and concrete as the water level in the reservoir drops. When the water drops to extremely low levels after a cycle of dry years, the presence of the concrete blanket will prevent drying out and cracking of the clay mass in the upper portion of the structure.

The spillway for an earth-fill dam is one of the foremost considerations from the standpoint of safety. It must be adequate to rapidly carry off all water which accumulates after the reservoir has been filled to capacity for the reason that earth-fill dams are not designed to permit water to flow over the crest. Any such "over-topping" is almost certain to cause immediate destruction and release the water impounded in the reservoir. Paul Bailey determined for the Orange County Flood Control District that a runoff approaching 24,000 cubic feet per second might occur once in a thousand years from the 63 square miles tributary to the reservoir, which is double anything which might be predicated on existing records. The channel is designed to carry this amount of water while there is still a five-foot freeboard on the dam. If the water should rise to the crest of the dam, giving a freeboard of zero, it is calculated that the discharge would be as high as 37,000 cubic feet per second. As this is about 50% greater than the probable maximum flood for a period of a thousand years, it is safe to say that the channel will prove adequate in all cloudbursts which it is called upon to weather.

plane between them. What actually exists is a gradual transition from impervious to pervious material. It is necessary that the supporting section of the dam be built of highly pervious material, such as coarse gravel, in order that any water seeping through the impervious blanket may readily find its way clear through the dam. If this were not the case, such seepage would build up head within the structure and decrease stability. In placing the gravel for the downstream section, thorough compaction was necessary in order to eliminate future settling, as any slight sinking of this foundation section would tend to crack and weaken the upstream clay blanket. With this in view, that portion of the damsite forming the foundation for the pervious section was cleared of undesirable material, such as lenses of silt, which might weaken under the heavy load of the completed structure. The portion of the site supporting the impervious section was stripped of all material to a depth of 35 feet, at which depth firm, clean sandstone and shale were uncovered. Cutoff trenches 6 feet deep by 16 feet wide were cut into the bedrock along upstream and downstream edges of the area exposed, the trenches being filled with impervious material and thoroughly bonded to that section above.

The spillway of this structure cuts behind the western abutment, where a very favorable condition of rock exists. The spur forming this abutment contains three massive strata of sandstone which stand at an almost vertical angle and serve as an effective barrier between abutment and spillway. Uniformly hard shale backs up the sandstone strata and through this the channel was cut with considerable difficulty. The channel is lined with concrete and is about 300 feet long. At the bottom of the gulch it discharges into a waste channel of larger cross-section which is designed to act as a stilling basin and slow down the high velocity gathered in the descent from the crest of the dam.

During the exploration of foundations it was discovered that an old stream channel lay behind the massive sandstone spur forming the eastern abutment. This channel lay between the sandstone outcrop and the high hills further east, cutting underneath the ridge of high ground which, in this geologic age, connects outcrop and hills. Due to the massive proportions of the sandstone outcrop, no fear was held for the safety of the dam in case of leakage through this old channel, but it was felt that the loss of stored water might be considerable. In order to correct this economic hazard, the upstream section of the dam was carried beyond the eastern abutment, the continuation being built against a natural ridge which, as mentioned above, joins the sandstone outcrop to the range of hills to the east. As the impervious upstream section is carried down to bedrock throughout its length, this provides an effective seal for the former channel.

Material for the upstream section was obtained from a large clay deposit about 2000 feet upstream, while the gravel for the downstream section was available immediately adjacent to the damsite.

The upstream face of the dam is covered with a six-inch slab of reinforced concrete, poured in sections ten feet square. The vertical joints between these squares are "broken" with each successive horizontal row so that

Stored water is withdrawn from the reservoir by means of the concrete outlet tower which may be seen in the accompanying photos. The tower is located close to the upstream toe of the dam and connects with a 64-inch steel outlet pipe. This pipe is lined with a two-inch layer of vibrated concrete and is encased in a heavy reinforced concrete housing having a minimum thickness of 12 inches. Water stops are also placed at intervals along the housing. Under the pervious section of the dam, the outlet pipe was placed in a tunnel which was cut through the bedrock. This tunnel was backfilled around the pipe with concrete by means of a concrete gun. The outlet tower is about eight feet in diameter, with 24-inch walls. Standard Water Works valves with extension stems are provided at various elevations inside the tower to control the outlet.

The engineering personnel included D. W. Albert, resident engineer; Edward Taylor, A. C. Thomas, Al

Hooper and B. B. Packard, inspectors; H. L. Watson, M. S. Jones, R. Mansfield, Frank Bodard and R. J. Kadow, field and office engineers. Laboratory work was handled by Abbot A. Hank Co.

(Cuts used in connection with this article furnished through courtesy of "Construction Methods," New York, published by McGraw-Hill Co., Inc.)

OREGON STATE DOES NOT DEMAND BUILDING CONTRACTORS' LICENSE

There is no law in Oregon licensing building contractors. There is a law, however, licensing electrical contractors and another law licensing master plumbers.

Recently the Attorney General of Oregon ruled (see Pacific Constructor of August 1) that contractors from outside the State of Oregon must obtain a license to do business in that State when engaged on Federal work.

The Attorney General's ruling was the result of a claim made by Hallbauer-LaBahn, Inc., contractors for the Federal post office buildings at Astoria and Corvallis, that as its contract was for Federal Buildings it was, in effect, an agency of the Federal government and so not subject to taxation. As ground for his decision, the Attorney General cited the ruling of the U. S. Supreme Court in the Baltimore Shipbuilding and Drydock Company versus Baltimore, in which the report said that it is extravagant to say that an independent private corporation for gain, created by a state, is exempt from state taxation, either in its corporate person or its property, because it is employed by the United States, even if the work for which it is employed is important and takes much of its time.

The Attorney General stated that in view of the above the conclusion is obvious that Hallbauer-LaBahn, Inc., should qualify as a foreign corporation to do business within the State.

The opinion rendered by the Attorney General covers the corporation tax only. The State law provides that every foreign corporation must qualify before they can be permitted to do business in Oregon State and must pay a license fee, and that applies to contractors engaged in Federal work in Oregon State as well as to any other foreign corporations. The laws licensing electrical contractors and master plumbers do not apply to Federal jobs. If the corporation's activities in Oregon State are confined exclusively to Federal jobs, they do not have to take out these licenses. If, however, they go into the general contracting business then they will have to take out a license. These licenses are for the purpose of guaranteeing that the contractor will complete his work according to State codes regulating plumbing and electric wiring.

The license fees are appropriated for inspection purposes, and all installations, both electrical and plumbing, are inspected by the State Bureau of Labor. This, however, does not apply on Federal jobs. The State laws and regulations do not apply in Federal government work and for that reason the State Bureau of Labor has held that contractors on Federal jobs do not have to take out licenses because the bureau has no supervision over the installation.

GAS TAX FOR ROADS ONLY—Concentration of all gas-tax money on highway work alone and a reduction of the gas tax from four to three cents is proposed by the Gasoline Taxpayers Association of Colorado. The association would include this in a constitutional amendment.

QUARTERLY MEETING IS HELD BY ALAMEDA COUNTY CHAPTER

Prevailing wage scales, convict labor, government in business and recent legislation adopted in Washington, were topics of discussion at the quarterly meeting of Alameda County Chapter, Associated General Contractors of America, in Oakland on the evening of August 9. The meeting followed a dinner at the Womens City Club.

S. G. Johnson, president of the Chapter, presided.

The meeting opened with a discussion to secure state aid to the extent of \$500,000 to assist in financing the construction of the Alameda-Contra Costa County tunnel project. It is proposed that the state appropriate one-half million dollars from the \$4,670,000 Federal aid funds recently provided by the Government. To further this project, Wm. E. Lyons, chairman of the Promotion of Construction Committee and Bert Harmon, were appointed a committee to represent the Chapter at the next meeting of the Board of Supervisors to secure the county's aid in putting the matter before the state authorities.

Lyons, a past president of the Chapter, deplored the encroachment of convict labor upon that of free labor. He cited a condition existing in the operation of convict labor camps of California.

"It is interesting to note," said Lyons, "that the average cost per cubic yard for each yard of excavation for 1931 was \$.547 and for 1932 to date is \$.516. There are very few contract jobs going at any such price at this time. In fact, it is doubtful if there are any contracts carrying a yardage cost equal to that of the most costly of the convict camps. The latest State report indicates the cost of the work at Indian Basin camp to be \$.82 per cu. yard. On going contracts excavation prices vary from \$.18 to \$.46 which compare very favorably with the convict camp average of \$.516 and \$.547. Of further interest is the fact that two-fifths of the personnel in the camps are free men.

"Just recently," Lyons continued, "the State Department of Public Works purchased six new power shovels for use in these camps at a cost of \$104,578. In 1931 approximately 2,500,000 yards of material were moved. In 1932 the first five months show yardage in excess of 1,000,000 and with the new shovels available, the current year will probably show a higher yardage than in the previous year."

Pre-Qualification without political cooperation is good for the industry, Lyons declared. He deplored the present operation of the prevailing wage law and the proposed unification of contract awarding bodies under the Federal government. In closing, Lyons protested the entry of government in business and cited the recent award of the City and County of San Francisco to its own construction crews for the completion of the Hetch Hetchy tunnel project in competition with private construction organizations.

Chas. G. Johnson, state treasurer, introduced by S. G. Johnson, Chapter president, outlined the financial status of the state government and cited various proposals advanced to divert the gasoline tax funds for purposes other than the construction and maintenance of highways.

Albert E. Carter, Congressman of the Sixth District, introduced by William Thornally, general contractor on the Alameda Post Office, outlined the situation in Washington as it affects the construction industry. He cited the Emergency Relief Bill and the Home Loan measure and the fight to put these bills through. Congressman Carter deplored the entry of Government in business and expressed his desire to see the elimination of convict labor in connection with federal projects.

Purchasing Power of Automotive Industry Cited By Truck Owners

THE tremendous purchasing power of the automotive industry, as exemplified in the fact that in 1931 it ranked first among consumers of twelve basic American commodities, is cited in figures compiled by Allied Truck Owners, the California motor truck chamber of commerce, in collaboration with the National Automobile Chamber of Commerce.

The statistics gathered by Allied Truck Owners, whose primary purpose is to further the interests of its members by stabilization of all phases of the industry without discrimination, reveals that in consumer leadership, the automotive industry last year made purchases as follows:

Steel or iron strips, 60.3 per cent of the total; bars, 29.7 per cent; sheets, 29 per cent; malleable iron, 54 per cent; alloy steel, 72 per cent; gasoline, 85 per cent; rubber, 81.6 per cent; plate glass, 60 per cent; nickel, 32 per cent; lead, 35.8 per cent; mohair, 28 per cent; upholstery leather, 51 per cent.

The automotive industry for manufacturing and repairs used 2,950,000 gross tons of finished rolled steel of 16 per cent of the aggregate production; 210,000 tons of malleable iron; +66,450 tons of gray iron; 282,782 long tons of rubber; 52,200,000 square feet of plate glass; 510,000,000 board feet of hardwood lumber; 14,425,000 square feet of upholstery leather; 14,000 tons of aluminum; 73,600 tons of copper; 8,000 long tons of tin; 147,300 tons of lead; 27,000 tons of zinc; 8,000,000 pounds of nickel; 412,200 bales of cotton; 5,000,000 pounds of mohair.

In addition the industry bought 88,300,000 board feet of softwood lumber; 24,800,000 yards of upholstery cloth; 9,250,000 yards of top and side curtain material, 9,560,000 gallons of paint and lacquer and 31,680,000 pounds of hair and padding.

Of the total domestic consumption of gasoline in 1931 which was 16,945,110,000 gallons, the automotive industry bought 14,400,000,000 gallons. Of the total gallons of lubricating oil—this was 842,730,000 gallons,— the automobile industry used 450,000,000 or 53 per cent. It bought and used 35,000,000 gallons of antifreeze solution and 86,600,000 linear feet of brake lining.

No attempt was made to estimate quantities of raw materials bought by the industry, including gold, silver, vanadium, celluloid, silk, hemp, machine tools, asbestos, dyes, tanning materials, platinum and chamois.

But in going over the figures of automotive employment, Allied Truck Owners ascertained that 9½ per cent

of the "gainful workers" in the United States last year was employed by the industry; that a total of 3,110,464 directly employed by the industry truck bus, taxi and private chauffeurs and 350,000 dealers and salesmen handling motor vehicles, parts accessories and tires and 410,000 in garages and repair shops. The total number of persons indirectly employed by the industry, such as lumber and wood workers and manufacturers of miscellaneous raw materials, was 920,000.

Other interesting disclosures made by the statistical table brought out that 26 per cent of all the trucks in the United States are owned by farmers; that in California the percentage is 19.1, with a total farm-owned registration in excess of 45,000; that automobile group retail sales in California in 1929 totaled \$770,095,946 or 23.6 per cent of all retail sales; that automotive wholesalers in 1929 transacted \$2,255,000,000 in sales or 3.2 per cent of all wholesale business of the nation. California was above the average in this bracket with automotive wholesale business totaling 3.85 per cent of all the wholesale business in the State that year.

In pointing out salient facts of the automotive industry, of which the motor truck industry is an integral part, Allied Truck Owners is frankly endeavoring to emphasize the industry's importance commercially to State and Nation. Reviving the platitude that a chain can only be as strong as its weakest link, the organization has expressed concern over impending hostile legislation in California against the trucks and President Walter J. Wilkinson, past president of the State Branch of the Associated General Contractors, has asserted that any attack upon the trucks, if successful, will wreak a hardship on the automotive industry as a whole.

The non-profit, non-stock alliance is in sympathy with any Statewide program tending toward supervision of the use of the highways that does not entail strangulation or confiscation and it is conducting a program among its members, numbering many thousands, to the end that good will on the part of the general public and governmental authorities will be created.

SMITH BROS. TRUCK CO.

"TRANSPORTATION SPECIALISTS"

Portable Crane Service—Rigging

1704 E. 16th St. Los Angeles WEsmore 3271

COLTON CEMENT



Uniform Quality : Service : Satisfaction

Manufactured by

CALIFORNIA PORTLAND CEMENT COMPANY

1228 PACIFIC MUTUAL BUILDING

Mills at Colton, California

TR. 1271

Los Angeles

S. F. Bay and G. G. Bridge Projects Scheduled For Early Construction

SAN FRANCISCO BAY BRIDGE

THE \$75,000,000 San Francisco transbay bridge to-day stands approved in final design.

The Consulting Board, which includes several of the world's most eminent bridge engineers, adjourned last

Friday after approving final plans, specifications and contracts as presented by Chief Engineer Charles H. Purcell and his staff. The Consulting Board includes Ralph Modjeski, Daniel E. Moran, and Leon S. Moisseiff of New York, in addition to Charles Derleth, Jr., dean of the College of Engineering, University of California, and H. J. Brunnier, Consulting Engineer of San Francisco.



C. H. PURCELL

Completion of details of the fiscal set-up for the bridge will result in an immediate trip to Washington by a committee of representatives of the bridge Financial Advisory Committee, appointed by Governor James Rolph, Jr., and Chief Engineer Purcell. In Washington the committee will present final plans, specifications and the fiscal details to the Reconstruction Finance Corporation. A formal application signed by Colonel Walter E. Garrison, State Director of Public Works, is now on file with the Corporation.

Federal financing for this structure appears certain in view of the fact that the project complies in every possible way with the requirements of the Corporation.

The bridge will give employment to 6,000 local men

for a period of three years and a half, and to an equal number in various industries throughout the country.

Bids for the construction of the sub-structure, West Bay Crossing of the San Francisco-Oakland Bay Bridge, involving the construction of five piers under Contract No. 2, will be asked by the State Department of Public Works in about two weeks. The cost of this unit is estimated at \$8,000,000 and will involve in the main:

- 270,000 cu. yds. caisson work;
- 10,000 cu. yds. additional caisson work;
- 50,000 cu. yds. concrete seal;
- 22,000 cu. yds. concrete foundations Pier 2;
- 24,000 cu. yds. concrete pier shafts and fenders;
- 32,500 cu. yds. concrete superstructure Pier 4;
- 1,500,000 lbs. reinforced steel above foundations;
- 140,000 lbs. structural steel above foundations;
- 1,000,000 M.B.M. timber in fenders;
- 85,000 lbs. timber fastenings;
- 4,200 lin. ft. creosoted piling.

GOLDEN GATE BRIDGE

The Southern Pacific-Golden Gate Ferries, Ltd., and its largest stockholder, the Southern Pacific Company, has abandoned opposition to construction of the Golden Gate bridge for which bonds of \$35,000,000 were voted to finance. Negotiations are now under way with the Reconstruction Finance Corporation to have that body advance the money to finance this structure.

Bids for the construction of this bridge were opened in June of last year and conditional awards were made on seven contracts. Low bidders on these units have expressed their willingness to renew options on their bids and "even consider adjustments, although previous options expired on July 16."

The low bidders on the seven conditional contract awards follow:

Steel Superstructure—McClintic-Marshall Co., San Francisco, \$10,494,000.

Cable, Suspenders and Accessories—American Cable Co., San Francisco, \$6,255,767.

Main Piers—Pacific Bridge Corp., Portland, Ore., \$2,260,000.

Anchorage—Barrett & Hilp, San Francisco, \$1,645,841.

San Francisco and Marin Approach Spans—Columbia Steel Co., San Francisco, \$996,000.

Sausalito Road—Granfield, Farrar & Carlin, San Francisco, \$67,586.

Electric Work—Alta Electric and Mechanical Co., Inc., San Francisco, \$142,460.

Bids on the four remaining contracts were rejected, these being:


Construction of Presidio Road—Barrett & Hilp, San Francisco, low bidder at \$966,180.

Paving Main Approach Spans—Barrett & Hilp, low bidder, \$345,000.

Cable House and Toll Terminals—Barrett & Hilp, low bidder, \$71,430.

New bids will be asked on these three units.

Five identical bids received to furnish 100,000 barrels of Portland cement were also rejected and this material will probably be purchased in the open market.



Super Concrete Emulsions

Limited

—for Better Concrete

46th Ave. and
Clement St.
Oakland, Calif.

3710 S. ALAMEDA ST., Los Angeles
District Offices
308 Stock Ex. Bldg.,
Portland, Ore.

216 Walker Bldg.,
Seattle, Wash.

Pacific Clay Products

General Offices: 650 Chamber of Commerce Bldg.,
1151 SOUTH BROADWAY
Los Angeles, Calif.

**WASHINGTON STATE HIGHWAY
BODY SETS 30-HOUR WAGE SCALE**

Washington state unemployment relief projects will carry a provision limiting employment of labor to 30 hours per week per individual and specifying a minimum wage scale for all labor, according to notices issued by Samuel J. Humes, state director of highways. The minimum wage schedule follows:

| | Per hour |
|------------------------------|----------|
| Blacksmith | \$0.75 |
| Blacksmith's helper | .50 |
| Blademan | .60 |
| Carpenter | .75 |
| Cat driver | .60 |
| Compressor man | .60 |
| Concrete finisher | .60 |
| Concrete man | .50 |
| Crusher man | .75 |
| Dragline operator | .75 |
| Donkey engine operator | .75 |
| Driller | .60 |
| Dumpman | .50 |
| Gas engine operator | .75 |
| Oiler | .75 |
| Painter | .75 |
| Pit man | .50 |
| Powder man | .75 |
| Pump man | .60 |
| Roller man | .60 |
| Shovel runner | 1.00 |
| Slope man | .55 |
| Steel sharpener | .75 |
| Team without driver | .30 |
| Truck driver | .60 |
| Unskilled labor | .50 |

Maximum board to be charged shall not exceed \$1.00 per day per individual.

DEATH SUIT FILED—Damage suit of \$20,150 has been filed by the State Department of Public Works, Division of Highways, against Henry Burns, the Hanrahan Company and Volpe Brothers for the death of Norman S. Hamilton on September 14, 1931, according to the San Luis Obispo Telegram. Death benefits of \$5000 and expenses of \$150 have already been paid to the widow, Mrs. Beatrice Hamilton, through the State insurance fund and the public works department asks this as part of \$15,000 damages for the widow of their employe. Hamilton was killed when a truck of the defendants backed into him on the state highway near Santa Margarita, the complaint points out.

**MOST FEEDER ROADS YET TO
BE CONSTRUCTED, SAYS CUTLER**

The progress made in building the system of main highways of the United States has not been duplicated in the feeder roads that serve the main highways, declares T. H. Cutler, president of the American Road Builders' Association. He believes there is a tremendous task of road building ahead.

"Just as the trunk of a tree will not survive without branches and twigs, similarly the feeder roads are essential to the proper functioning of our highway system," he stated. "Completion of the main roads is just the beginning of the ultimate highway system.

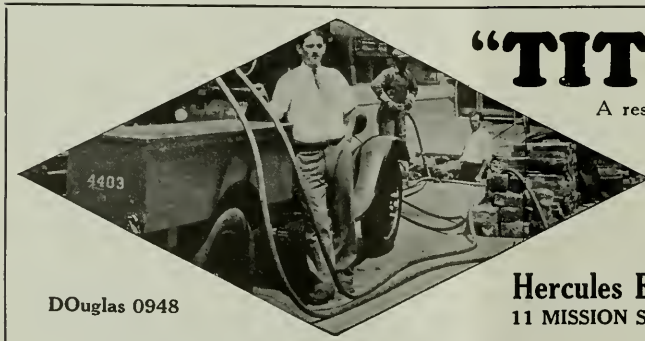
"What work remains to be done on routes that must be provided to care for the highway system? Additional routes must be provided to care for unusual traffic conditions. Many routes must be widened. Safety features must be built into existing roads. Belt lines must be built. Pavements built years ago to fit traffic conditions then existing must be reconstructed. Gaps in the main system must be filled in. All this work and more remains to be done on the main systems besides the work of meeting unpredictable changes and improvements in motor vehicles.

"Many localities are not adequately served with feeder roads that can be traveled at all seasons of the year with economy, comfort and safety. These inadequate feeder roads must be surfaced so that the loads hauled on main highways can be carried over the feeders without reducing the loads or damaging the vehicles.

"Highway transportation is going through much the same cycle of development as railroad transportation. Lines built to connect population centers are joined to form main trunk lines. The main trunk lines are served by branch lines or feeders so that commodities and passengers can be hauled economically, comfortably and safely into all parts of the country.

"In the early days railroads were built single track. Now many of them have multiple tracks to care for the traffic. Similarly, single track highways built in the early days are becoming multiple track lines to provide for the traffic."

CONCRETE PAVING IN MAY—The Portland Cement Association announces that a total of 10,359,684 square yards of concrete paving was awarded during the month of May, bringing the total for the first five months of the year to 33,231,761 square yards. About 90 per cent of the yardage has been for roads, the other 10 per cent being streets and alleys.



Douglas 0948

"TITAN"

The Air Hose
With the
Red Cover

A responsible hose that resists extreme external wear . . . An oil-proof rubber tube that remains intact after hours of exposure to lubricating oils.

A fabric construction that carries a safety factor of five-to-one in pressure resistance.

Hercules Equipment & Rubber Co.
11 MISSION STREET SAN FRANCISCO

State Highway Projects To Be Recommended To Legislature

THE California State Highway Commission has completed its study of state highway conditions and needs and is prepared to submit the data at the next session of the Legislature for inclusion in the Secondary Highway System.

Recommendations to be submitted the commission comprise 31 projects, 12 in the northern counties of the state and 19 in the southern counties, with one overlapping unit divided between the north and the south.

In making their selection of roads to be taken over the Commissioners faced an exceedingly difficult task, being bound by mandate of the Legislature to confine their recommendations to a total not exceeding 15 per cent of the State secondary mileage as it existed on January 1, 1931.

This limitation permitted the addition of only 345 miles to be divided between the north and south as provided by the Legislature "in a ratio of not less than three nor more than four miles in the south to one in the north" which allowed 86 miles for the north and 259 miles for the south.

In announcing the Commission's final decision, Chairman Earl L. Kelly said:

"The problem of making 4829 miles of road for which application has been made for inclusion in the State highway system, adjust itself to 345 miles as allowed by law has been no easy task.

"Months of arduous work on the part of the Engineering Department of the Division of Highways, and weeks of conferences and meetings of the members of the Highway Commission have resulted in recommendation of 86 miles of road for the northerly 45 counties of our state, and 259 miles for the southerly 13 counties.

"These roads will be presented by the Commission to the 1933 Legislature with a recommendation that they be included as a part of the state secondary system in accordance with Senate Concurrent Resolution No. 10. Due to the larger existing mileage in the northerly 45 counties, the Commission has recommended a ratio of 3 to 1; in other words, to equalize the mileage between the northerly and southerly portions of the state, the Commission has recommended that 3 miles be taken in for the southerly 13 counties for each mile included in the northerly group of counties as defined by the Breed Bill.

"Many roads of approximately equal merit, but of lengthy mileage should be a part of the State Highway

System. In these cases we have recommended that a definite start be made, and that a portion of these roads should be included in the California Highway System.

"The following list as submitted represents an honest and sincere effort to recommend only such roads as qualify from a scientific engineering study and analysis, and which will tend to develop the California Highway System on a parity comparable to that of any State in the Union:"

Mendocino County State Highway Route 48, Navarro River to near Mendocino, 10.3 miles.

Contra Costa County Walnut Creek to Willow Pass, 9 miles.

Madera County Near Bates Station to Coarse Gold, 18 miles.

San Benito County San Juan Bautista to State Highway Route 2, 2.5 miles.

Monterey County Salinas-Castroville Road near Castroville to State Highway Route 2 near Prunedale, 5 miles.

Napa County State Highway Route 49 near Calistoga to St. Helena, 8 miles.

Solano County State Highway Route 7 near Vacaville northerly, 5 miles.

San Mateo and Santa Clara Counties State Highway Route 55 to Portola Road Junction, 6 miles.

Lake County State Highway Route 49 near Middletown northwesterly toward Cobb Mountain, 7 miles.

Tuolumne County State Highway Route 40 near Moccasin Creek southeasterly, 4 miles.

San Mateo County San Mateo to State Highway Route 55, 3.2 miles.

Kings, Kern, and San Luis Obispo Counties State Highway Route 33 in Cholame Valley to Coalinga-McKittrick Road, 8 miles in the north and 11 miles in the southern section.

Los Angeles and Orange Counties State Highway Route 60 near Hermosa Beach to State Highway Route 43 in Santa Ana Canyon, 26 miles.

Los Angeles County State Highway Route 60 near Mines Field to State Highway Route 4 near San Fernando, 2 miles.

Los Angeles County State Highway Route 60 near Long Beach and Seal Beach to State Highway Route 9 near Lamanda Park, 27 miles.

Ventura and Santa Barbara Counties State Highway

NOrmandie 4303

NOrmandie 7715

LEO HONEK

EXCAVATING CONTRACTOR
CONCRETE PAVEMENT BREAKING

Compressed Air Equipment

2941 Denby Avenue

Los Angeles, Calif.

SKELETON BOOKKEEPING

Keeps your records at practically no cost. Start and stop any time. Always up to date. Especially for material wholesale and retail. We do the work. No business too small.

PARDEE SYSTEMS

503 Market Street

DOuglas 6435

Contractors Machinery Exchange

Rentals a Specialty

1135 - 57th Avenue

OAKLAND, CALIF.

FRuitvale 0715

Route 2 near Rincon Creek to Ojai Valley via Casitas Pass, 18 miles.

Orange County State Highway Route 2 near Miraflores to Norwalk, 11 miles.

San Bernardino County State Highway Route 9 near Etiwanda to State Highway Route 31 in Cajon Canyon, 12 miles.

Los Angeles and Orange Counties State Highway Route 60 near Long Beach and Seal Beach to Santa Ana, 12 miles.

San Bernardino County South side of Big Bear Lake connecting State Highway Route 43, 4 miles.

Kern County State Institution to State Highway Route 58 near Old Town, 7 miles.

San Luis Obispo County State Highway Route 56 near Morro Beach to State Highway Route 2 near Atascadero, 16 miles.

San Diego County Oceanside to State Highway Route 77 near Bonsall, 8.3 miles.

Imperial County State Highway Route 26 near Brawley to Niland-Mecca Road, 20 miles.

Riverside County State Highway Route 26 near Whitewater to Palm Springs, 9 miles.

Orange County State Highway Route 60 near Huntington Beach to State Highway Route 2, 20 miles.

Orange County Anaheim to State Highway Route 43 near Olive, 4 miles.

San Diego County Silver Strand State Park to State Highway Route 2, 6 miles.

Los Angeles and Orange Counties Los Angeles near Compton to State Highway Route 2 near El Torro, 29 miles.

Tulare County State Highway Route 10 near Merryman to Tipton-Strathmore Road, 15 miles.

San Bernardino County State Highway Route 43 to Lake Arrowhead, 1.7 miles.

Total North, 86; total South, 259; grand total 345.

CULVERT CONDITIONS SURVEYED—Something new in manufacturers' catalogs has been introduced by the Armc Co. Culvert Manufacturers' Association, Middletown, Ohio. The new publication is entitled "The Truth Book" and reports the result of a country-wide survey of the present conditions of a large number of culverts of different types and built of different materials. The survey covered more than 2000 drainage structures in twenty-six States. The ages of the culverts examined were from ten to twenty years. Each culvert on the route selected was carefully examined and a photograph was taken. The result of the examination and the photographs were then mounted in a large folio to form "The Truth Book." In addition, the book shows the results of comparative durability studies on some 12,734 culverts of all types from four to twenty years old. Seventy-six per cent of these culverts were inspected by State highway engineers. These surveys were more detailed than the local trips, and the results were obtained by mathematical ratings.

FOR SALE...

110 Horsepower Diesel Engine
at a Bargain

United Commercial Co., Inc.

234 Stuart Street

San Francisco

TOLL BRIDGE EARNINGS—The annual statement of the American Toll Bridge Company, filed in Martinez, reveals that the Carquinez bridge, spanning the straits between Vallejo and Crockett, had tolls of \$1,152,297.04, and that the Antioch span's tolls were \$157,759.21. Income from sources independent of tolls amounted to an additional \$20,278.97. There will be no dividend for the year, the report said. Expense of labor, hire of agents and other costs necessary to conduct of the business total \$571,364.79 for the Carquinez bridge and \$134,770.74 for the Antioch bridge. Total costs of construction and erection of the two bridges, the report said, were \$8,881,261.72 for the Carquinez and \$1,733,051.89 for the Antioch bridge. Repairs during the past year cost \$5,883.71 and \$285.19, respectively. Repairs since the bridges were constructed cost \$7,548.59 and \$1,111.14.

COMPENSATION RATES INCREASED—Effective July 1, nearly all classes of construction compensation insurance rates were increased by the Ohio Industrial Commission. Rates on general building construction, with the exception of steel workers, have been increased from \$3 to \$4 per \$100 payroll. Steel workers' rates jumped from \$13 to \$15. Residence construction rates increased from \$1.80 to \$2.20. Rates on carpenters on form work were raised from \$3 to \$3.50. The increase on street and road workers was \$1, now being \$5. Other increases were: cement gun workers, \$4 to \$5; concrete bridge laborers, \$7 to \$9; plumbers, \$1.10 to \$1.20; masons on buildings, \$4.50 to \$6.

Cypress Lawn Memorial Park

COLMA, SAN MATEO CO., CALIFORNIA

Executive Office—995 Market St., San Francisco



VIEW OF NEW MEMORIAL COLUMBARIUM
(Largest and most beautiful Columbarium ever erected)

WE HAVE FACILITIES FOR:

Earth Interment Cremation
Mausoleum Entombment Columbarium Inurnment

Cypress Lawn is adequately protected by a
PERPETUAL CARE FUND.

"VISIT CYPRESS LAWN MEMORIAL PARK"

CO-OPERATIVE CONSTRUCTION CREDIT

CONSTRUCTION INDUSTRIES' CREDIT BUREAU

(A non-profit, membership owned and operated association affiliated with the National Association of Credit Men)

333 MONTGOMERY STREET, SAN FRANCISCO

F. H. Eichler, Chairman

A. J. McGarry, Mgr.

R-r-r-r-ring!!

Mack: "Hello, this is McGarry speaking."

Jim: "O, Mack, this is Jim Early. I just read your article in the last issue of the Pacific Constructor."



J. H. EARLY, Credit Manager,
Truscon Steel Co.; Member Con-
struction Industries' Credit
Bureau Committee

Mack: "Yeah? What did you think of that article, Jim?"

Jim: "Fair, Mack, as far as it went; but, tell me what are those other factors you mentioned which determine how much you can afford to sell?"

Mack: "Well, Jim, remember that I described the variety of influences which affect the ability of a contractor to pay on the goods that he purchases. I pointed out that you must determine his knowledge of building, his past performances as regards liens, manner of paying bills, material bonds and his ability to figure his estimates and costs correctly."

Jim: "Yes, I remember that, Mack."

Mack: "But the contractor is only one-third of the problem. Granted that he is ace high, still that is not sufficient. There are other factors beyond his control which affect the balance of that business machine that I described as a phonograph."

Jim: "That was a rather unusual comparison you made, Mack; but I get the idea all right."

Mack: "I'm glad of that, Jim; but to get back to the thought I was expressing, in the long run a contractor is not a profitable customer for you unless he makes a profit and his ability as a buyer to pay you therefore depends upon:

"(1) Certain characteristics of the owner or speculative builder;

"(2) The financial set-up of the whole job."

Jim: "Just what do you mean by that, Mack?"

Mack: "I mean: who holds title to the property to be built on? Have you had a property search to confirm ownership and unencumbrances? Do you know how the owner's past jobs have turned out? Have actions been filed against him? If the owner is building for sale, what is his record on successful promotion of building jobs? Does the promoter know the building business? Is he putting any of his own money into the deal?"

Jim: "That is mighty important, Mack, and I'm glad you brought that up."

Mack: "Yes, all of these points have definite bearing on whether the job is to turn out profitably, and you can-

not afford to gamble that a contractor or any other individual is going to check them up for you."

Jim: "I agree with you there, Mack."

Mack: "You can play hide-and-seek in the technicalities of construction financing almost indefinitely trying to find out whether the various firms and individuals concerned are responsible, yet you must of course know definitely that every detail is satisfactorily taken care of before you can be certain of the even flow of funds to cover every phase of the job."

Jim: "Go on, Mack, I'm mightily interested."

Mack: "How about bonds? Is the job fully covered by both labor and material bonds, and lien and completion bonds? Is the mortgage or loan company and the surety company of high standing and fully able, according to past records, to carry out their functions satisfactorily? Do they co-operate in getting bills paid? Has joint control been required by the financing agency?"

Jim: "I see what you are getting at, Mack; that joint control often indicates the lender's doubt as to the borrower's competence."

Mack: "Exactly, Jim; and satisfactory answers to these questions mean the difference between good and bad credit. They are every one a potential source of trouble or a guarantee that you make money on the job without worry."

Jim: "I follow you, Mack. We suppliers are the ones most vitally interested in complete details. We are the ones who have a lot at stake in selling. Using your own simile, it isn't like having the phonograph run wild; that just hurts the ears. The music we get from selling without gauging as to our buyer's ability to pay is the clanging discord of red figures that do a 'ring-around-Rosie' on our pillow at night. But what is the answer to all this?"

Mack: "The solution is clearly to have some form of perfected control of credit for the whole group of construction industries; some source of securing all pertinent information on every job you sell; up-to-the-minute data on contractor, owner or promoter and financial set-up. Such control enables you to use your own judgment as a business executive with greatest effect, unhampered by lack of accurate information, and thereby to measure unerringly the profit value of every single sale."

Jim: "Using your own words, it is to balance our sales to our buyer's ability to pay."

Mack: "Right again, Jim, and our Construction Industries' Credit Bureau has been organized to compile, record and disseminate among its members just such data. We are in a position to furnish information on the credit standing, responsibility and paying habits of corporations, firms and individuals engaged in manufacturing, financing, distributing or contracting enterprises connected with construction. To carry on this work our Bureau maintains a number of regular services, and in future issues of the Pacific Constructor I am going to describe these services at some length."

Jim: "I think that would be a good idea, Mack, and thanks for the above information."

Mack: "That's okay, Jim. I'll be seeing you."

Approximate Apportionment of Road Funds in 11 Western states as provided for in Federal "Relief" Legislation

| State | Federal Aid Emergency Construction | National Forest Highways | National Park Roads | Indian Reservation Roads | Public Lands Highways | Sub-Total Road Funds | Imp'v'm'ts National Forests | Grand Total |
|------------|--|--------------------------------|---------------------------|--------------------------------|-----------------------------|----------------------------|-----------------------------------|-------------|
| Arizona | \$1,762,636 | \$348,000 | \$131,640 | \$258,000 | \$284,700 | \$2,784,976 | \$378,000 | \$3,162,976 |
| California | 4,669,711 | 830,000 | 350,000 | 31,000 | 157,600 | 6,038,311 | 845,000 | 6,883,311 |
| Colorado | 2,255,281 | 398,000 | 410,000 | 25,000 | 89,000 | 3,177,281 | 146,000 | 3,323,281 |
| Idaho | 1,508,485 | 614,000 | 210,000 | 53,000 | 119,200 | 2,504,685 | 737,000 | 3,241,685 |
| Montana | 2,525,108 | 480,000 | 450,000 | 100,000 | 112,500 | 3,667,608 | 235,000 | 3,902,608 |
| Nevada | 1,578,025 | 111,000 | | 23,000 | 402,700 | 2,114,725 | 29,000 | 2,143,725 |
| New Mexico | 1,962,340 | 244,000 | | 113,000 | 175,600 | 2,494,940 | 270,000 | 2,764,940 |
| Oregon | 1,996,128 | 773,000 | 250,000 | 33,000 | 132,200 | 3,184,328 | 490,000 | 3,674,328 |
| Utah | 1,387,190 | 199,000 | 145,000 | 6,800 | 223,400 | 1,961,390 | 126,000 | 2,087,390 |
| Washington | 1,905,627 | 427,000 | 410,000 | 156,700 | 37,800 | 2,937,127 | 358,000 | 3,295,127 |
| Wyoming | 1,540,811 | 264,000 | 393,360 | 15,000 | 192,100 | 2,405,271 | 110,000 | 2,515,271 |

**HETCH HETCHY ROAD FUNDS
ORDERED FORWARDED BY S. F.**

Edwin G. Cahill, manager of the Public Utilities Commission of the City and County of San Francisco, has instructed City Controller Leonard Leavy to draw a warrant for \$250,000 and forward it to Secretary of the Interior Wilbur to finance the construction of roads and trails in the vicinity of the Hetch Hetchy project. The work will be done under regular contracts through the U. S. Bureau of Public Roads.

The money is available from the Hetch Hetchy bond issue recently sold. In addition, the city will have to build roads and trails costing \$1,000,000 over a period of years.

MONTANA ADOPTS RULES—Workmen on construction projects let by the Montana Highway Commission are to be guaranteed a five-day week and six-hour day under regulations adopted by the State Highway Commission, James H. Rowe, member of the commission, announces. Wages, Rowe said, will be 50 cents an hour for common labor and higher for more skilled workers. Constructors are limited to a charge of \$1 for board and room. Not more than three non-residents of Montana will be permitted to work on any one contract and the contractors will be bonded to insure performance of the commission's regulations. Rowe explained that the purpose of the regulations is to assure as many jobs as possible, to make certain that they will be occupied by Montana citizens and to protect the laborers from any unscrupulous contractor.

NEW MEMBERS—The East Bay Glass Co., Pacific Portland Cement Co. and the Henry Cowell Lime and Cement Co. have joined Alameda County Chapter, Associated General Contractors of America, as associate members. The East Bay Glass Co. will be represented by Guy Sanders, for many years with W. P. Fuller Co. and since 1925 associated in business with Joseph L. Baiocchi, with whom he founded the present East Bay concern. Pacific Portland Cement Co. will be represented by Walter N. Innes, East Bay manager for the concern. Henry Cowell Lime and Cement Co. will be represented by C. E. Bresee, manager of the Oakland retail branch.

ADOPTS WAGE SCALE—A new wage scale to apply on county construction has been adopted by the Shasta County Supervisors. The per diem scale, effective July 1, follows:

| | |
|-------------------------|--------|
| Laborers | \$3.00 |
| Shovel Men | 5.00 |
| Grader Men | 4.00 |
| Road Foremen | 5.00 |
| Tractor Drivers | 4.00 |
| Bridge Laborers | 3.00 |
| Compressor Men | 4.00 |
| Bridge Carpenters | 6.00 |

CITY HIGHWAY MAINTENANCE—The proposal to have county boards of supervisors, now given jurisdiction over county allotments of gas tax funds, take over the building and maintenance of main highways through cities has been discussed with City Manager C. B. Goodwin of San Jose by Gordon L. Whitnall, secretary of the League of California Municipalities, and Jean L. Vincenz, commissioner of public works of Fresno. The proposal will be submitted for general discussion at the annual convention of the league to be held in the south in September. Several other groups besides the league are considering sponsoring such legislation at the next session of the legislature. Vincenz has the distinction of designing and putting into operation the first traffic circle on an efficient operating scale in California. This is the new traffic circle in Fresno.

STEEL SHEET PILING—Bethlehem Steel Corporation announces that Lackawanna steel sheet piling, which it has been manufacturing for years, will in the future be designated as Bethlehem (Lackawanna) steel sheet piling. Effective May 1, the sale of this product will be handled by Kalman Steel Corporation, a subsidiary of the Bethlehem Steel Corporation. The Kalman Steel Corporation will also engage in the repurchase and resale of used steel sheet piling. The Pacific Coast Steel Corporation will handle this product in a like manner on the Pacific Coast.

Phone TRinity 0241 for —
Rock-Sand-Gravel-Plaster
Cement-Mixed Mortar-Stucco
Lath-Lime Putty-Reinforcing Steel

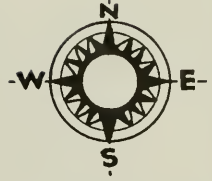
**Consolidated Rock
Products Co.**

656 S. Los Angeles St.

Los Angeles, Calif.



Here To There And Back Again



A Toast to Mothers

To Helen C. M.

*I rise to state a fact:
It's my contention
That newborn babies get
too much attention.
With smart layettes and gifts
of earnest choosing,
Their advent here—to them—
must be confusing.*

*OF COURSE they'd think that they're
the chief attraction
That's driving everybody
to distraction.*

*'Tis thus that egotists are made
aborning
And live to drive whole families
into mourning.*

*I move—(Is there a second to
my motion?)—
That we eliminate all
such commotion,
And in the future pledge
allegiance hearty
To HER—the hostess at this
little party.
To Her the gifts, to Her the
warm caresses,
And all the pride a glowing
love expresses.*

*If She rebelled, despite all family pow-wows,
The doggoned race would go right to the bow - wows.*

*So here's to Her! Our cheers the
skies will shatter!
(The baby is a
secondary matter.)*

—G. S. W.

NOTE: In the issue of June 15, there appeared a tribute to all Fathers.

While Contractors subscribe to this magazine, it seems their secretaries read it—and we have a query, (gentle, but Oh, so keen!) asking if Woman has no place in the General Scheme of Things.

"G. S. W." got us into this argument, and we rely upon the genius of her gifted pen to get us out!



PACIFIC CONSTRUCTOR

J. P. FARRELL, Editor S. P. McCASLAND, Assoc. Editor
 Am. Soc. C. E.

Consolidated with
BUILDING AND ENGINEERING NEWS
 H. BAILY BRUNS, Advertising Manager

Publication Office: 545-547 Mission St., San Francisco
 Telephones: GARfield 8744-8745

PACIFIC CONSTRUCTOR is the official publication of the Associated General Contractors of America for the eleven Pacific Coast states. Issued on the first and fifteenth of each month. Printed and published by the Stark-Rath Printing and Publishing Co., 545-547 Mission Street, San Francisco. Subscription Price: \$5.00 per year, payable in advance. Single copies, 25c.

"COMBINATION" DENIED—Charges made by Representative Sabath of Chicago, before the House committee on postoffice and post roads, that a combination of contractors to exclude outsiders from bidding on large buildings and among surety companies to prevent outside contractors from getting bonds, were scouted by Postmaster-General Walter F. Brown, when he was called before the committee. "I never heard of combinations of contractors to prevent competitive bidding," he declared. "From what I know about business, I would say that such a combination is wholly impractical." He said that if there was a combination it would be disclosed in the bidding. He asserted there was abundant checkup and he "would not believe there is any such combination." The low prices at which Federal building work is let indicates anything but a combination to control bidding; rather a conspiracy among contractors to put themselves out of business.

TRUCK LICENSE FEE INVALID—The Iowa state law requiring the payment of a license fee by interstate trucks operating within the state was declared constitutional on June 25 by Federal Judge Charles A. Dewey in a decision rendered in a suit brought by the Grolbert Truck Line, a trucking organization operating in several states. The trucking company claimed to be a private contract-carrier and not subject to payment of the fee. The court found that as the company advertised for interstate business, maintained regular terminals in various cities and had definitely established rates, it was a common carrier, also that the State would collect a license fee from the interstate operators, could require common-carrier truck operators to furnish bonds, and could tax carriers on the basis of truck capacity and miles traveled within the state.

GOVERNMENT GAS TAX WAIVED—Superior Judge C. J. Goodell has ruled that the United States Government does not have to pay the State of California a gasoline tax. The ruling was made in an action brought by the state against the Standard Oil Company of California for the payment of \$12.60 in gasoline taxes. The company during the period in question, July 1 to September 30, 1929, manufactured 67,663,270 gallons of gasoline and paid the state taxes totaling \$2,009,599. The state claimed the amount was short \$12.60. The oil company introduced evidence that the gasoline upon which no tax was paid was sold to the Presidio in San Francisco and Judge Goodell ruled that since it was sold to the military reservation, no tax should be paid to the state.

HAND LABOR HIT—To adopt a policy of hand labor on road building is to revert to primitive methods, Samuel H. Hedges, president of the Washington State Chamber of Commerce, told members of the Northwest Construction Association.

"I appreciate the seriousness of the unemployment situation everywhere," Hedges stated, "but we must remember that highway construction is an important factor in contributing to the relief of unemployment. To stop all new construction and to revert to hand labor would not be wise. This is a machine age. We cannot eliminate machinery and go back to primitive methods in handling public works."

The speaker referred to his 40 years' experience in the construction field throughout the nation. He found no basis for comparing day labor or "force account" work with contracting.

TAX LIMITATION PROPOSED—A plan for tax limitations in the state, cities, counties and districts in California is being prepared by Earl Lee Kelly, director of the state tax research bureau, for presentation to the next session of the legislature.

"Never before in the history of California," said Kelly, "have we been so forced to realize the necessity for some comprehensive, honest and serious effort to check the rising tide of governmental expenditures."

He said it was significant that in states which have imposed a system of tax limitation, the taxes are less than the national average.

"This constitutes a challenge to California, where we have no limitation on taxes and disbursements have increased steadily," Kelly remarked.

"We have been confronted with organized minorities, often with altruistic purposes, sometimes with purely selfish motives, who have placed upon the people fixed charges which are inescapable in the future and which send upward the cost of government."

ENDORSE "BACK TO GOOD TIMES" — The Master Concrete Contractors' Association of Alameda County has endorsed the campaign of the Bank of America in its "Back to Good Times" movement, it is announced by Jas. E. Wentworth, secretary of the Association. The resolution is published herewith:

"Resolved: That we fully indorse the policy of the Bank of America in its present 'Back to Good Times' Campaign, and that we heartily congratulate the officers of that institution for their initiative in resuming the policy of granting loans to construct small homes."

PLAN UNEMPLOYMENT RELIEF—At a recent meeting of cast-iron pipe manufacturers in Chicago plans were made for carrying on an intensive campaign of public education concerning the value of public-works construction for unemployment relief. It is intended to carry on local work in all cities of 3,000 population or over. The principal purpose of the campaign is to bring to general public knowledge the fact that waterworks improvements will not raise taxes but on the contrary will contribute to relief of the unemployment situation.

TOKYO PLANS DAM—The City of Tokyo, Japan, is considering the construction of a large dam across the Tama River in order to increase its water supply. The dam, which is to be approximately 440 feet high and 1066 feet long, will have a storage capacity of about 6,500,000-000 cu. ft. The proposed site is located in the volcanic region of Japan, and for this reason investigations are being made with a view to rendering the structure earthquake proof.

UNIT BID SUMMARY

Compiled from the Daily News Service of Pacific Constructor

CONCRETE-STEEL BRIDGE—MERCED COUNTY—STATE

MERCED COUNTY, Cal.—Rocca & Caletti, P. O. Box 243, San Rafael, at \$99,853.05 submitted low bid August 3 to State Highway Commission, Sacramento, to construct a concrete and steel bridge across Merced river 1.4 miles north of Livingston, consisting of three 77-ft. deck plate girder spans on concrete piers with pile foundation and twenty-three 44.5-ft. steel beam spans on concrete pile bents, involving:

- (1) 1,400 cu. yds. struc. excav.;
- (2) 4,690 lin. ft. furnish Douglas fir piles, includ. test piles;
- (3) 166 drive Douglas fir piles, includ. test piles;
- (4) 5,800 lin. ft. reinf. conc. piles, includ. test piles;

- (5) 340 cu. yds. Clas A Port. cem. conc. (footing blocks);
 - (6) 1,540 cu. yds. Class A Port. cem. conc. (struc.);
 - (7) 206,000 lbs. bar reinf. steel;
 - (8) 1,050,000 lbs. struc. steel;
 - (9) 10,300 lbs. cast steel;
 - (10) 1 existing bridge removed;
 - (11) 1 lot misc. items of work.
- Complete bids follow:
- (A) Rocca & Caletti, San Rafael, \$99,853.05.
 - (B) Fredrickson & Watson, Oakland, \$100,994.50.
 - (C) Geo. Ulrich Const. Co., Modesto, \$101,208.00.
 - (D) Lord & Elshop, Sacramento, \$104,338.00.
 - (E) Mitty Bros. Const. Co., Los Angeles, \$110,733.60.

- (F) Sharp & Fellows Const. Co., Los Angeles, \$111,571.00.
- (G) Gist & Bell, Arcadia, \$111,952.50.
- (H) Bodenhamer Const. Co., Oakland, \$113,923.20.
- (I) Oberg Bros., Los Angeles, \$115,691.50.
- (J) Neves & Harp, Santa Clara, \$116,018.00.
- (K) R. R. Bishop, Long Beach, \$119,447.00.
- (L) M. E. McGowan, San Francisco, \$120,869.00.
- (M) Porter Bros. Corp., San Francisco, \$131,991.60.
- (N) Healy-Thibbitts Co., San Francisco, \$138,757.50.

Unit bids follow:

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) |
|-----|--------|--------|---------|--------|---------|---------|---------|---------|-------|-----------|-----------|
| (A) | \$1.60 | \$2.05 | \$17.60 | \$1.96 | \$ 5.00 | \$15.80 | \$.0395 | \$.0395 | \$.10 | \$3200.00 | \$2388.00 |
| (B) | 2.00 | .25 | 12.00 | 2.50 | 11.00 | 13.00 | .04 | .04 | .10 | 5000.00 | 500.00 |
| (C) | 2.40 | .20 | 20.00 | 2.20 | 6.00 | 14.00 | .0375 | .0425 | .10 | 3000.00 | 800.00 |
| (D) | 3.00 | .20 | 10.00 | 2.60 | 12.00 | 14.00 | .04 | .04 | .10 | 4000.00 | 500.00 |
| (E) | 3.10 | .24 | 8.00 | 3.50 | 8.90 | 16.10 | .04 | .04 | .10 | 3000.00 | 750.00 |
| (F) | 3.00 | .20 | 12.00 | 2.25 | 10.00 | 14.50 | .0385 | .043 | .10 | 5000.00 | 750.00 |
| (G) | 2.50 | .25 | 10.00 | 2.50 | 8.00 | 14.00 | .04 | .045 | .10 | 5000.00 | 3000.00 |
| (H) | 3.00 | .18 | 10.00 | 2.75 | 10.00 | 16.00 | .04 | .045 | .13 | 7300.00 | 500.00 |
| (I) | 3.90 | .20 | 15.00 | 2.87 | 10.00 | 16.85 | .04 | .04 | .105 | 9425.00 | 1050.00 |
| (J) | 3.00 | .20 | 10.00 | 2.75 | 9.00 | 17.00 | .04 | .0425 | .15 | 7000.00 | 2620.00 |
| (K) | 4.50 | .30 | 15.00 | 3.75 | 10.00 | 14.00 | .035 | .04 | .10 | 11000.00 | 800.00 |
| (L) | 2.30 | .20 | 20.00 | 2.00 | 10.00 | 15.00 | .036 | .05 | .12 | 4000.00 | 139.00 |
| (M) | 3.70 | .22 | 12.50 | 3.00 | 12.50 | 18.50 | .0433 | .047 | .15 | 13000.00 | 750.00 |
| (N) | 1.00 | .25 | 25.00 | 2.00 | 10.00 | 30.00 | .04 | .041 | .15 | 16000.00 | 2000.00 |

PARADISE CUT BRIDGE—SAN JOAQUIN COUNTY—STATE

SAN JOAQUIN COUNTY, Calif.—Lord & Bishop, Native Sons Building, Sacramento, at \$44,429.65 submitted low bid to Highway Commission, Sacramento, August 3, to construct bridge across Paradise Cut about 6.2 miles east of Tracy, consisting of ten 44-ft. steel stringer spans with concrete deck on concrete pile bents and approaches to be paved with Portland cement concrete, involving:

- (1) 300 cu. yds. struc. excav.;
- (2) 6,200 cu. yds. rdwy. excav., unclass.;
- (3) 3,800 sta. yds. overhaul;
- (4) 3,900 cu. yds. imp. borrow;
- (5) 480 tons untreated crushed stone or gravel surf. (detour);
- (6) 30 M. gals. water applied to surf. and borders;
- (7) 1 timber detour bridge;
- (8) 1 existing bridge removed;

- (9) 2,700 lin. ft. reinf. concrete piles, includ. test piles;
 - (10) 500 cu. yds. Class A Port. cem. conc. (struc.);
 - (11) 88 cu. yds. Class A Port. cement conc. (pave.);
 - (12) 30 cu. yds. Class A Port. cement conc. (slope paving);
 - (13) 81,700 lbs. bar reinf. steel (pave. and struc.);
 - (14) 445,000 lbs. structural steel;
 - (15) 1,670 lbs. cast steel;
 - (16) 100 cu. yds. salvage surf. (borders);
 - (17) 18 bbls. light fuel oil;
 - (18) 6 bbls. heavy fuel oil;
 - (19) 450 sq yds. subgrade for pave.;
 - (20) 27 sta. finish roadway;
 - (21) 0.13 mi. move and reset property fences;
 - (22) 1 lot misc. items of work.
- Previous call for bids on this project.

to be opened July 20, published in our issue of June 30. Bid call was cancelled July 7.

- Complete bids follow:
- (A) Lord & Bishop, Sacramento, \$44,429.65.
 - (B) C. W. Wood, Stockton, \$45,318.00.
 - (C) Nelson & Wallace, Escalon, \$45,532.40.
 - (D) W. E. Lyons, Oakland, \$46,992.00.
 - (E) Neves & Harp, \$47,036.80.
 - (F) A. W. Kitchen, San Francisco, \$47,091.25.
 - (G) Fredrickson & Watson, Oakland, \$47,813.00.
 - (H) L. C. Seidel, Oakland, \$47,864.00.
 - (I) J. P. Brennan, Redding, \$50,848.40.
 - (J) F. J. Maurer, Eureka, \$50,868.10.
 - (K) B. A. Howkins, San Francisco, \$51,836.50.
 - (L) Oberg Bros., Los Angeles, \$51,976.50.

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) |
|------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| (1) | \$.25 | \$1.50 | \$.75 | \$.54 | \$1.00 | \$1.50 | \$1.00 | \$.75 | \$.95 | \$.90 | \$.50 | \$1.90 |
| (2) | .25 | .25 | .26 | .27 | .21 | .25 | .25 | .30 | .50 | .35 | .38 | .50 |
| (3) | .01 | .01 | .01 | .01 | .015 | .01 | .03 | .02 | .01 | .01 | .02 | .02 |
| (4) | .25 | .30 | .33 | .34 | .27 | .30 | .30 | .40 | .45 | .35 | .28 | .50 |
| (5) | 1.50 | 1.35 | 1.70 | 2.00 | 1.25 | 1.35 | 1.85 | 1.50 | 2.85 | 2.25 | 3.50 | 3.80 |
| (6) | 2.00 | 2.00 | 1.50 | 3.00 | 5.00 | 2.00 | 2.00 | 2.00 | 1.25 | 3.00 | 6.00 | 2.00 |
| (7) | 1200.00 | 1000.00 | 1200.00 | 2335.00 | 2500.00 | 2600.00 | 1350.00 | 2700.00 | 1451.00 | 2500.00 | 1500.00 | 1300.00 |
| (8) | 1000.00 | 1500.00 | 1500.00 | 1732.80 | 1775.00 | 3948.00 | 2000.00 | 3500.00 | 1840.00 | 4445.00 | 3000.00 | 2650.00 |
| (9) | 3.00 | 2.90 | 3.25 | 3.00 | 2.75 | 2.36 | 3.50 | 2.90 | 3.50 | 3.25 | 3.50 | 3.20 |
| (10) | 15.00 | 15.00 | 14.25 | 14.25 | 15.00 | 13.64 | 15.00 | 13.00 | 18.00 | 15.00 | 17.00 | 16.35 |
| (11) | 11.00 | 12.00 | 9.25 | 9.50 | 10.85 | 8.40 | 10.00 | 8.00 | 9.00 | 9.50 | 11.00 | 12.00 |
| (12) | 12.00 | 12.00 | 11.50 | 14.25 | 10.85 | 14.50 | 14.00 | 12.00 | 15.00 | 9.50 | 13.00 | 14.25 |
| (13) | .0375 | .04 | .038 | .04 | .04 | .04 | .04 | .04 | .036 | .037 | .04 | .04 |
| (14) | .04 | .04 | .039 | .04 | .04 | .0396 | .04 | .04 | .0385 | .039 | .04 | .039 |
| (15) | .12 | .10 | .24 | .16 | .15 | .215 | .15 | .10 | .11 | .20 | .15 | .15 |
| (16) | 1.00 | 1.00 | 2.00 | .85 | 1.50 | 1.00 | 1.00 | 1.40 | 1.00 | 1.00 | 2.60 | 1.50 |
| (17) | 3.00 | 2.50 | 3.00 | 3.25 | 3.00 | 2.50 | 3.50 | 3.00 | 4.00 | 3.00 | 5.00 | 2.50 |
| (18) | 3.00 | 3.50 | 3.00 | 4.00 | 3.00 | 3.50 | 3.50 | 3.50 | 4.00 | 3.00 | 6.00 | 4.00 |
| (19) | .10 | .12 | .10 | .08 | .10 | .12 | .15 | .10 | .12 | .10 | .20 | .10 |
| (20) | 10.00 | 6.00 | 5.00 | 5.00 | 10.00 | 6.00 | 5.00 | 5.00 | 6.50 | 5.00 | 5.00 | 5.00 |
| (21) | 250.00 | 300.00 | 300.00 | 400.00 | 300.00 | 1000.00 | 200.00 | 300.00 | 300.00 | 40.00 | 500.00 | 350.00 |
| (22) | 300.00 | 500.00 | 480.00 | 400.00 | 1200.00 | 500.00 | 400.00 | 800.00 | 500.00 | 445.00 | 500.00 | 800.00 |

GRADE-OIL TREAT SURFACE—SAN BERNARDINO COUNTY

SAN BERNARDINO COUNTY, Cal.—Jahn & Bressi Const. Co., Inc., Lane Mortgage Bldg., Los Angeles, at \$295,513.05 (Alt. A) and \$292,159.63 (Alt. B) submitted low bid to State Highway Commission Sacramento, to grade and surface with oil treated crushed gravel or stone about 4.5 miles between Camp Waterman and Arrowhead Springs, involving:

- (1) 75 acres clear and grub right-of-way;
- (2) 774,000 cu. yds. roadway excav. without class;
- (3) 2,201,000 sta. yds. overhaul;
- (4) 33,500 cu. yds. struc. excav.;
- (5) 14,500 tons cru. gravel or stone surf.;
- (6) 47 tons cut-back asphalt (seal coat);
- (7) 3625 bbls. fuel oil (surfacing);
- (8) 407 cu. yds. Class "A" Port. cem. conc. (struc.);
- (9) 38,500 lbs. bar reinf. steel (struc.);
- (10) 2220 lin. ft. 8-in. corr. metal pipe;
- (11) 856 lin. ft. 18-in. do;
- (12) 2428 lin. ft. 24-in. do;
- (13) 222 lin. ft. 30-in. do;
- (14) 1982 lin. ft. 36-in. do;
- (15) 1074 lin. ft. 48-in. do;
- (16) 823 timber guide posts;
- (17) 12,900 M. gals. water (embank.);
- (18) 7560 lin. ft. lam. timber guard rail;
- (19) 260 sta. finish roadway;
- (20) 140 mounments complete in place;

ALTERNATIVE ITEMS

Alternative "A"

- (21) 1155 5-in.x6-in.x6-ft. 8-in. reinf. concrete headers;
- (22) 3994 5-in.x6-in.x6-ft. 8-in. do;
- (23) 4432 6-in.x6-in-x6-ft. 0-in. reinf. concrete stretchers;
- (24) 2746 6-in.x8-in.x6-ft. 0-in. do;
- (25) 1809 6-in.x10-in.x6-ft. 0-in. do;
- (26) 196 concrete filler blocks.

Alternative "B"

- (27) 3172 6-in.x6-in.x6-ft. 0-in. metal headers;
- (28) 234 6-in.x6-in.x4-ft. 0-in. do;
- (29) 414 6-in.x6-in.x8-ft. 0-in. do;
- (30) 5375 6-in.x8-in.x6-ft. 0-in. metal stretchers;
- (31) 786 6-in.x8-in.x8-ft. 0-in. do;
- (32) 3145 metal header caps;
- (33) 414 metal header inserts;
- (34) 283 metal header spacers;
- (35) 574 metal stretcher inserts.

NOTE:—Alternatives "A" and "B" are alternative types of cribbing members and the contract may be awarded on the basis of the use of either type at the option of the Department of Public Works.

State will furnish corrugated metal pipe, spillway assemblies, and either reinforced concrete or metal cribbing members.

Complete bids follow:

- (A) Jahn & Bressi, Los Angeles \$290,467.50 (A) \$295,513.05 (B) \$292,159.63.
- (B) Peninsula Paving Co., Los Angeles, \$292,163.20 (A) \$301,401.60 (B) \$294,443.75.
- (C) Von der Heilen & Pierson, Castaic, \$294,139.20 (A) \$307,639.70 (B) \$299,910.35.
- (D) Weymouth Crowell Co. and E. P. Watson, Jr., Los Angeles, \$322,498.85 (A) \$332,257.66 (B) \$329,296.10.
- (E) T. M. Morgan Paving Co., Los Angeles, \$336,494.15 (A) \$349,253.35 (B) \$348,683.15.
- (F) Meyer Rosenberg, San Francisco, \$345,266.20 (A) \$356,255.22 (B) \$349,760.20.
- (G) Geo. Pollock, Sacramento, \$357,141.90 (A) \$362,970.90 (B) \$357,861.75.
- (H) Mitty Bros., Los Angeles, \$364,720.10 (A) \$369,402.50 (B) \$366,004.22.
- (I) Hemstreet & Bell, Marysville, \$372,248.90 (A) \$379,844.86 (B) \$375,848.15.
- (J) Kern & Kibbe, Portland, \$381,969.35 (A) \$397,303.75 (B) \$389,230.15.
- (K) Sharp & Fellows, Los Angeles, \$388,810.20 (A) \$397,700.10 (B) \$392,803.90.
- (L) Isbell Const. Co., Carson City, Nev., \$391,993.60 (A) \$414,013.20 (B) \$408,069.10.
- (M) Hall Johnson Co., and M. S. Ross Alhambra, \$397,095.00 (A) \$410,294.85 (B) \$408,260.20.
- (N) Fredrickson & Watson, Oakland, \$397,171.13 (A) \$403,718.77 (B) \$398,589.65.
- (O) J. G. DONOVAN & Son, Los Angeles, \$432,832.30 (A) \$444,113.70 (B) \$436,621.70.
- (P) Gibbons & Reed, Burbank, \$436,244.60 (A) \$461,085.60 (B) \$454,119.25.

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) |
|------|---------|---------|----------|---------|----------|---------|---------|---------|----------|---------|----------|----------|---------|----------|----------|----------|
| (1) | \$75.00 | \$50.00 | \$100.00 | \$45.00 | \$225.00 | \$40.00 | \$50.00 | \$35.00 | \$150.00 | \$50.00 | \$140.00 | \$225.00 | \$85.00 | \$180.00 | \$150.00 | \$150.00 |
| (2) | 28 | 27 | 255 | 29 | 27 | 33 | 31 | 31 | 315 | 34 | 35 | 34 | 35 | 36 | 39 | 37 |
| (3) | .001 | .005 | .005 | .005 | .005 | .005 | .005 | .005 | .005 | .01 | .004 | .0075 | .004 | .004 | .005 | .005 |
| (4) | .40 | .75 | .60 | .60 | .60 | .60 | .60 | .60 | .70 | .70 | .60 | .60 | .60 | .50 | .60 | .60 |
| (5) | 1.40 | 1.35 | 1.90 | 2.00 | 1.75 | 1.65 | 2.00 | 2.25 | 2.25 | 2.00 | 2.40 | 2.40 | 2.30 | 3.00 | 2.00 | 2.75 |
| (6) | 16.00 | 10.50 | 15.00 | 18.00 | 15.00 | 15.50 | 18.00 | 24.00 | 13.00 | 17.00 | 15.60 | 16.00 | 16.00 | 16.00 | 14.00 | 14.00 |
| (7) | 1.50 | 1.00 | 1.80 | 1.25 | 1.75 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.25 | 1.00 | 1.25 |
| (8) | 16.00 | 11.50 | 9.00 | 16.00 | 14.00 | 12.00 | 14.00 | 15.00 | 15.00 | 18.00 | 15.00 | 22.00 | 18.00 | 12.25 | 12.00 | 23.00 |
| (9) | 35 | 10 | 40 | 30 | 30 | 30 | 30 | 25 | 30 | 30 | 25 | 20 | 25 | 17 | 30 | 50 |
| (10) | 45 | 25 | 30 | 40 | 40 | 40 | 40 | 40 | 40 | 35 | 40 | 40 | 40 | 23 | 40 | 60 |
| (11) | 45 | 25 | 30 | 40 | 40 | 40 | 40 | 40 | 40 | 35 | 40 | 40 | 40 | 23 | 40 | 60 |
| (12) | .75 | .35 | .50 | .60 | .60 | .60 | .60 | .60 | .75 | .60 | .60 | .60 | .60 | .34 | .50 | 1.00 |
| (13) | 1.50 | .40 | .50 | .60 | .60 | .60 | .60 | .60 | .75 | .60 | .60 | .60 | .60 | .46 | .60 | 1.00 |
| (14) | 1.50 | .40 | .50 | .60 | .60 | .60 | .60 | .60 | .75 | .60 | .60 | .60 | .60 | .46 | .60 | 1.00 |
| (15) | 1.50 | .45 | .50 | .60 | .60 | .60 | .60 | .60 | .75 | .60 | .60 | .60 | .60 | .46 | .60 | 1.00 |
| (16) | 2.50 | 2.30 | 1.30 | 2.60 | 1.20 | 1.60 | 2.00 | 2.50 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.65 | 2.00 | 2.50 |
| (17) | .50 | .20 | .45 | .70 | .45 | .75 | .70 | .60 | .60 | .75 | .60 | .80 | .80 | 1.70 | .75 | 1.00 |
| (18) | 4.00 | 4.00 | 5.00 | 4.00 | 4.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 | 4.50 | 5.00 | 6.00 |
| (19) | 2.50 | 2.00 | 3.00 | 3.00 | 3.00 | 2.00 | 2.00 | 2.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 2.30 | 3.00 | 2.00 |
| (20) | 2.50 | 2.00 | 3.00 | 3.00 | 3.00 | 2.00 | 2.00 | 2.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 2.30 | 3.00 | 2.00 |
| (21) | .38 | .60 | .30 | .46 | 1.00 | .39 | .40 | .25 | .53 | .42 | .40 | .30 | .35 | .46 | .60 | .50 |
| (22) | .70 | 1.25 | .80 | .65 | 1.50 | .69 | .37 | .30 | .53 | .53 | 1.00 | .60 | .70 | .85 | .85 | .46 |
| (23) | .35 | .65 | .80 | .68 | .80 | .69 | .80 | .35 | .53 | .53 | 1.10 | .70 | .55 | .46 | .80 | .46 |
| (24) | .40 | .70 | 1.20 | .72 | 1.00 | .81 | .45 | .40 | .53 | 1.20 | .80 | 1.60 | 1.00 | .48 | 1.00 | .48 |
| (25) | .15 | .20 | .25 | .56 | .30 | .10 | .10 | .20 | .53 | .40 | .30 | .50 | .20 | .23 | .15 | .23 |
| (26) | .15 | .20 | .40 | .63 | 1.00 | .40 | .05 | .12 | .25 | .55 | .50 | 1.50 | .85 | .12 | .35 | .12 |
| (27) | .12 | .20 | .40 | .63 | 1.00 | .40 | .05 | .12 | .25 | .55 | .50 | 1.50 | .85 | .12 | .35 | .12 |
| (28) | .16 | .20 | .40 | .63 | 1.00 | .40 | .05 | .12 | .25 | .55 | .50 | 1.50 | .85 | .12 | .35 | .12 |
| (29) | .16 | .20 | .40 | .63 | 1.00 | .40 | .05 | .12 | .25 | .55 | .50 | 1.50 | .85 | .12 | .35 | .12 |
| (30) | .16 | .20 | .40 | .63 | 1.00 | .40 | .05 | .12 | .25 | .55 | .50 | 1.50 | .85 | .12 | .35 | .12 |
| (31) | .02 | .05 | .10 | .10 | .10 | .10 | .05 | .08 | .15 | .15 | .20 | .25 | .25 | .40 | .40 | .40 |
| (32) | .02 | .05 | .10 | .10 | .10 | .10 | .05 | .08 | .15 | .15 | .20 | .25 | .25 | .40 | .40 | .40 |
| (33) | .10 | .10 | .15 | .15 | .10 | .10 | .05 | .05 | .15 | .15 | .20 | .25 | .25 | .40 | .40 | .40 |
| (34) | .10 | .10 | .15 | .15 | .10 | .10 | .05 | .05 | .15 | .15 | .20 | .25 | .25 | .40 | .40 | .40 |
| (35) | .10 | .10 | .15 | .15 | .10 | .10 | .05 | .05 | .15 | .15 | .20 | .25 | .25 | .40 | .40 | .40 |

BELT RAILROAD EXTENSION—STOCKTON

BIDS OPENED

STOCKTON, San Joaquin Co., Cal.—Willard & Blasotti, 40 West Clay St., Stockton, at \$9115.92 submitted low bid to city council to extend the Stockton Belt Railroad in connection with the deep water project. The work involves construction of the railroad to Rough and Ready Island. The contract for the first unit of the railroad was recently completed by Shannahan Bros. of San Francisco and Los Angeles. Project involves:

- (1) 20,000 cu. yds. grading railroad bed
- (2) 5000 cu. yds. grading highway road bed;
- (3) 64 lin. ft. 24-in. corrug. pipe culvert complete in place, including labor and materials and except excav.
- (4) 36 lin. ft. 12-in. corrug. pipe culvert, dig out and relay excav.
- (5) 36 lin. ft. corrug. pipe culvert complete in place except material and excav.
- (6) 40 lin. ft. 18-in. corrug. pipe culvert complete in place except materials and excav.
- (7) 50 lin. ft. 24-in. corrug. pipe culvert complete in place except materials and excav. (alt. for item No. 3);
- (8) 1 8-in. band coupling for 8-in. corrug. pipe culvert (no install);
- (9) 1 8-in. band coupling for 18-in. culvert;
- (10) 100 creosoted Douglas cross ties, 7x8x8;
- (11) 1500 lin. ft. No. 1 relayer rail, 35 lb. complete with angle bars (price per long ton);
- (12) 1500 lin. ft. No. 1 relayer rail, 90 lb. complete with angle bars (price per ton);

- (13-a) 100 24-in. new angle bar to fit 85-lb. rail;
- (13-b) 109 24-in. new angle bar to fit 85-lb. rail (second hand);
- (14-a) 2100 new ties, in place;
- (14-b) 2100 new ties, in place (second hand);
- (15) 600 lbs. new track bolts and nuts, treated;
- (16) 1800 lbs. new track spikes 5x5x6;
- (17) 400 new modified fair rail anchors installed;
- (18) 700 cu. yds. ballast;
- (19) 1365 lin. ft. laying, surfacing and ballasting track;
- (20) 1 road crossing 76 ft. long (Calif. Railroad Commission standard No. 3-a);
- (21) 2 road crossing signs;
- (22) 2 whistle posts;
- (23) 300 lin. ft. reset road barriers;
- (24) 200 cu. yds. remove and stock-pile oil macadam;
- (25) 600 tons cement for road gravel, in place.

Complete bids follow:

- (A) Willard & Blasotti, Stockton, \$9,115.92.
 - (B) Delta Dredging Co., Pittsburg, \$9459.20.
 - (C) C. W. Wood, Stockton, \$10,125.99.
 - (D) Merritt, Chapman & Scott, San Francisco, \$11,476.30.
 - (E) Roberts Island Dredging & Improvement Co., Stockton, \$14,244.83
- Above totals on alternate recommended, using 85-lb. rails and new tie plates.

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) |
|-------------|--------|---------|--------|--------|--------|
| (1)..... | \$.20 | \$.195 | \$.20 | \$.23 | \$.35 |
| (2)..... | .18 | .22 | .20 | .25 | .35 |
| (3)..... | 4.15 | 4.50 | 4.40 | 3.70 | 4.25 |
| (4)..... | .35 | .50 | 1.00 | .55 | 2.00 |
| (5)..... | .25 | .50 | .40 | .45 | 1.00 |
| (6)..... | .25 | .50 | .50 | .50 | 1.00 |
| (7)..... | .25 | .70 | .40 | .74 | 1.00 |
| (8)..... | 1.70 | 1.50 | 2.00 | 3.00 | 1.50 |
| (9)..... | 3.10 | 2.00 | 2.00 | 3.00 | 2.00 |
| (10)..... | 1.37 | 1.30 | 1.35 | 1.43 | 1.50 |
| (11)..... | 24.25 | 26.00 | 23.75 | 25.20 | 29.00 |
| (12)..... | 25.00 | 26.00 | 24.50 | 26.40 | 30.00 |
| (13-a)..... | 1.70 | 3.50 | 1.70 | 3.30 | 1.75 |
| (13-b)..... | .75 | 1.00 | .75 | 1.54 | .75 |
| (14-a)..... | .17 | .16 | .1507 | .78 | 1.18 |
| (14-b)..... | .15 | .10 | .12 | .14 | .15 |
| (15)..... | 4.40 | 4.85 | 4.50 | 5.50 | 4.50 |
| (16)..... | 2.75 | 3.00 | 2.70 | 3.30 | 1.91 |
| (17)..... | .30 | .23 | .27 | .30 | .30 |
| (18)..... | 1.19 | 1.21 | 2.06 | 1.43 | .15 |
| (19)..... | .585 | .24 | .55 | .64 | .63 |
| (20)..... | 235.00 | 250.00 | 300.00 | 289.00 | 75.00 |
| (21)..... | 13.00 | 12.00 | 15.00 | 17.50 | 13.00 |
| (22)..... | 4.50 | 5.00 | 5.00 | 6.50 | 5.00 |
| (23)..... | .10 | .30 | .20 | .125 | .75 |
| (24)..... | .40 | .50 | .75 | 1.10 | .65 |
| (25)..... | 1.00 | 1.40 | 1.30 | 2.20 | 1.95 |

STRUCTURES-APPROACH FILLS—ARIZONA

COCONINO COUNTY, Arizona—Vinson & Pringle, 919 E. Madison St., Phoenix, submitted low bid to National Park Service, at office of the Park Superintendent, Grand Canyon, Arizona, August 4, at \$21,819, for constructing structures and approach fills at Cataract Canyon and Red Lake Wash, Section D of the South Approach to Grand Canyon National Park, Arizona, involving:

- (1) 360 cu. yds. unclass. excavation for structures;
 - (2) 7090 cu. yds. unclass. excavation for borrow;
- | | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | Total |
|----------|--------|-------|---------|---------|-------|--------|-------|--------|---------|-------------|
| (A)..... | \$1.75 | \$.40 | \$26.00 | \$27.00 | \$.02 | \$1.75 | \$.50 | \$5.50 | \$30.00 | \$21,819.00 |
| (B)..... | 1.50 | .30 | 28.00 | 28.00 | .06 | 1.75 | .75 | .50 | 50.00 | 22,219.00 |
| (C)..... | 1.50 | .35 | 28.00 | 30.00 | .07 | 1.50 | 1.60 | .225 | 500.00 | 23,998.50 |
| (D)..... | 1.50 | .40 | 27.50 | 30.00 | .05 | 1.75 | 1.50 | .75 | 75.00 | 23,212.50 |

- (3) 237 cu. yds. class A concrete;
- (4) 171 cu. yds. class D concrete;
- (5) 61,000 lbs. reinf. steel;
- (6) 2100 ft. wood guard rail;
- (7) 760 cu. yds. gravel base course, furnish and place;
- (8) 340 cu. yds. gravel base course, place;
- (9) remove and dispose of concrete cut-off walls, lump sum.

- (A) Vinson & Pringle.
- (B) H. L. Ryden.
- (C) Lewis Bros.
- (D) Engineer's estimate.

LONG BEACH, Los Angeles Co., Cal.—Chnutuk Kordich, and Vukojevich, 4935 West Blvd. (Los Angeles, submitted low bid to city council Aug. 5, at \$769,762.33 to construct sewers in North Long Beach Pump Sewer District No. 11. The items are:

- (1) 117,094 ft. 8-in. vit. clay with sewer joint comp.;
- (2) 122,416 ft. 8-in. vit. clay with Weston gasket and form;
- (Total 239,510 ft. 8-in. vit. clay with average depth 7.3 ft.);
- (3) 23,036 ft. 10-in. do depth 11.8 ft.;
- (4) 17,590 ft. 12-in. do depth 14.4 ft.;
- (5) 2615 ft. 15-in. do depth 15.5 ft.;
- (6) 1515 ft. 18-in. do depth 16.7 ft.;
- (7) 2745 ft. 21-in. do depth 16.8 ft.;
- (8) 4434 ft. 24-in. do depth 17.8 ft.;
- (9) 3266 ft. 27-in. do depth 17 ft.;
- (10) 2513 ft. 30-in. do depth 19.5 ft.;
- (11) 295 ft. 33-in. do depth 20.2 ft.;
- (12) 4184 ft. 24-in R. C. pipe, depth 5.9 ft.;

- (Total 306,753 ft. or 58.1 mi.);
- (13) 2580 ft. Type "E" concr. backfill for 8-in. pipe;
- (14) Type "B" concr. backfill 10-in. pipe in place;
- (15) Type "B" concr. backfill 12-in. pipe in place;
- (16) Type "B" concr. backfill 15-in. pipe in place;
- (17) Type "B" concr. backfill 18-in. pipe in place;
- (18) Type "B" concr. backfill 21-in. pipe in place;
- (19) Type "B" concr. backfill 24-in. pipe in place;
- (20) Type "B" concr. backfill 27-in. pipe in place;
- (21) Type "B" concr. backfill 30-in. pipe in place;
- (22) Type "B" concr. backfill 33-in. pipe in place;

For the following items (14) to (22) incl. no quantities have been prepared and the price bid is not figured in the totals:

- (23) 16 ft. Type "A" concr. backfill 8-in. pipe;
- (24) 60 ft. do do 10-in. pipe;
- (25) 87 ft. do do 12-in. pipe;
- (26) 6000 tons rock or gravel for sub-grade;
- (27) 1054 Type "A" stand. manholes, aver. depth 8 ft.;
- (28) 15 Type "C" stand. manholes, aver. depth, 15.8 ft.;
- (29) 39 Type "D" stand. manholes, aver. depth, 17.3 ft.;
- (30) 8 Type "E" stand. manholes, aver. depth, 19.8 ft.;
- (31) One spillway junction chamber;
- (32) 2 standard lamphouses;
- (33) 93,500 lin. ft. (17.1 miles) 6-in. vit. clay connecting sewers; 6102 connections, aver. length 15.32 ft.
- (34) Move water, gas and other interferences;
- (35) One pumping station consisting of concrete pit with brick structure. The equipment will include one 8-in. and two 6-in. centrifugal sewage pumps.

The previous bids were opened Nov. 6, at which time Gogo & Rados were low bidders at \$724,862.70, the contract being subsequently awarded to them, but the award was never published. The contract was rescinded May 5, 1932.

The total bids were:
 (A) Chnutuk, Kordich & Vukojevich, \$769,762.33
 (B) Gogo & Rados, and Artukovich Bros., \$835,000.

(C) M. Miller, \$843,656.20.
The unit bids were:

| | (A) | (B) | (C) |
|------------|-----------|-----------|-----------|
| (1) | 1.64 | 1.30 | 1.00 |
| (2) | 1.64 | 1.60 | 1.70 |
| (3) | 1.24 | 2.50 | 2.50 |
| (4) | 2.02 | 3.00 | 2.50 |
| (5) | 3.05 | 4.00 | 4.00 |
| (6) | 5.37 | 6.10 | 5.00 |
| (7) | 6.27 | 7.20 | 7.00 |
| (8) | 7.52 | 7.90 | 10.00 |
| (9) | 9.27 | 8.40 | 11.00 |
| (10) | 10.97 | 14.60 | 15.00 |
| (11) | 13.37 | 16.60 | 17.00 |
| (12) | 4.62 | 8.55 | 7.00 |
| (13) | .90 | 1.00 | 2.00 |
| (14) | .90 | 1.50 | 2.00 |
| (15) | 1.50 | 2.00 | 3.50 |
| (16) | 1.75 | 2.50 | 4.00 |
| (17) | 2.50 | 2.75 | 5.50 |
| (18) | 2.75 | 3.75 | 6.00 |
| (19) | 3.00 | 4.00 | 6.50 |
| (20) | 3.50 | 4.50 | 7.00 |
| (21) | 4.00 | 4.75 | 7.50 |
| (22) | 5.00 | 5.00 | 8.00 |
| (23) | 1.25 | 1.00 | 4.00 |
| (24) | 1.25 | 1.50 | 5.00 |
| (25) | 1.50 | 2.00 | 6.00 |
| (26) | 2.50 | 2.50 | 2.50 |
| (27) | 58.00 | 61.00 | 60.00 |
| (28) | 75.00 | 161.00 | 150.00 |
| (29) | 100.00 | 171.00 | 175.00 |
| (30) | 150.00 | 191.00 | 200.00 |
| (31) | 400.00 | 1000.00 | 500.00 |
| (32) | 20.00 | 15.00 | 25.00 |
| (33) | .52 | .55 | .75 |
| (34) | 2,600.00 | 2,500.00 | 3,000.00 |
| (35) | 19,000.00 | 34,192.50 | 26,150.00 |

BIDS OPENED

LAKE AND COLUSA COUNTIES, Cal.—C. W. Wood, P. O. Box 1435, Stockton, at \$13,715 submitted low bid August 3 to State Highway Commission, Sacramento, to apply about 18.9 miles of bituminous surface treatment bet. Abbott Mine and five miles west of Williams, involving:

- (1) 230 tons asphaltic road oil;
 - (2) 3,300 tons rock screenings.
- Complete bids follow:
- (A) C. W. Wood, Stockton, \$13,715.00
 - (B) L. G. Kipp, Sacramento, \$14,375.90
 - (C) Heafy Const. Co., Sebastopol, \$15,900.00
 - (D) Hemstreet and Bell, Marysville, \$15,445.00
 - (E) Geo. French, Jr., Stockton, \$15,697.20
 - (F) S. M. McGaw, Stockton, \$15,745.00
 - (G) Heafy-Moore Co., Oakland, \$16,262.00
 - (H) A. Teichert & Son, Sacramento, \$16,271.00
 - (I) United Contr. Co., Portland, Ore., \$16,439.00
 - (J) Skeels & Graham, Roseville, \$16,577.00
 - (K) Fred W. Nighbert, Bakersfield, \$17,050.00
 - (L) J. O'Shea, San Francisco, \$17,438.
 - (M) Oilfields Trucking Co., Taft, \$17,575.50
 - (N) Pacific Truck Service Co., San Jose, \$19,577.00.

Unit bids follow:

| | (1) | (2) |
|-----------|---------|---------|
| (A) | \$13.00 | \$23.25 |
| (B) | 13.00 | 3.45 |
| (C) | 15.00 | 3.50 |
| (D) | 15.50 | 3.60 |
| (E) | 13.44 | 3.82 |
| (F) | 12.50 | 3.90 |
| (G) | 13.60 | 3.98 |
| (H) | 14.50 | 3.92 |
| (I) | 14.80 | 3.95 |
| (J) | 15.40 | 4.00 |
| (K) | 11.00 | 4.40 |
| (L) | 19.00 | 3.96 |
| (M) | 31.95 | 3.10 |
| (N) | 25.00 | 4.19 |

BASCULE BRIDGE—PETALUMA, CALIF.

PETALUMA, Sonoma Co., Calif.—Leibert and Trobeck, Rialto Bldg., San Francisco, at \$77,750 submitted low bid to city council to construct a bascule bridge, together with approaches thereto, over the Petaluma River at or near D St. Proposed structure will consist of one 30-ft. single-leaf bascule span and a 40-ft. concrete approach on concrete piers. The construction will require 110 tons structural steel, 1300 cu. yds. concrete, asphalt pavement and electrical equipment (the latter estimated to cost \$7500). L. H. Nishkin, engineer, 525 Market St., San Francisco. Five low bids taken under advisement until Wednesday, at 7:30 P. M., when the contract will probably be awarded to the low bidder. Following is a complete list of the unit and total bids:

- (A) Main bid.
- (b1) add for additional cu. yd. excav.;
- (b2) add for square surface foot of forms required;
- (b3) add for each additional pound reinforcing steel required;
- (b4) add fr each additional cu. ft. of concrete required;
- (b5) add for each lin. ft additional

| | (b1) | (b2) | (b3) | (b4) | (b5) | (b6) | (b7) | (c) | (d) | (e) | (f) |
|------------|------|-------|-------|--------|--------|--------|--------|----------|------------|-----------|-----------|
| (A) \$3.00 | \$08 | \$.04 | \$.50 | \$1.50 | \$2.00 | \$2.50 | \$2.50 | \$250.00 | \$100.00 | \$1400.00 | \$1300.00 |
| (B) 1.00 | 1.00 | .04 | .75 | 1.85 | 2.50 | 3.00 | 3.00 | 300.00 | ..... | 1000.00 | ..... |
| (C) .00 | .06 | .04 | .56 | 1.36 | 1.70 | 2.08 | 456.00 | ..... | 237.00 | ..... | 597.00 |
| (D) 1.00 | .08 | .04 | 1.15 | 2.00 | 2.50 | 3.00 | ..... | ..... | 320.00 | ..... | 1830.00 |
| (E) 4.00 | .25 | .05 | .75 | 2.00 | 2.75 | 3.25 | ..... | ..... | 100.00 | ..... | 200.00** |
| (F) 3.00 | .25 | .05 | .40 | 1.25 | 1.75 | 2.00 | ..... | ..... | 163.00 | ..... | 200.00 |
| (G) 1.15 | .15 | .045 | .40 | 2.75 | 3.20 | 3.80 | ..... | ..... | 150.00 | ..... | 1489.00 |
| (H) .80 | .12 | .06 | .35 | 2.00 | 2.50 | 3.00 | ..... | ..... | 1900.00*** | ..... | 1600.00 |
| (I) 3.00 | .15 | .05 | .33 | 2.50 | 3.20 | 3.50 | ..... | ..... | 900.00 | ..... | 612.00 |
| (J) 1.25 | .30 | .04 | .60 | 1.85 | 2.50 | 3.00 | ..... | ..... | 1416.00 | ..... | 224.00 |
| (K) 1.00 | .05 | .039 | .36 | 1.90 | 2.10 | 2.45 | ..... | ..... | ..... | ..... | 225.00 |
| (L) .72 | .085 | .04 | .30 | 1.40 | 2.00 | 2.40 | ..... | ..... | 547.00 | ..... | 417.00 |
| (M) 3.90 | .15 | .05 | .60 | 4.00 | 5.25 | 6.00 | ..... | ..... | 1500.00 | ..... | 1600.00 |

**add on cubic yard instead of cubic foot.
***add, instead of deduct.

- piles, 14-in.;
 - (b6) do, 18-in.;
 - (b7) do 20-in.;
 - (c) deduct in the event plywood is substituted for Oregon pine floors;
 - (d) deduct in the event Redwood is substituted for Oregon pine floors;
 - (e) add in the event Roberts beams are substituted for Oregon pine for roadway floors;
 - (f) add if concrete house for operator instead of wood and stucco.
- Complete bids follow:
- (A) Leibert & Trobeck, S. F.....\$77,750
 - (B) Rocca & Caletti, San Rafael..... 30,378
 - (C) A. W. Kitchen, S. F..... 31,287
 - (D) M. A. Jenkins, Sacto..... 31,455
 - (E) Healy-Tibbitts Co., S. F..... 33,690
 - (F) Barrett & Hill, S. F..... 34,990
 - (G) David Paganini, S. F..... 35,487
 - (H) F. C. Amoroso and Sons, San Francisco..... 36,000
 - (I) MacDonald & Kahn, S. F..... 36,000
 - (J) G. J. Ulrich, Modesto..... 37,900
 - (K) Schuler & McDonald, Oakland..... 90,000
 - (L) M. B. McGowan, S. F..... 93,570
 - (M) J. L. McLaughlin, S. F..... 95,000
- Unit bids follow:

14.5 M. CEM. CONC. PAVE.—LOS ANGELES CO.—STATE

LOS ANGELES COUNTY, Calif.—Jahn & Bressi Const. Co., Inc., Lane Mortgage Bldg., Los Angeles, at \$373,820 submitted low bid to State Highway Commission, Sacramento, to pave with Portland cem. conc. about 14.5 miles bet. Castaic School and Piru Creek, involving:

- (1) 63,000 cu. yds. rdwy. excav. without class.;
- (2) 85,000 cu. yds. excav. (slide removal);
- (3) 6,050,000 sta. yds. overhaul;
- (4) 254,000 sq. yds. subgrade for pave.
- (5) 53,400 cu. yds. Class A Portland cement concrete (pave);
- (6) 1,295,000 lbs. bar reinforcing steel (pavement);
- (7) 1,550 tons crushed gravel or stone (bit. treated surface);
- (8) 75 tons cut-back asphalt;
- (9) 190 cu. yds. Port. cem. conc. remove from existing pave. and dispose of;
- (10) 2,600 timber guideposts;
- (11) 279 timber culvert markers;
- (12) 760 sta. finish roadway.

- Complete bids follow:
- (A) Jahn & Bressi, Los Angeles, \$379,820.00.
 - (B) Will F. Peck Co., Los Angeles, \$416,634.17.
 - (C) C. W. Wood, Stockton, \$424,800.
 - (D) Peninsula Paving Co., San Francisco, \$426,430.
 - (E) J. L. McClain, Los Angeles, \$434,009.50.
 - (F) Griffith Co., Los Angeles, \$439,338.00.
 - (G) Hanrahan Co., San Francisco, \$443,070.
 - (H) United Concrete Pipe Co., Los Angeles, \$458,067.50.
 - (I) J. E. Haddock Co. and H. E. Cox & Son, Pasadena, \$459,720.
 - (J) Fredrickson & Watson, Oakland, \$462,125.
 - (K) Union Paving Co., San Francisco, \$474,420.
 - (L) Sander Pearson & Oberg Bros., Los Angeles, \$485,632.
 - (M) M. J. Bevanda, Stockton, \$504,312.50.

Unit bids follow:

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | |
|-----------|-------|-------|---------|-------|-------|-------|---------|-------|-------|-------|-------|-------|-------|
| (A) | \$.15 | \$.25 | \$.0044 | \$.05 | \$.50 | \$.10 | \$.0375 | \$.20 | \$.10 | \$.15 | \$.20 | \$.20 | \$.25 |
| (B) | .18 | .20 | .0045 | .07 | 5.35 | .038 | 2.00 | 12.00 | 1.75 | 2.50 | 2.50 | 4.00 | |
| (C) | .15 | .15 | .002 | .05 | 5.80 | .043 | 1.00 | 15.00 | 1.00 | 2.00 | 2.00 | 4.00 | |
| (D) | .26 | .25 | .003 | .06 | 5.50 | .036 | 2.00 | 10.00 | 2.00 | 2.30 | 2.00 | 4.00 | |
| (E) | .16 | .16 | .002 | .05 | 6.13 | .035 | 2.25 | 15.00 | 1.00 | 2.00 | 2.00 | 2.00 | |
| (F) | .19 | .21 | .002 | .06 | 6.92 | .037 | 1.50 | 18.00 | 1.50 | 2.00 | 1.50 | 3.00 | |
| (G) | .19 | .19 | .002 | .06 | 6.19 | .037 | 1.40 | 10.00 | 1.50 | 2.10 | 2.00 | 5.00 | |
| (H) | .18 | .17 | .003 | .09 | 6.10 | .04 | 1.50 | 13.00 | 1.00 | 2.00 | 1.25 | 5.00 | |
| (I) | .25 | .28 | .0035 | .05 | 6.00 | .035 | 2.00 | 16.00 | 2.00 | 2.35 | 2.00 | 5.50 | |
| (J) | .16 | .20 | .002 | .07 | 6.30 | .04 | 2.50 | 14.00 | 2.00 | 2.50 | 2.00 | 5.00 | |
| (K) | .30 | .25 | .002 | .05 | 6.65 | .03 | 2.00 | 10.00 | 1.00 | 2.75 | 2.00 | 5.00 | |
| (L) | .18 | .17 | .003 | .07 | 6.65 | .04 | 2.00 | 12.00 | 1.50 | 2.30 | 1.90 | 5.00 | |
| (M) | .25 | .30 | .004 | .05 | 6.70 | .04 | 2.25 | 15.00 | 2.00 | 2.50 | 2.00 | 5.00 | |

SANITARY SEWERS—LOS ANGELES—CITY

BIDS OPENED

LOS ANGELES, Calif.—Bebek and Brkich, 5011 E. Slauson Ave., submitted low bid to board of public works August 10 at \$123,435.92 to construct sewers in Venice Blvd. bet. Sawtelle Blvd. and Centinella Ave. and other streets in Venice Blvd. and Lincoln Blvd. Sewer District, a total of 26-, 306.77 lin. ft. of sewer, under the 1911 act, involving:

- (1) sanitary sewer complete, quantities as follows:
 - 1631.55 ft. 27-in. vit. main line sewer,
 - 91 27x6-in. wyes;
 - 1978.99 ft. 24-in. do, 114 24x6-in. wyes;
 - 720.71 ft. 21-in. do, 31 21x6-in. wyes;
 - 895.31 ft. 18-in. do, 67 18x6-in. wyes;
 - 4591.13 ft. 15-in. do, 220 15x6-in. wyes;
 - 7452.54 ft. 12-in. do, 298 12x6-in. wyes;
 - 3300.64 ft. 8-in. cem. main line sewer,
 - 85 12x6-in. wyes;

- 33 standard manhole B;
- 32 stan. junc. chamber F;
- 8 stand. junc. chamber G;
- 3 stand. junc. chamber H;
- 3 stand. drop manholes S;
- 2 stand. trap manholes;
- 6 stand. flushing struc. No. 0, special shallow;

| | | | | | | | | | | |
|---|-----------|--------|--------|-------|--------|--------|--------|--------|--------|-------|
| 1 stand. flushing struc. No. 1, shallow | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
| (A) | \$108,500 | \$1.50 | \$2.00 | \$0.2 | \$1.15 | \$1.17 | \$2.25 | \$3.30 | \$2.25 | \$0.5 |
| (B) | 117,060 | 1.00 | 2.00 | .025 | 1.10 | 1.15 | .25 | .30 | .25 | .05 |
| (C) | 121,500 | 1.10 | 2.00 | .02 | 1.15 | 1.15 | .20 | .25 | .20 | .06 |
| (D) | 123,000 | 1.45 | 2.00 | .02 | 1.15 | 1.30 | .40 | .45 | .30 | .05 |
| (E) | 117,000 | 1.00 | 2.00 | .02 | 1.10 | 1.10 | .23 | .30 | .05 | * |
| (F) | 88,740 | 1.20 | 2.25 | .02 | 1.15 | 1.16 | .25 | .30 | .25 | .08 |

*No bid.

GRADE-DRAIN-SUBGRADE STABILIZER—ARIZONA

ARIZONA STATE.—Martin Bros., Trucking Co., 1389 Gladys Ave., Long Beach, awarded contract by State Highway Commission, at \$56,931.91 for highway construction on Phoenix-Prescott Highway, P. A. 84-B. The work begins at Congress Junction and extends south 12½ miles to Yavapai-Maricopa County line. Project involves:

ROADWAY

- (1) 39,847 cu. yds. roadway excav. (unclass.);
- (2) 2101 cu. yds. drainage excav. (unclass.);
- (3) 634 cu. yds. struc. excav. (unclass.);
- (4) 39,239 cu. yds. borrow excav. (unclass.);
- (5) 25,407 sta. yds. earthwork over-haul;
- (6) 50,412 cu. yds. subgrade stabilizer
- (7) 96,814 cy. mi. subgrade stabilizer, haul;
- (8) 100 cu. yds. class A concr. (incl. cement);
- (9) 134 cu. yds. class B concr. (incl. cement);
- (10) 9420 lbs. reinf. fl steel (C.I.P.);
- (11) 1432 lin. ft. 24-in. C. M. P. (C. I. P. except excavation);
- (12) 176 lin. ft. 30-in. C. M. P. (C.I.P. except excavation);

- 1 stand. flushing struc. No. 2, stand.;
- 95 stand. manhole f-rame and cover sets;
- 4 existing struc. to be remodeled;
- 12 10x6-in. saddles;
- (2) 5732 ft. 6-in. house connections, cement pipe, includ. 220 6x¼-in. inch bends;
- (3) 186 vert. ft. of 6-in. chimney pipe includ. 26 6-in. ¼-in. bends, 26 6-in. ¼ bends, 26 6x6-in. wyes;
- (4) 26,420 sq. ft. Class A.A. resurf.;
- (5) 649 sq. ft. Class A resurf.;
- (6) 171 sq. ft. Class C resurf. (4-in.);
- (7) 20,025 do (\$-in.);
- (8) 211 sq. ft. do (10-in.);
- (9) 638 sq. ft. Class D resurf.;
- (10) 1641 sq. ft. D. G. resurf. (4-in.).

This job, previously advertised, was awarded to Mike Radich on June 29 at \$129,775, but Radich failed to sign the contract.

Total bids follow:

| | |
|-------------------------------|--------------|
| (A) Bebek & Krkich | \$123,435.92 |
| (B) Kemper Const. Co. | 123,226.15 |
| (C) Drainage Const. Co. | 133,112.41 |
| (D) R. A. Wattson | 140,738.85 |
| (E) Bob Bosko | |
| (F) Engineer's estimate | 102,050.34 |

Unit prices follow:

| | | | | | | | | | |
|-------|--------|--------|--------|--------|--------|-------|-----|-----|------|
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
| \$0.2 | \$1.15 | \$1.17 | \$2.25 | \$3.30 | \$2.25 | \$0.5 | | | |
| .025 | 1.10 | 1.15 | .25 | .30 | .25 | .05 | | | |
| .02 | 1.15 | 1.15 | .20 | .25 | .20 | .06 | | | |
| .02 | 1.15 | 1.30 | .40 | .45 | .30 | .05 | | | |
| .02 | 1.10 | 1.10 | .23 | .30 | .05 | * | | | |
| .02 | 1.15 | 1.16 | .25 | .30 | .25 | .08 | | | |

- (13) 74 lin. ft. 36-in. C. M. P. (C.I.P. except excavation);
- (14) 56 lin. ft. reset. 18-in. C. M. P. (C.I.P. incl. all mats, and work)
- (15) 178 cu. yds. plain riprap (C.I.P.);
- (16) 7890 lin. ft. VEE ("V") ditch;

STRUCTURES OVER 20 FT. CLEAR SPAN

- (17) 730 cu. yds. drainage excav. (unclass.);
 - (18) 281 cu. yds. struc. excav. (unclass.);
 - (19) 213 cu. yds. Class A concrete (including cement);
 - (20) 24,195 lbs. reinf. steel (C. I. P.);
- The total bids were:
- | |
|---|
| (A) Martin Bros. Trucking Co., Long Beach, \$56,931.91. |
| (B) Skousen Bros., Mesa, Ariz., \$53,010.35. |
| (C) Hodgman & MavVicar, Winslow, Ariz., \$58,014.76. |
| (D) Phoenix-Tempe Stone Co., Phoenix, \$64,786.54. |
| (E) Ralph Pleasant Const. Co., Phoenix, \$65,545.60. |
| (F) Packard & Tanner, Phoenix, \$65,724.01. |
| (G) Skeels & Graham Co., Tucson, \$67,196.93. |
| (H) V. R. Dennis Const. Co., San Diego, \$69,600.67. |

The unit bids were:

| | | | | | | | |
|--------|--------|--------|--------|--------|--------|--------|--------|
| (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) |
| \$.22 | \$.25 | \$.20 | \$.21 | \$.28 | \$.27 | \$.22 | \$.30 |
| .17 | .25 | .16 | .15 | .25 | .20 | .20 | .30 |
| .75 | .50 | .80 | .65 | 1.00 | .80 | .85 | .75 |
| .17 | .19 | .16 | .16 | .21 | .18 | .19 | .20 |
| .02 | .02 | .01 | .02 | .02 | .02 | .015 | .02 |
| .36 | .38 | .40 | .46 | .40 | .45 | .45 | .50 |
| .09 | .07 | .08 | 1.0 | .09 | .09 | .11 | .07 |
| 18.25 | 18.00 | 19.00 | 20.00 | 19.50 | 19.00 | 20.00 | 21.00 |
| 18.25 | 18.00 | 19.00 | 20.00 | 19.50 | 19.00 | 20.00 | 21.00 |
| .04 | .04 | .045 | .045 | .04 | .04 | .045 | .04 |
| 1.50 | 1.50 | 2.00 | 1.75 | 1.85 | 2.10 | 2.25 | 2.00 |
| 1.90 | 2.00 | 2.50 | 2.00 | 2.50 | 2.50 | 2.75 | 3.00 |
| 3.00 | 4.00 | 4.00 | 3.25 | 4.00 | 4.50 | 3.75 | 5.00 |
| .50 | 5.00 | 1.00 | .85 | 1.00 | 1.00 | 1.00 | 1.00 |
| 2.50 | 2.50 | 1.50 | 3.50 | 2.00 | 3.00 | 3.00 | 3.50 |
| .03 | .03 | .05 | .18 | .15 | .05 | .10 | .05 |
| .17 | .25 | .16 | .15 | .25 | .20 | .20 | .30 |
| .75 | .50 | .80 | .65 | 1.00 | .80 | .85 | .75 |
| 18.25 | 18.00 | 19.00 | 20.00 | 19.50 | 19.00 | 20.00 | 21.00 |
| .04 | .04 | .045 | .045 | .04 | .04 | .045 | .04 |

LOS ANGELES, Cal.—As previously reported, Constructors, Inc., 1304 Edwards & Wilder Bldg., 609 S Grand Ave., Los Angeles, submitted only bid to County Supervisors August 1, at (A) \$11,270,043.55 (Proposal No. 1, using Gunite facing) and at \$11,215,868.55 (Proposal No. 2, using poured face) for the construction of a rock fill dam in San Gabriel Canyon, 2.4 mi. downstream from the Forks and 8.6 miles from Azusa.

The plans call for a rock fill dam with poured concrete or Gunite facing slabs. The proposed dam will be 259 ft. in height above stream bed (extending practically 100 ft. below foundation rock); 1670 feet in length measured along the road on the crest, and 1200 ft. thick at the base. The total estimated cost is \$10,000,000.

The approximate quantities as shown by the two alternate proposals are as follows:

- PROPOSAL NO. 1
- (1) 400,000 cu. yds. Class A excav. on west abutment above elevation 1190;
 - (2) 125,000 cu. yds. Class B excav. on east abutment above eleva. 1190;
 - (3) 659,000 cu. yds. Class C excav. streambed below elevation 1190 in vicinity of cut-off;
 - (4) 633,000 cu. yds. Class D excava., streambed below eleva. 1190 downstream from cut-off;
 - (5) 15,000 cu. yds. Class E excava., cut-off trenches;
 - (6) 24,000 cu. yds. Class F excava., misc. open cut;
 - (7) 1750 cu. yds. Class G excavation, inclined outlet shaft;
 - (8) 62,700 cu. yds. Class H excava., main outlet tunnel;
 - (9) 735 cu. yds. Class J excavation, spillway pilot tunnel;
 - (10) 55,000 cu. yds. backfill;
 - (11) 4,100,000 cu. yds. Class A rockfill in body of dam;
 - (12) 643,000 cu. yds. Class B rockfill below streambed downstream from cut-off;
 - (13) 470,000 cu. yds. Class C rockfill, large rock on downstream face
 - (14) 349,000 cu. yds. Class D rockfill, packed on upstream face;
 - (15) 19,100 cu. yds. Class A concrete, main cut-off wall;
 - (16) 725 cu. yds. Class B reinf. conc.;
 - (17) 3300 cu. yds. Class C concrete, trash racks and tunnel outlet;
 - (18) 400 cu. yds. Class D concrete, lining in outlet shaft;
 - (19) 13,800 cu. yds. Class E concrete, lining in outlet tunnel;
 - (20) 35,500 cu. yds. Class F concrete, plain concrete;
 - (21) 325 cu. yds. Class G concrete, tunnel plug;
 - (22) 6600 cu. yds. Class H concrete, footer slabs;
 - (23) 2,167,000 sq. ft. placing 6-in. Gunite facing slabs;
 - (24) 4500 lin. ft. drilling grout holes, Class A, less than 50 ft.;
 - (25) 11,300 lin. ft. drilling grout holes, Class B, greater than 10 ft. and less than 50 ft.;
 - (26) 34,000 lin. ft. drilling grout holes, Class C, greater than 50 ft. and less than 150 ft.;
 - (27) 8500 lin. ft. drilling grout holes, Class D, redrilling thru grout;
 - (28) 17,500 lin. ft. drilling grout holes, Class E, less than 20 ft., in shaft tunnels only;
 - (29) 2500 holes, placing fittings on grout holes;
 - (30) 6650 lin. ft. placing grout pipe;
 - (31) 620 cu. yds. pressure grouting;
 - (32) 36,000 lin. ft. placing metal seals;
 - (33) 220,000 lbs. place gates and valves

- (34) 154,000 lbs. place steel trash racks
- (35) 3000 lbs. place iron pipe hand-ralling;
- (36) 5350 lbs. place structural steel;
- (37) 148,000 lbs. place iron pipe for valve operation;
- (38) 1000 lbs. placing operating machinery;
- (39) 7,675,000 lbs. place reinf. steel;
- (40) 1500 lbs. place iron pipe conduit;
- (41) 3100 lbs. place misc. metal;
- (42) 2040 lin. ft. placing tile drains;
- (43) 1120 lin. ft. place steel dowels.

PROPOSAL NO. 2

Same as No. 1, except:
(25) 2,167,000 sq. ft. placing 6-in. concrete facing slabs.

Unit bids follow:

| Proposal No. 1 | (A) | (B) |
|----------------|-------|-------|
| (1)..... | \$.80 | \$.50 |
| (2)..... | .80 | .75 |
| (3)..... | .53 | .50 |
| (4)..... | .37 | .40 |
| (5)..... | 7.00 | 4.00 |
| (6)..... | 1.86 | 1.50 |
| (7)..... | 10.00 | 6.00 |
| (8)..... | 8.00 | 4.00 |
| (9)..... | 9.56 | 15.00 |
| (10)..... | .36 | .30 |
| (11)..... | 1.25 | 1.15 |
| (12)..... | 1.00 | .90 |
| (13)..... | 2.50 | 1.50 |
| (14)..... | 4.10 | 3.50 |
| (15)..... | 5.06 | 5.00 |
| (16)..... | 15.49 | 10.00 |
| (17)..... | 10.05 | 10.00 |
| (18)..... | 13.46 | 15.00 |
| (19)..... | 12.00 | 14.00 |
| (20)..... | 5.89 | 6.00 |
| (21)..... | 8.10 | 6.00 |
| (22)..... | 6.30 | 10.00 |
| (23)..... | .16 | .17 |
| (24)..... | .41 | .50 |
| (25)..... | 1.42 | 1.00 |
| (26)..... | 2.33 | 2.25 |
| (27)..... | 1.21 | 1.00 |
| (28)..... | .71 | 1.00 |
| (29)..... | .62 | 1.00 |
| (30)..... | .36 | .20 |
| (31)..... | 29.94 | 25.00 |
| (32)..... | .26 | .25 |
| (33)..... | .023 | .015 |
| (34)..... | .023 | .015 |
| (35)..... | .17 | .015 |
| (36)..... | .04 | .015 |
| (37)..... | .04 | .015 |
| (38)..... | .16 | .015 |
| (39)..... | .015 | .015 |
| (40)..... | .13 | .015 |
| (41)..... | .10 | .015 |
| (42)..... | .83 | .25 |
| (43)..... | .56 | .50 |

Proposal No. II

| | | |
|-----------|------|-----|
| (23)..... | .135 | .15 |
|-----------|------|-----|

BIDS OPENED

SAN FRANCISCO. — Following bids received by Public Utilities Commission for laying an 8-inch cast iron pipe line in Jefferson St. from Powell to Leavenworth Sts., involving:

- (1) 1970 ft. excavation, backfill, 17x45-in. trench;
 - (2) 34 sq. yds. excavation, backfill and remove surplus;
 - (3) 53 tons install pipe, except joints;
 - (4) 328 ft. mineral lead joints.
- (A) J. O'Shea.
(B) E. J. Treacy.
(C) Fay Improvement Co.
(D) Eaton & Smith.
(E) Pacific Pavements, Ltd.
(F) San Francisco Water Dept.
(G) Lacey & Schulz.

Unit bids follow:

| | (1) | (2) | (3) | (4) |
|----------|-------|--------|--------|-------|
| (A)..... | \$.31 | \$1.25 | \$2.10 | \$.40 |
| (B)..... | .42 | 1.00 | 2.57 | .29 |
| (C)..... | .47 | 1.50 | 6.55 | .43 |
| (D)..... | .60 | 1.00 | 13.00 | .50 |
| (E)..... | .43 | 2.17 | 6.71 | .375 |
| (F)..... | .63 | 4.00 | 2.39 | .20 |
| (G)..... | .375 | 1.00 | 6.83 | .30 |

Bids held under advisement.

GRADE-DRAIN-SUBGRADE STABILIZER—ARIZONA

ARIZONA STATE.—Packard and Tanner, 905 W Latham St., Phoenix, awarded contract by State Highway Commission, at \$98,568.10 for highway construction between Mesa and Casa Grande Ruins, F. A. 97-A. The work begins 1 1/4 miles south east of Chandler and extends northwest 10 3/4 miles to the concrete pavement four miles due south of Chandler. Project involves:

Schedule No. 1—(Roadway)

- (1) 831 cu. yds. rdwy. excav., unclass.
- (2) 5565 cu. yds. drainage excav., unclass.;
- (3) 223 cu. yds. struc. excav., unclass.
- (4) 70,356 cu. yds. borrow excav., unclass.;
- (5) 20,894 sta. yds. earthwork overhaul;
- (6) 21,690 cu. yds. subgrade stabilizer
- (7) 39,531 cu. yds. do, haul;
- (8) 111 cu. yds. Class A concrete (including cement);
- (9) 39 cu. yds. Class B concrete (including cement);
- (10) 4488 lbs. reinf. steel (C.I.P.);
- (11) 432 lin. ft. 24-in. C. M. P. (C.I.P. except excav.);
- (12) 72 lin. ft. reset 30-in. C. M. P. (C.I.P.);
- (13) 25 cu. yds. removal of concrete and rubble masonry;
- (14) lump sum, salvaging and reset irrigation gates;
- (15) 1066 M. gals. water applied to roadway (C.I.P.);

Schedule No. 1—Structures over 20 ft. Clear Span

- (16) 5476 cu. yds. drainage excavation (unclass.);
- (17) 2345 cu. yds. struc. excavation, (unclass.);
- (18) 2156 cu. yds. Class A concrete, (inc. cement);
- (19) 229,860 lbs. reinf. steel bars (C. I. P.);

Schedule No. 2—(Roadway)

- (20) 1734 cu. yds. rdwy. excav. unclass.
- (21) 10 cu. yds. drainage excav., unclass.;
- (22) 234 cu. yds. struc. excav., unclass.;
- (23) 19,641 cu. yds. borrow excav., unclass.;
- (24) 15,856 cu. mi. borrow, haul;
- (25) 2801 sta. yds. earthwork overhaul
- (26) 9213 cu. yds. subgrade stabilizer;
- (27) 47,881 cu. yds. subgrade stabilizer haul;
- (28) 177 cu. yds. Class A concrete (including cement);
- (29) 6 cu. yds. Class B do;
- (30) 87 sq. yds. concrete canal lining (C.I.P.);
- (31) 14,609 lbs. reinf. steel bars (C. I. P.);
- (32) 78 sq. yds. reinf. steel (mesh) (C.I.P.);
- (33) 36 lin. ft. 30-in. C. M. P. (C.I.P. except excav.);
- (34) 15,415 lin. ft. stand. line fence (C.I.P.);
- (35) 179 removal of trees;
- (36) 3 metal fence gates (C.I.P.);
- (37) 453 M. gals. water applied to rdwy. (C.I.P.);

Non-Federal Aid

- (38) 7 cu. yds. rdwy. excav. unclass.;
- (39) 407 cu. yds. borrow excav., unclass.

The total bids were:

- (A) Packard & Tanner, Phoenix, \$98,568.19.
 - (B) R. H. Martin, Tucson, \$98,718.84.
 - (C) C. G. Willis & Sons, Inc., Los Angeles, \$100,964.47.
 - (D) Phoenix-Tempe Stone Co., Phoenix, \$102,221.43.
 - (E) Ralph Pleasant, Phoenix, \$106,875.98.
 - (F) Skeels & Graham Co., Tucson, \$106,929.26.
 - (G) Hodgman & MacVicar, Winslow, Ariz., \$108,480.29.
- The unit bids were:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) |
|-----------|--------|-------|--------|--------|--------|--------|--------|
| (1)..... | \$.25 | \$.20 | \$.22 | \$.18 | \$.175 | \$.18 | \$.20 |
| (2)..... | .17 | .16 | .19 | .16 | .175 | .17 | .20 |
| (3)..... | .70 | .70 | .75 | .65 | 1.00 | .75 | .80 |
| (4)..... | .15 | .16 | .19 | .15 | .175 | .18 | .18 |
| (5)..... | .02 | .01 | .02 | .01 | .02 | .01 | .01 |
| (6)..... | .36 | .35 | .38 | .33 | .40 | .40 | .35 |
| (7)..... | .09 | .08 | .10 | .10 | .09 | .09 | .08 |
| (8)..... | 17.00 | 17.30 | 18.00 | 18.50 | 19.00 | 18.50 | 19.50 |
| (9)..... | 18.00 | 17.30 | 24.00 | 18.50 | 19.00 | 18.50 | 19.50 |
| (10)..... | .04 | .0375 | .044 | .045 | .04 | .045 | .045 |
| (11)..... | 2.05 | 2.25 | 2.00 | 1.50 | 2.00 | 2.25 | 2.00 |
| (12)..... | 1.00 | 1.00 | .75 | .75 | 1.00 | 1.00 | 2.00 |
| (13)..... | 4.00 | 2.00 | 3.00 | 8.00 | 4.00 | 5.00 | 5.00 |
| (14)..... | 100.00 | 50.00 | 100.00 | 200.00 | 150.00 | 150.00 | 200.09 |
| (15)..... | 2.50 | 3.00 | 2.00 | 2.00 | 1.50 | 1.75 | 2.00 |
| (16)..... | .17 | .16 | .19 | .16 | .175 | .17 | .20 |
| (17)..... | .70 | .70 | .75 | .75 | 1.00 | .75 | .80 |
| (18)..... | 17.00 | 17.30 | 15.25 | 18.50 | 19.00 | 18.50 | 19.50 |
| (19)..... | .04 | .04 | .044 | .045 | .04 | .045 | .045 |
| (20)..... | .25 | .20 | .22 | .18 | .175 | .18 | .20 |
| (21)..... | .20 | .16 | .19 | .25 | .175 | .17 | .20 |
| (22)..... | .70 | .70 | .75 | .75 | 1.00 | .75 | .80 |
| (23)..... | .15 | .16 | .19 | .15 | .175 | .18 | .18 |
| (24)..... | .10 | .12 | .10 | .10 | .12 | .15 | .20 |
| (25)..... | .02 | .01 | .02 | .02 | .02 | .02 | .01 |
| (26)..... | .36 | .35 | .38 | .33 | .40 | .40 | .35 |
| (27)..... | .09 | .08 | .10 | .10 | .09 | .09 | .08 |
| (28)..... | 17.00 | 17.30 | 18.00 | 18.50 | 19.00 | 18.50 | 19.50 |
| (29)..... | 18.00 | 17.30 | 24.00 | 18.50 | 19.00 | 18.50 | 19.50 |
| (30)..... | 3.00 | 2.00 | 1.25 | 2.50 | 2.00 | 2.00 | 2.00 |
| (31)..... | .04 | .0375 | .044 | .045 | .04 | .045 | .045 |
| (32)..... | .15 | .25 | .55 | .25 | .20 | .50 | .50 |
| (33)..... | 2.50 | 2.50 | 2.35 | 2.25 | 2.75 | 2.75 | 2.50 |
| (34)..... | .065 | .05 | .065 | .06 | .06 | .06 | .06 |
| (35)..... | 4.50 | 5.00 | 5.50 | 5.00 | 2.00 | 5.00 | 4.00 |
| (36)..... | 25.00 | 25.00 | 24.00 | 20.00 | 13.00 | 20.00 | 25.00 |
| (37)..... | 2.50 | 3.00 | 2.00 | 2.00 | 1.50 | 1.75 | 2.00 |
| (38)..... | .25 | .20 | .22 | .25 | .175 | .18 | .20 |
| (39)..... | .15 | .16 | .19 | .20 | .175 | .18 | .18 |

GRADE-CONCRETE PAVEMENT—LOS ANGELES COUNTY

LOS ANGELES COUNTY, Calif.—Griffith Co., 502 Los Angeles Railway Bldg., Los Angeles, at \$27,985.20 submitted low bid to the State Highway Commission, Sacramento, August 3 to grade and pave with Portland cement concrete 6.2 miles between Brea Canyon and Pomona, involving:

- (1) 326 sta. clear and grub right of way;
- (2) 227,000 cu. yds. rdwy. excav., unclass. (Location A);
- (3) 165,100 cu. yds. do (Location B);
- (4) 2,200,000 sta. yds. overhaul;
- (5) 13,270 M. gals. water (embank.);
- (6) 6,000 cu. yds. struc. excav.;
- (7) 15,200 cu. yds. Class A Port. cem. conc. (pave.);
- (8) 985 cu. yds. Class A Port. cem. conc. (struc.);

- (9) 445,000 lbs. bar reinf. steel (pave. and struc.);
 - (10) 16,000 cu. yds. sel. material;
 - (11) 71,330 sq. yds. subgrade for pave.;
 - (12) 870 lin. ft. 8-in. corr. metal pipe
 - (13) 2,150 lin. ft. 24-in. do;
 - (14) 100 lin. ft. 30-in. do;
 - (15) 300 lin. ft. 36-in. do;
 - (16) 260 lin. ft. 48-in. do;
 - (17) 150 lin. ft. bank protection fence;
 - (18) 4.62 ml. Type A property fence;
 - (19) 1.88 ml. Type B do;
 - (20) 3.18 ml. Type C do;
 - (21) 24 gates complete in place;
 - (22) 70 culvert markers complete in place;
 - (23) 326 sta. finish roadway;
 - (24) 72 monuments complete in place.
- State will furnish corrugated metal pipe and spillway assemblies.
Complete bids follow:

- (A) Griffith Co., Los Angeles, \$227,985.20.
 - (B) Peninsula Paving Co. and J. P. Holland, San Francisco, \$240,473.30
 - (C) Jahn & Bressi, Los Angeles, \$240,706.00.
 - (D) J. L. McClain, Los Angeles, \$248,398.50.
 - (E) Sharp & Fellows, Los Angeles, \$249,790.10.
 - (F) J. E. Haddock & Ltd., Pasadena, \$258,432.65.
 - (G) Von der Hellen & Pierson, Castaic \$260,674.30.
 - (H) United Concrete Pipe Corp., Los Angeles, \$269,520.50.
 - (I) T. M. Morgan Paving Co., Los Angeles, \$276,601.00.
 - (J) Mitty Bros. Const. Co., Los Angeles, \$290,861.70.
- Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) |
|-----------|---------|---------|---------|---------|---------|---------|---------|----------|---------|---------|
| (1)..... | \$ 3.00 | \$ 5.00 | \$ 4.00 | \$ 4.00 | \$ 3.00 | \$ 6.00 | \$ 4.00 | \$ 10.00 | \$ 4.00 | \$ 5.00 |
| (2)..... | .15 | .22 | .16 | .18 | .175 | .17 | .20 | .20 | .20 | .30 |
| (3)..... | .30 | .28 | .35 | .35 | .315 | .36 | .35 | .30 | .43 | .36 |
| (4)..... | .002 | .0035 | .0025 | .003 | .004 | .005 | .005 | .005 | .0025 | .006 |
| (5)..... | .32 | .40 | .30 | .30 | .45 | .40 | .60 | .63 | .40 | .50 |
| (6)..... | .40 | .75 | .60 | .50 | .60 | .50 | .50 | .70 | .50 | .80 |
| (7)..... | 5.40 | 5.13 | 5.65 | 5.50 | 5.55 | 5.60 | 5.40 | 6.25 | 6.00 | 5.55 |
| (8)..... | 11.00 | 13.60 | 12.00 | 11.00 | 12.00 | 12.00 | 11.00 | 15.00 | 15.00 | 14.00 |
| (9)..... | .04 | .033 | .0375 | .033 | .04 | .04 | .04 | .038 | .04 | .04 |
| (10)..... | .50 | .40 | .45 | .85 | .48 | .55 | .70 | .50 | .60 | .28 |
| (11)..... | .06 | .05 | .05 | .05 | .07 | .065 | .06 | .08 | .05 | .09 |
| (12)..... | .50 | .20 | .20 | .25 | .25 | .20 | .25 | .25 | .25 | .40 |
| (13)..... | .40 | .25 | .40 | .35 | .35 | .35 | .30 | .35 | .40 | .50 |
| (14)..... | .40 | .30 | .60 | .35 | .50 | .40 | .30 | .35 | .50 | .75 |
| (15)..... | .50 | .30 | .75 | .50 | .60 | .50 | .50 | .40 | .60 | 1.00 |
| (16)..... | .70 | .30 | .75 | .75 | .90 | .80 | .50 | .45 | 1.00 | 1.50 |
| (17)..... | 4.00 | 3.00 | 3.00 | 3.00 | 5.00 | 4.00 | 3.00 | 3.00 | 3.00 | 2.70 |
| (18)..... | 450.00 | 540.00 | 450.00 | 450.00 | 550.00 | 640.00 | 400.00 | 350.00 | 350.00 | 350.00 |
| (19)..... | 600.00 | 600.00 | 425.00 | 450.00 | 600.00 | 525.00 | 450.00 | 350.00 | 425.00 | 600.00 |
| (20)..... | 600.00 | 650.00 | 500.00 | 600.00 | 700.00 | 655.00 | 600.00 | 350.00 | 525.00 | 650.00 |
| (21)..... | 14.00 | 12.00 | 30.00 | 14.00 | 14.00 | 45.00 | 20.00 | 15.00 | 20.00 | 18.00 |
| (22)..... | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.50 | 1.50 | 2.00 | 1.75 | 2.00 |
| (23)..... | 4.00 | 4.50 | 5.00 | 4.00 | 5.00 | 5.00 | 3.00 | 5.00 | 4.00 | 6.00 |
| (24)..... | 2.00 | 2.50 | 2.50 | 2.00 | 3.00 | 2.50 | 3.00 | 2.00 | 2.50 | 2.00 |

GRADE-ASPHALT CONC. PAVE.—IMPERIAL COUNTY

IMPERIAL COUNTY, Calif.—V. R. Dennis Const. Co., 3911 5th Ave., San Diego, at \$287,725 submitted low bid to the State Highway Commission, Sacramento, to grade and pave with asphalt concrete about 7.9 miles between Sand Hills and Araz Junction, involving:

- (1) 205,000 cu. yds. rdwy. excav. without class;
- (2) 775,000 sta. yds. overhaul;
- (3) 144,000 cu. yds. ditch and channel excav.;
- (4) 51,300 cu. yds. sel. material;
- (5) 10,000 cu. yds. struc. excav.;
- (6) 90,100 eq. yds. subgrade for pave.;
- (7) 38,500 tons asph. conc.;
- (8) 400 hhls. heavy fuel oil (detour);
- (9) 30 lin. ft. 24-in. corr. metal pipe
- (10) 830 lin. ft. 36-in. do;
- (11) 80 lin. ft. solid timber guard rail;
- (12) 26,600 lin. ft. furnish treated piles;
- (13) 1003 drive piles;
- (14) 56,000 lbs. struc. metal;

- (15) 377 M. ft. b. m. redwood timber, dense sel.-heart struc. grade;
 - (16) 361 M. ft. b. m. redwood timber, sel.-heart struc. grade;
 - (17) rearrange existing improvements;
 - (18) 406 sta. finishing roadway;
 - (19) 130 monuments complete in place.
- State will furnish corrugated metal pipe.
Complete bids follow:
- (A) V. R. Dennis Const. Co., San Diego, \$287,725.
 - (B) R. E. Hazard Contr. Co., San Diego, \$288,916.50.
 - (C) Peninsula Paving Co. and J. P. Holland, San Francisco, \$294,537.
 - (D) Griffith Co., Los Angeles, \$304,986.
 - (E) Oswald Bros., Los Angeles, \$306,189.95.
 - (F) Erickson & Watson and Jones & King, Oakland, \$324,343.
 - (G) Daley Corp., San Diego, \$332,380.
- Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (A) | (B) | (C) | (D) | (E) |
|-----------|---------|--------|---------|---------|---------|---------|---------|-------|--------|-------|---------|-------|
| (1)..... | \$.18 | \$.20 | \$.18 | \$.20 | \$.18 | \$.15 | \$.215 | \$.01 | \$.015 | \$.02 | \$.0154 | \$.02 |
| (2)..... | .005 | .009 | .005 | .005 | .012 | .005 | .005 | 1.13 | 1.20 | 1.10 | 1.90 | 1.70 |
| (3)..... | .10 | .20 | .14 | .13 | .12 | .15 | .117 | 2.00 | 2.54 | 2.36 | 2.53 | 2.60 |
| (4)..... | .30 | .40 | .40 | .40 | .50 | .60 | .46 | 2.00 | 2.54 | 2.34 | 2.54 | 2.60 |
| (5)..... | .50 | .30 | .50 | .40 | .20 | .40 | .50 | 2.10 | 2.54 | 2.55 | 2.80 | 2.75 |
| (6)..... | .06 | .05 | .07 | .06 | .07 | .09 | .11 | 17.00 | 13.20 | 17.00 | 14.00 | 13.00 |
| (7)..... | 3.15 | 2.70 | 2.83 | 3.21 | 3.03 | 3.53 | 3.87 | | | | | |
| (8)..... | 2.00 | 3.00 | 3.00 | 2.40 | 4.00 | 3.00 | 2.15 | | | | | |
| (9)..... | .50 | .50 | .20 | .50 | .45 | .35 | .50 | | | | | |
| (10)..... | .70 | .50 | .50 | .50 | .65 | .60 | .70 | | | | | |
| (11)..... | 2.00 | 1.50 | 1.00 | .90 | 1.00 | 1.00 | 1.00 | | | | | |
| (12)..... | .50 | .55 | .60 | .53 | .60 | .64 | .55 | | | | | |
| (13)..... | 10.00 | 7.50 | 10.00 | 10.00 | 9.75 | 8.00 | 5.00 | | | | | |
| (14)..... | .05 | .05 | .05 | .05 | .0575 | .065 | .048 | | | | | |
| (15)..... | 74.00 | 72.00 | 80.00 | 75.00 | 81.50 | 78.00 | 70.00 | | | | | |
| (16)..... | 73.00 | 67.00 | 70.00 | 70.00 | 73.50 | 72.00 | 70.00 | | | | | |
| (17)..... | 2500.00 | 500.00 | 3000.00 | 3500.00 | 2000.00 | 1000.00 | 2500.00 | | | | | |
| (18)..... | 2.00 | 3.00 | 4.00 | 5.00 | 3.20 | 5.00 | 4.00 | | | | | |
| (19)..... | 1.50 | 3.00 | 2.50 | 3.00 | 2.50 | 3.00 | 3.00 | | | | | |

BIDS OPENED

- SACRAMENTO, Cal.—J. R. Reeves, Route 3, Box 100, Sacramento, at \$8,709.44 submitted low bid to county supervisors to construct an asphalt macadam pavement on Lower Stockton Road, involving:
- (1) 134,400 sq. ft. finished subgrade;
 - (2) 1,688 tons 1½-in. road rock;
 - (3) 1,188 tons 1½-in. clean crushed rock;
 - (4) 444 tons ¾-in. crushed rock;
 - (5) 300 tons screenings;
 - (6) 92 tons asphalt.
- Complete bids follow:
- (A) J. R. Reeves, Sacramento, \$8,709.44.
 - (B) A. Teichert & Son, Sacramento, \$10,163.28.
 - (C) E. F. Hilliard, Sacramento, \$10,716.44.
 - (D) McMillan Const. Co., Sacramento, \$11,597.76.
 - (E) C. W. Wood, Stockton, \$11,821.80.
- Unit bids follow:

AWARD

- SAN JOSE, Santa Clara Co., Calif.—Valley Paving & Construction Co., P. O. Box 1349, Fresno, at \$23,900 awarded contract by county supervisors to improve Mathilda Avenue, Supervisor District No. 5, involving 222,900 sq. ft. asphalt concrete. Complete bids follow:
- Valley Paving Co., Fresno.....\$23,900
 - A. J. Raich, San Jose.....23,930
 - Union Paving Co., S. F.....25,988

GRADING—MT. RAINIER NAT'L PARK — WASHINGTON STATE

- PIERCE COUNTY, Wash.—Joplin & Co. (6) 4.878 miles finishing; Eldon, Couch Bldg., Portland, at \$120.- (7) 150 cu. yds. masonry; (8) 540 lin. ft. 18-in. reinf. concrete (9) 696 lin. ft. 24-in. pipe in place; (10) 48 lin. ft. 30-in. do; (11) 47 lin. ft. 18-in. corr. galvaniz.-ed pipe in place; (12) 47 lin. ft. 18-in. corr. galvaniz.-ed pipe in place; (13) Laughing Creek bridge, complete; (14) 369 lin. ft. 18-in. reinf. concrete pipe; (15) 426 lin. ft. 24-in. reinf. concrete pipe in place;
- (G) E. L. Gates, Eugene, \$175,505.
 (H) Myers & Goulter, Seattle, \$178,869
 (I) Sam Orlin, Spokane, \$179,821.
 (J) General Const. Co., Seattle, \$193,-334.
 (K) Max Kuney, Spokane, \$195,017.
 (L) P. L. Crooks, Portland, \$191,091.
 (M) J. J. Boyce, Astoria, \$191,897.
 (N) L. Colwell, Seattle, \$204,890.
 (O) T. W. Rumsey, Seattle, \$222,494.
 (P) Elliott & Co., Seattle, \$223,692.
 (Q) L. Romano Eng. Co., Seattle, \$236,-648.

The unit bids were:

| (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-------------|
| \$ 550.00 | \$ 300.00 | \$ 200.00 | \$ 750.00 | \$ 600.00 | \$ 500.00 | \$ 500.00 | \$ 400.00 | \$ 250.00 | \$ 800.00 | \$ 400.00 | \$ 400.00 | \$ 400.00 | \$ 600.00 | \$ 500.00 | \$ 700.00 | \$ 1,000.00 |
| 500.00 | 300.00 | 200.00 | 800.00 | 600.00 | 500.00 | 500.00 | 400.00 | 250.00 | 800.00 | 400.00 | 400.00 | 400.00 | 600.00 | 500.00 | 700.00 | 1,000.00 |
| 43 | 55 | 64 | 59 | 63 | 65 | 70 | 72 | 73 | 80 | 75 | 80 | 82 | 70 | 30 | 85 | 115 |
| 1.50 | 1.00 | 1.50 | 1.50 | 2.00 | 1.00 | 1.25 | 1.00 | 1.25 | 1.00 | 2.00 | 2.00 | 2.00 | 4.00 | 35 | 1.00 | 5.00 |
| 300.00 | 200.00 | 400.00 | 500.00 | 300.00 | 400.00 | 400.00 | 400.00 | 300.00 | 250.00 | 600.00 | 600.00 | 200.00 | 600.00 | 1,000.00 | 1,500.00 | 1,500.00 |
| 12.00 | 10.00 | 10.00 | 15.00 | 18.00 | 10.00 | 12.00 | 10.00 | 15.00 | 15.00 | 14.00 | 14.00 | 14.00 | 15.00 | 12.00 | 13.00 | 16.00 |
| 3.00 | 1.00 | 1.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| 3.00 | 1.60 | 2.00 | 2.50 | 3.00 | 2.75 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 |
| 3.40 | 2.50 | 5.50 | 4.00 | 4.00 | 4.00 | 4.00 | 4.50 | 3.25 | 3.00 | 4.50 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| 5.00 | 3.50 | 6.50 | 6.00 | 6.00 | 6.00 | 6.00 | 6.00 | 6.00 | 6.00 | 6.00 | 6.00 | 6.00 | 6.00 | 6.00 | 6.00 | 6.00 |
| 1.50 | 1.35 | 1.50 | 2.00 | 1.80 | 2.50 | 1.70 | 1.50 | 1.75 | 1.60 | 2.50 | 2.00 | 2.00 | 2.00 | 2.50 | 2.50 | 2.50 |
| 4,000.00 | 2,500.00 | 3,000.00 | 3,000.00 | 4,000.00 | 4,000.00 | 3,500.00 | 4,000.00 | 4,000.00 | 2,900.00 | 3,500.00 | 3,500.00 | 3,500.00 | 6,000.00 | 4,700.00 | 6,000.00 | 4,500.00 |
| 1.60 | 1.30 | 2.25 | 2.25 | 3.00 | 3.00 | 1.60 | 1.60 | 2.30 | 2.00 | 2.50 | 2.50 | 2.50 | 3.00 | 3.25 | 2.90 | 4.00 |
| 2.25 | 1.75 | 3.25 | 3.00 | 4.00 | 4.25 | 2.45 | 3.00 | 2.50 | 2.25 | 4.00 | 3.50 | 3.25 | 5.00 | 6.00 | 4.25 | 4.40 |
| 7.00 | 6.50 | 10.00 | 8.50 | 8.50 | 11.00 | 7.85 | 7.50 | 7.25 | 8.00 | 10.00 | 7.00 | 9.00 | 12.00 | 8.00 | 11.10 | 12.00 |
| 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |

Award recommended to low bidder.

BIDS OPENED

- MARIN COUNTY, Calif.—Hutchinson Co., 1450 Harrison St., Oakland, at \$7776.50 submitted low bid to District Engineer, State Highway Commission, San Francisco, to apply bituminous surface treatment to three miles between Alto and Waldo, involving:
- (1) 360 tons screenings;
 (2) 185 tons cut-back asphalt.
- Complete bids follow:
- (A) Hutchinson Co., Oakland.....\$7776.50
 (B) Helwig Const. Co., Sebastopol.....9646.50
 (C) Peninsula Paving Co., San Francisco.....9770.00
 (D) A. J. Ralsch, S. F.....10,279.75
 (E) S. M. McGaw, Stockton, 10,490.00
 (F) Heafey-Moore, Oakland, 10,500.00
 (G) H. W. Wood, Stockton.....10,560.00
 (H) Highway Builders, San Anselmo.....11,220.00
 (I) Oilfields Truck Co., Taft.....15,218.00

Unit bids follow:

| (A) | (1) | (2) |
|----------|--------|---------|
| ..... | \$1.60 | \$10.90 |
| (B)..... | 2.14 | 10.50 |
| (C)..... | 2.20 | 10.00 |
| (D)..... | 3.19 | 12.95 |
| (E)..... | 2.40 | 10.00 |
| (F)..... | 2.30 | 12.00 |
| (G)..... | 2.40 | 12.00 |
| (H)..... | 2.50 | 12.00 |
| (I)..... | 3.22 | 19.60 |

Bids held under advisement.

BIDS OPENED

- MARIN COUNTY, Calif.—P. S. Harless, P. O. Box 594, San Rafael, at \$3225 submitted low bid to District Engineer, State Highway Commission, San Francisco, to surface with bituminous treated crushed gravel or stone surfacing about 2.2 miles between Novato and Ignacio, involving:
- (1) 800 tons crushed gravel or stone;
 (2) 45 tons cut-back asphalt;
 (3) 7000 sq. yds. asphalt binder.
- Complete bids follow:
- (A) P. S. Harless, San Rafael, \$3225.00
 (B) Heafey-Moore, Oakland.....4347.50
 (C) W. H. Larsen, Berkeley.....5160.00

Unit bids follow:

| (A) | (1) | (2) | (3) |
|----------|--------|---------|--------|
| ..... | \$3.35 | \$ 9.00 | \$0.02 |
| (B)..... | 4.50 | 13.50 | .02 |
| (C)..... | 4.40 | ..... | .08 |

Bids held under advisement.

AWARD

- SAN MATEO, San Mateo Co., Calif.—Gus Adolphson, 706 N. Claremont, San Mateo, at \$2327.62 awarded contract by city council to grade and pave 24-ft. alley extending from El Camino Real to San Mateo Drive bet. Second and Third Avenues, involving:
- (1) 600 cu. yds. grading;
 (2) 10,650 sq. ft. concrete paving;
 (3) 30 lin. ft. concrete curb;
 (4) 450 sq. ft. 4-in. concrete sidewalk.
- Complete bids follow:
- (A) Gus Adolphson, San Mateo.....\$2327.62
 (B) N. Sisevich, San Mateo.....2335.12
 (C) Roy Lind, San Francisco.....2607.75
 (D) J. S. Baker, Burlingame.....2722.50
 (E) Empire Const. Co., S. F.....2847.30

Unit bids follow:

| (A) | (1) | (2) | (3) | (4) |
|----------|-------|---------|-------|-------|
| ..... | \$.50 | \$1.825 | \$.40 | \$.16 |
| (B)..... | .50 | .1825 | .65 | .16 |
| (C)..... | .65 | .205 | .50 | .15 |
| (D)..... | .80 | .20 | .75 | .20 |
| (E)..... | .60 | .222 | ..... | .22 |

- IMPERIAL COUNTY, Calif.—V. R. Dennis Const. Co., 3911 5th Ave., San Diego, at \$287,725 awarded contract by State Highway Commission to grade and pave with asphalt concrete about 7.9 miles between Sand Hills and Araz Junction.

ENGINEERING NEWS

BRIDGES

MERCED COUNTY, Cal.—Rocca & Caletti, P. O. Box 243, San Rafael, at \$99,853.05 awarded contract by State Highway Commission to construct a concrete and steel bridge across Merced river 1.4 miles north of Livingston, consisting of three 77-ft. deck plate girder spans on concrete piers with pile foundation and twenty-three 44.5-ft. steel beam spans on concrete pile bents.

SAN JOAQUIN COUNTY, Calif.—Lord & Bishop, Native Sons Building, Sacramento, at \$44,429.55 awarded contract by State Highway Commission, to construct bridge across Paradise Cut about 6.2-mi. east of Tracy, consisting of ten 14-ft. steel stringer spans with concrete deck on concrete pile bents and approaches to be paved with Portland cement concrete.

LOS ANGELES, Cal.—W. D. Armstrong, County Bridge Engineer, is completing plans for a timber and steel bridge to be erected on Dell Amo Ave. over the Los Angeles River near North Long Beach west of the Virginia Country Club. Proposed bridge will consist of eleven 60-ft. Howe truss spans with a 30-ft. roadway, the paving of which is not included in the present contract. Bids will be taken on Douglas fir creosoted and on untreated redwood. The estimated cost is \$60,000. The plans will probably be presented to the board of supervisors

LOS ANGELES, Cal.—As previously reported bids will be received until 2 P. M., August 29 by County Supervisors to construct a concrete arch bridge on Topanga Canyon Road over Topanga Canyon, five miles up the canyon from the Roosevelt Highway. The bridge will be 138 ft. in length, the center arch span being 70 ft. in length; width 30 ft. The approximate quantities are:

- 106,333 lbs. reinf. steel;
- 1,191.8 lbs. bronze expansion plates;
- 290 sq. ft. expansion joint material, 1-in. thick;
- 17 sq. ft. expansion joint material, ½-in. thick;
- 93.5 ft. 3x3x¼-in. angle iron;
- gutter drains, involving 20 ft. of 3-in. malleable pipe and 95 ft. ¾-in. sheet steel;
- 56 ft. 8x8-in. Hatchelder or equal;
- 574.35 cu. yds. Class A concrete;
- 274 ft. 8-in. (lin. ft.) handrail;
- 687 cu. yds. excavation;
- forms involving 1891 sq. ft. for piers and 10,496 sq. ft. for superstructure, rails, columns, footings, etc.

SAN FRANCISCO.—Opposition to the construction of the Golden Gate Bridge Project, for which bonds of \$35,000,000 were voted by the Golden Gate Bridge and Highway District, has been removed and a conference will be arranged by the Bridge District Building Committee with the low bidders on the various units of the work with a view to awarding contracts on the basis of bids received in June of 1931, it is announced by W. W. Felt, Jr., secretary of the district, with offices in the Financial Center Building. Conditional awards of contract on the bridge were made in July of last year as follows:

Contract Awards

Steel Superstructure—McClintic-Marshall Co., 2050 Bryant St., San Francisco, \$10,494,000.

Cable, Suspenders and Accessories—American Cable Co., 425 Second St., San Francisco, \$6,255,767.

Main Piers—Pacific Bridge Corp., E Water and Salmon Sts., Portland, Oregon, \$2,260,000.

Anchorage—Barrett and Hilp, 918 Harrison St., San Francisco, \$1,645,841.

San Francisco and Marin Approach Spans—Columbia Steel Co., Russ Bldg. San Francisco, \$996,000.

Sausalito Road—Granfield, Farrar & Carlin, 67 Hoff Ave., San Francisco, \$67,586.

Electric Work—Alta Electric & Mechanical Co., Inc., 938 Howard Street, San Francisco, \$142,450.

Bids Rejected

Construction of Presidio Road—Barrett & Hilp, 918 Harrison Street, San Francisco, low bidders at \$966,180.

Paving Main Approach Spans—Barrett & Hilp, low bidders, \$345,000.

Cable House and Toll Terminals—Barrett & Hilp, low bidders, \$71,430.

New bids will be asked on these three units.

Five identical bids received to furnish 100,000 barrels of Portland cement were also rejected and this material will probably be purchased in the open market.

CLARK COUNTY, Nev.—Until September 28 (approximate date) bids will be received by S. C. Durkee, State Highway Engineer, Carson City, to construct a steel and concrete bridge over the Muddy River near Glendale. Specifications will be ready for examination about Sept. 7 at the above office and will be obtainable after the above date on deposit of \$15 of which \$10 is returnable. Certified check 5% required with bid.

WASHINGTON STATE.—Until August 30, 10 A. M., bids will be received by Samuel J. Humes, Director of Highways, Olympia, for highway construction as follows:

Constructing three bridges, grading and paving with Portland cement concrete 0.3 mile of State Road No. 3, Dayton vicinity, Emergency Construction Highway Project No. E-157-A, in Columbia County, involving one 40-ft. conc. girder bridge over Patit Creek, one 6 span concrete girder bridge 262

ft. long over the N. P. Ry Co. tracks; one 5 span treated timber frame trestle 99 ft. long over the O. W. R. R. & N. Co. tracks, 42,000 cu. yds. excav., 6,250 sq. yds. pave., and other items.

Constructing bridges over Deep River and Approach Sloughs on State Road No. 12, Emergency Construction Highway Proj. No. E-178-D, in Wahkiakum County, as follows: Section 1, treated timber pile trestle 357-ft. 10-in. long; Section 2, treated timber pile trestle, 94-ft. 2-in. long, and Section 3, hand operated steel swing span 160 ft. long over Deep River with 931 ft. of treated timber pile trestle approach, all with 24 ft. roadway and one 4-ft. sidewalk.

Specifications obtainable from the county engineer of county in which the work is located, and from above office on deposit of \$2.00, returnable. Certified check, 5% payable to State Treasurer, required with bid.

FAIRFIELD, Solano Co., Cal.—Lord & Bishop, Native Sons Bldg., Sacramento, at \$21,950 awarded contract by county supervisors to construct drawbridge over Miner Slough at the north end of Ryer Island. Bridge to be steel drawbridge with trestle approach. The structure will have steel draw span 194-ft. long and trestle approach 170-ft. long. Complete bids follow:

| | |
|--------------------------------------|----------|
| Lord & Bishop, Sacramento..... | \$21,950 |
| L. C. Seidel, Oakland..... | 22,430 |
| M. A. Jenkins, Sacramento..... | 22,638 |
| A. W. Kitchen & Co., S. F..... | 22,933 |
| Duncanson & Harrelson, S. F..... | 23,494 |
| W. E. Lyons, S. F..... | 24,500 |
| Barrett & Hilp, S. F..... | 25,000 |
| Healy-Tibbitts Const. Co., S. F..... | 25,600 |
| W. J. O'Neil, S. F..... | 27,500 |

SAN DIEGO COUNTY, Calif.—Until August 24, 2 P. M., bids will be received by S. V. Cortelyou, district engineer, State Highway Commission, 808 State Office Bldg., Los Angeles, for repairing a reinforced concrete bridge in San Diego County, 4 miles north of Oceanside by applying Gunite to portions, involving:

- (1) 100 active hours rental of compressor, including operator;
- (2) 15 inactive hours rental of compressor;
- (3) 60 active hours rental chipping hammers and sand blast outfit, including crew;
- (4) 60 inactive hours rental chipping hammers and sand blast outfit;
- (5) 60 active hours rental Gunite outfit, including crew;
- (6) 40 inactive hours Gunite outfit;
- (7) 25 active hours rental tank truck including driver;
- (8) 100 inactive hours rental tank truck;
- (9) 400 sacks Portland cement;
- (10) 90 tons sand for Gunite;
- (11) 10 tons sand for sand blasting;
- (12) moving entire equipment to and from the job, lump sum;
- (13) one lot staging complete, lump sum.

Plans obtainable from district engineer.

MONTANA STATE.—Until August 24, bids will be received by the State Highway Department, Helena, for bridge construction as follows:

- (11) FAP 249 B. bridges on Avon-Elliott Road, Powell County. Estimate, \$30,000.
- (12) FAP 115 D. E. U2, Harlowton, west Wheatland County, bridges. Est. \$15,000.

SKILSAW Portable Electric Hand Saws (four models).

SKILSAW Portable Electric Sander.

SKILSAW Radial Arm Attachments.

SYNTRON Portable Electric Motors (four models, motorless).

MALL Flexible Shaft Machines (50 models).

Electric Drills, Grinders, Buffers, Routers, Lock Mortisers.

Peter H. Nelson

Labor Saving Portable Electric Tools

1246 Mission St., San Francisco

UNderhill 7662

SALES : SERVICE : RENTALS

SAN JOSE, Santa Clara Co., Cal.—Until August 22, 5 P. M., bids will be received by John J. Lynch, city clerk, to construct a reinforced concrete bridge on Hamilton St. over the Guadalupe River, involving:

- (1) 450 cu. yds. excavation;
- (2) 435 cu. yds. concrete;
- (4) 42½ tons steel;
- (4) 40 concrete piles, 16-ft.;
- (5) 38 concrete piles, 20-ft.;
- (6) 212 lin. ft. concrete handrail;
- (7) 47 lin. ft. galv. pipe handrail;
- (8) 3765 sq. ft. 1½-in. asph. concrete surface;
- (9) 160 cu. yds. fill at sides of existing roadway;
- (10) 3000 sq. ft. oil macadam pave.;
- (11) 400 cu. yds. excav. on widening of channel.

NOTE: Steel and concrete estimate exclusive of piles and handrails.

Estimated cost, \$14,000. Certified check 10% payable to city of San Jose required with bid. Plans obtainable from Wm. Popp, city engineer, on deposit of \$10 of which \$5 is returnable.

WASHINGTON STATE.—Until September 7, 10 A. M., bids will be received by Samuel J. Humes, State Director of Highways, Olympia, to construct a treated timber frame trestle 342 ft. long with concrete roadway over a dry gulch on the Bridgeport North section of State Road No. 10 in Douglas County.

Certified check 5% payable to State Treasurer required with bid. Plans obtainable from State Highway Director on deposit of \$2, returnable.

SAN FRANCISCO.—Foundations for the West Channel section of the San Francisco-Oakland Bay Bridge were yesterday approved by the Consulting Board of Engineers headed by Ralph Modjeski. These foundations, which will cost approximately \$3,500,000 of the estimated total cost of \$75,000,000, will consist of five piers, including the center anchorage.

The Consulting Board has spent the past two days in going over detailed plans submitted by Chief Engineer Charles H. Purcell and his staff.

The West Bay structure, center anchorage type, calls for two 2310-foot spans and four 1160-foot side spans and the center anchorage, to which the cable from each side structure will be secured.

The center anchorage, as designed, will be 120x210 feet and 300 feet in height. The West Channel structures will have a clearance above high water graduating from 214 feet at the center to 180 feet at the harbor line.

To construct the five piers will require approximately 250,000 cu. yds. of concrete, 450,000 barrels of cement, 5,000 tons of structural steel and 3,500 tons of reinforcing steel, according to Purcell.

The Consulting Board will be in session for the remainder of the week and probably all of next week, according to Chairman Modjeski. The Board will finally approve detailed plans and specifications for the entire structure before adjournment.

Final approval will result in an immediate trip to Washington by Purcell and representatives of the Financial Advisory Committee, appointed by Governor James Rolph, Jr., to place the entire project before the Reconstruction Finance Corporation in an endeavor to obtain Federal financing.

GLENDALE, Los Angeles Co., Cal.—Until 10 A. M., Sept. 1, bids will be received by city council to construct structural steel and concrete superstructure for Canada Blvd. bridge lo-

cated approx. 600 ft. north of the southerly intersection of Canada Blvd. with Verdugo Road. Plans prepared by J. C. Albers, city engineer, Public Service Bldg., and obtainable for \$1.50, not returnable.

This work consists of widening the existing bridge, the abutments and piling having been started under a separate contract and will be completed in time to allow an early start of the present work. The proposed structure will be a steel girder bridge with reinforced concrete deck and handrails. It will have an 85-ft. span and the completed structure will have a width of 70 ft., including two 6-ft. sidewalks. The estimated principal quantities are:

- 97 tons structural steel;
 - 120 cu. yds. reinforced concrete.
- The present contract will not include the fill. The total cost to complete the job will be paid out of the \$23,000 which has been appropriated by the county.

DREDGING, HARBOR WORKS & EXCAVATIONS

SACRAMENTO, Cal.—Until August 24, 3 P. M., under Circular Proposal No. 33-23, Specifications No. 4534, bids will be received by U. S. Engineer Office, California Fruit Bldg., Sacramento, for furnishing all plant, labor and materials and performing all work for raising the existing levee along the easterly side of Yolo By-Pass in Reclamation District No. 827, about 2.9 miles south of Elkhorn Station on the Sacramento-Woodland Railway, involving 227,000 cu. yds. material to be moved.

PACIFIC COAST.—See "Government Work and Supplies," in this issue. Appropriations included in the Emergency Relief and Construction Act of 1932, providing \$10,000,000 for public works under the Navy Department.

COLUSA, Colusa Co., Cal.—Until August 23, 5 P. M., under Circular Proposal No. 33-21, Specifications No. 4673, bids will be received by U. S. Engineer Office, California Fruit Bldg., Sacramento, to furnish all plant, labor and materials and perform all work required for the construction of two levees, with cobblestone revetment, on the easterly side of the Sacramento River, along the north and south sides of the proposed Colusa By-pass, approximately 1.5 miles north of the town of Colusa, involving:

- (1) 237,000 cu. yds. earth embankment in levees;
- (2) 22,500 cu. yds. cobblestone revetment;
- (3) 7500 cu. yds. gravel base for revetment.

North Levee—125,200 cu. yds. earth embankment.

8700 cu. yds. gravel base for revetment.

11,200 cu. yds. cobblestone revetment

South Levee—11,900 cu. yds. earth embankment.

2800 cu. yds. gravel base for revetment.

11,300 cu. yds. cobblestone revetment.

MARE ISLAND, Cal.—Proposed improvements at Mare Island, for which allotments totaling \$340,000 have been granted by the Bureau of Yards and Docks, are as follows:

Waterfront improvement, \$250,033.

Extension of service systems and streets on water front, \$80,000.

The proposed improvements include approximately 1000 ft. quay walls at the south end of yard, open type con-

crete wall with concrete sheet piling, and timber relieving platform.

SACRAMENTO, Cal.—Until August 30, 3 P. M., under Circular Proposal No. 33-25, Specifications No. 4719, bids will be received by U. S. Engineer Office, California Fruit Bldg., to furnish, deliver and place approximately 30,000 tons of rip-rap stone along the Sacramento river between the mouth of Cache Slough and Collinsville, same to be delivered in two sizes:

- (a) 29,000 tons 20 lbs. to 300 lbs.
- (b) 1,000 tons 20 lbs. to 100 lbs.

SACRAMENTO, Cal.—Olympian Dredging Co., 249 First St., San Francisco, at \$15.50 per hour submitted low bid to U. S. Engineer Office, California Fruit Bldg., Sacramento, to furnish and operate a clam-shell dredge, with necessary auxiliary plant, and do dredging at an hourly rate, as required for topping the sand levees across Venice and Mandeville Island in the San Joaquin River, involving 650 hours dredging.

Complete bids follow:
Olympian Dredging Co., S. F. \$18.50
Delta Dredging Co., Pittsburg. 24.00
Alternate—per cu. yd. 24
Engineer's estimate 19.538
Bids held under advisement.

SACRAMENTO, Cal.—Olympian Dredging Co., 249 First St., San Francisco, at \$18.50 per hour recommended for award by U. S. Engineer Office, California Fruit Bldg., Sacramento, to furnish and operate a clam-shell dredge, with necessary auxiliary plant and do dredging at an hourly rate, as required for topping the sand levees across Venice and Mandeville Islands in the San Joaquin River, involving 650 hours dredging.

LOS ANGELES, Cal.—E. C. Eaton, County Flood Control Engineer, has completed plans for two flood control projects which are to be done by force account under the direction of the engineer. The projects are:

Channel through Pacoima Spreading Grounds No. 2, from Arleta St. to Payton Ave., involving:
19,000 cu. yds. fill in levees, 6c yd.
Moving shovel, \$65.
Team and teamster, 40 days, \$8 day;
Water and water line connections 1550
Rental on shovel, 40 days, \$15 day;
31,500 cu. yds. excavation, 6c yd.;
Miscellaneous trucking, \$200;
Trucking waste dirt, 288 truck days,
\$18 per day;

Labor total, \$5418;
12,000 gals. fuel oil, 4c gallon;
Miscellaneous tools and supplies, \$80;
Total materials, \$10,108;
Overhead, engineering, etc., 20%, \$2,021.80;
Total estimate, \$12,130.80.

Levee and riprap improvement on Los Angeles River from 52nd St. to Cerritos Trestle, involving:

- (1) 175,000 cu. yds. exca. and construction of levees, 6.5c yd.;
 - (2) 12,200 lin. ft. laying R.R. track on top of levees, 25c ft.;
 - (3) 90,000 tons placing rock riprap on face of levees, 14.6c ton;
 - (4) rock riprap f.o.b. quarry at 69c ton
- Total construction, \$90,341.75.

MATERIALS
(1) R. R. rails and track accessories, \$5962.88;
(2) R. R. ties, \$2567.60;
(3) hauling ties, \$200;
(4) crossoting R. R. ties, \$5750;
(5) freight on 90,000 tons rock riprap, 60c ton;
Overhead, engineering, etc., 20%.
Grand total estimate, \$190,585.86.

SANTA MONICA. Los Angeles Co., Calif.—As previously reported, Peter Gadd, Inc., Box 43, Santa Monica, at \$660,755 submitted lowest regular bid to the city council to construct the Santa Monica Breakwater. Hal Clark Sanborn, 501 Hill St., Ocean Park, at \$547,004.64 submitted the only other bid, based on his own items and not in accordance with the bid form:

- The bid of Peter Gadd follows:
- (1) for making static load test on soil and in accordance with specifications, lump sum, \$200.
 - (2) 3 only, for making additional static load tests on soil at Elevation 27, a price per each additional test, \$200.
 - (3) one only, for making static load test to determine carrying capacity of steel "H" section pile, \$200.
 - (4) three only, for making additional static load tests to determine carrying capacity of steel "H" section pile, \$200.
 - (5) 54 only, for manufacturing cribs, a unit price for each crib, \$1200.
 - (6) 54 only, for launching cribs at a price per crib, \$400.
 - (7) 54 only, for setting and aligning cribs together with all necessary work in preparing foundations, per crib, 670
 - (8) 487,100 sq. ft. furnish and apply two coats of approved protective coating to the outside and inside surfaces of cribs and other surfaces, \$0.4.
 - (9) 35,840 lin. ft. furnish steel "H" section foundation filling, \$50.
 - (10) 129 only, for driving steel "H" section foundation piling, \$25.
 - (11) 120 only, for encasing steel "H" section foundation piling that portion within cribs, \$15.
 - (12) 17,710.30 cu. yds. furnish concrete and deposit same in crib forms, \$10.
 - (13) 53 only, for all labor and material to construct cement concrete keys between cribs, \$300.
 - (14) 90 tons, furnishing steel plate apron and appurtenances, \$40.
 - (15) 991 tons, for fabricating and placing steel apron plate, \$25.
 - (16) 6670.40 cu. yds. for furnishing of all material and labor necessary to place cement concrete in superstructure, including surface finishing and color treatment, \$10.
 - (17) 1237.50 tons, for furnishing all reinforcing steel, \$60.
 - (18) 1237.50 tons, fabricate and place steel reinforcing, \$30.
 - (19) furnish and place additional or less cement concrete in crib, authorized by the city engineer, per cu. yd. (to quantity), \$30.
 - (20) for each additional foot below elevation 28 that it will be necessary to lower the cribs, per ft. (no quantity), \$1,000.
 - (21) 58 only, for furnishing and installing cast iron rings and covers in manholes, \$20.
 - (22) 1000 tons furnish and mix pumicite with concrete when directed by the engineer, \$5.00.
 - (23) 116,640 welds, for welding steel reinforcing, for an additional price for each ton welded, \$1.10.

The bid of Hal Clark Sanborn follows:

- Stirrups, 3/4-in., 260 tons at \$70, \$18,200.00.
 - Mesh, 480 squares at \$2, \$960.
 - Bending for shear and bond, \$5,000.
 - Total cost material on job, \$64,324.40.
- LABOR**
- Yard supt. and carpenter foreman, 40 weeks at \$50, \$2,000.
 - Common foreman, 30 weeks, at \$40, \$1,200.
 - Timekeeper and clerk, 40 weeks, at \$20, \$1,200.
 - Four straw bosses, 180 days each at \$5, \$9,000.
 - Carpenters, 1168 men-days at \$6, \$7,008.00.
 - Setting steel, 1172 tons at \$7.50, \$8,790.00.
 - Common labor, 5945 men-days at \$4, \$23,780.00.
 - Total, \$47,578.00.
- OVERHEAD**
- Rent of casting yard (one year) \$1,200.00.
 - Depreciation, rentals, maintenance and replacement of equip, \$1,750.
 - Light, fuel and power, \$1,200.
 - Insurance (not compensation) \$367.
 - Compensation insurance based on "precast concrete schedule, \$48,000 at \$4.20 average, \$2,016.
 - Setting up and removal of equip., \$1,640.00.
 - Office operation and accounts \$97.50.
 - Interest on investment, \$6000, 8%, \$480.
 - Royalties, drafting in the field form details, administration and supervision included at 1c per cu. ft., \$8,153.46.
 - Contingencies at 10% of overhead, \$2875.05.
 - Total on overhead, \$17,779.01.
 - \$0.198 cu. yds. of concrete in yd. at \$10.11.

TRANSPORTATION

- 1200 ft. temporary pier, \$15,000.00.
- Additional timbering for loading platform, \$1,000.00.
- Demolition and salvage, \$1,600.00.
- Loading, hauling and unloading 61,400 tons at 50c, \$30,700.00.
- Total, \$48,300.00.

RENTAL OF FLOATING EQUIP.

- Floating derrick, 90 ton capacity, 1200 hours at \$35, \$42,000.
- Floating derrick, 36 ton capacity, 600 hours at \$11, \$6,600.00.
- Seagoing tug, 1800 hours at \$15, \$24,000.00.
- Barges, two, 200 days at \$20 each, \$8,000.00.
- Hydraulic dredging and jetting pump 200 days at \$5, \$1,000.
- Moorings, ten, 8 months at \$10, \$800.
- Rentals at rated capacity, \$82,440.
- Based on 75% efficiency, \$108,840.
- Small barge, \$1,750.00.
- Work boat, etc., \$7,500.00.
- Total, \$9,250.00.

OTHER OPERATIONS

- Riprap, 15,000 tons at \$3, \$45,000.00.
- Divers and equip., 1400 hours, at \$4 \$5,600.
- Expansion joints, grouting, doping and ornamental fin, 6400 hours at 75c average, \$4,800.00.
- Crew for tender and barge, 200 days at \$36, \$7,200.
- Supt. of marine operations, 240 days at \$10, \$2,400.
- Other insurance, \$720.
- Contingencies, 10% on other operations, \$6,572.00.
- Total other operations, \$72,292.00.
- Total complete cost, \$547,004.64.

MARYSVILLE. Yuba Co., Calif.—J. V. Galbraith, 211-219 2nd St., Petaluma, at \$,079 submitted low bid to U. S. Engineer Office, Sacramento, to raise and strengthen existing levee along the Western Pacific Railway on the east side of Reclamation District No. 10, extending northward approximately 12,000 feet from the point to

which levee raising has already extended, which point is approximately 3 1/4 miles north from Marysville. Involving the moving of approximately 110,000 cu. yds. of material.

Complete bids follow:

| | |
|-------------------------------------|-------|
| J. V. Galbraith, Petaluma..... | \$079 |
| E. L. Lilly, Stockton..... | .083 |
| Davis, Robinson & Warner, Lodi..... | .087 |
| Thos. P. Atkins..... | .084 |
| Neyer Rosenberg, S. F..... | .09 |
| Ajax Dredging Co., S. F..... | .0948 |
| Marshall & Stacy, Alameda..... | .11 |
| E. E. Bishop, Sacramento..... | .115 |
| Delta Dredging Co., Pittsburg..... | .127 |
| Hemstreet & Bell, Marysville..... | .13 |
| Engineer's estimate..... | .1258 |

Bids held under advisement.

IRRIGATION PROJECTS

EL CENTRO. Imperial Co., Cal.—Imperial Irrigation District has applied to Reconstruction Finance Corp. for a loan of \$15,000,000 for emergency, labor, agricultural, and other purposes. J. L. DuBoise is president and F. H. McIver, secretary.

STOCKTON. San Joaquin Co., Cal.—Until August 25, 3 P. M., under Circular Proposal No. 33-18, Specifications No. 4530, bids will be received by U. S. Engineer Office, California Fruit Bldg., Sacramento, for dredging approximately 1,243,000 cu. yds. of material from the San Joaquin River 26 ft. channel prism. The material to be dredged is in three sections as follows:

- (a) 141,000 cu. yds. from a Section 5000 ft. long opposite Antioch;
- (b) 30,000 cu. yds. from a Section 1400 ft. long near the mouth of the Mokelumne River;
- (c) 1,072,000 cu. yds. from a Section 10,000 ft. long which cuts across the tips of Venice and Mandeville Islands and which is known as Part VIII of the Stockton 56 ft. channel project.

Bids will be received on the following propositions:

- (1) 171,000 cu. yds. dredging in San Joaquin River, (parts A and B awarded together);
- (2) 1,072,000 cu. yds. dredging in San Joaquin River and across Venice and Mandeville Islands Part (c) awarded separately;
- (3) 1,243,000 cu. yds. dredging in the San Joaquin River and across Venice and Mandeville Islands. Parts (a), (b) and (c) awarded together.

Bids may be submitted for Parts (a) and (b) together, Part (c) singly, or for Parts (a), (b) and (c) together. Bidders on Parts (a), (b) and (c) together must submit a bid for Part (c) singly also.

STREET LIGHTING SYSTEMS

PASADENA. Los Angeles Co., Cal.—Taper Tube Pole Co., 470 Monadnock Bldg., San Francisco, submitted only regular bid to city council at \$27,835 to furnish and install 74 combination trolley and lighting standards in Lake Ave., between Colorado St. and Orange Grove Ave. Bid of Electric Lighting Supply Co., at \$27,795, rejected because the bond was not signed.

PACIFIC COAST—See "Government Work and Supplies," in this issue. Appropriations included in the Emergency Relief and Construction Act of 1932, providing \$10,000,000 for public works under the Navy Department.

MACHINERY AND EQUIPMENT

MARIPOSA COUNTY, Calif.—Until August 30, 2 P. M., bids will be received by C. H. Sweetser, district engineer, U. S. Bureau of Public Roads, 461 Market St., San Francisco, to furnish and install ventilating fans, dampers, drives and partition wall (a lump sum); furnish and install additional equipment for automatic operation of shutters and dampers (a lump sum). This work in highway tunnel on Section A5 of Route 2, Wawona Road, Yosemite National Park. Plans obtainable from engineer on deposit of \$10, returnable, checks for same to be made payable to Regional Fiscal Agent, U. S. Forest Service.

SACRAMENTO, Cal.—Until August 23, 3 P. M., under Circular Proposal No. 33-30, Specifications No. 4694, bids will be received by U. S. Engineer Office, California Fruit Bldg., to furnish one new gasoline engine driven 2-drum stationary hoist, complete with all auxiliaries and accessories, including the engine for installation on an anchor barge, to be used for handling dredge pipes, pulling barges, operating two bilge pumps and for other purposes. The plant shall occupy deck space of not over 7 ft. by 7 ft., and shall weigh not more than 3 tons. The gasoline engine shall be of first-class manufacture in all respects and shall be connected to the hoist drums by a two speed geared transmission and suitable clutch for operation. The power of this engine shall be sufficient to readily handle without overload the hoist under all loadings and speeds herein specified and the engine shall preferably be of the slow speed, heavy duty type. The hoist shall have heavy steel plate or cast steel sides with cast steel gears and pinions to operate two drums, each of which shall be not less than 8-in. in diameter and fully reversible, the heavy load drum to have a capacity for holdin at least 150 feet of 7/8-in. wire rope and the light load a capacity for holding at least 150 ft. in. or 3/4-in. wire rope. Each drum shall be equipped with a device for winding the cable evenly, layer on layer, at all speeds, regardless of the size of cable used, and for maintaining the proper tension to keep the cable securely wrapped, even when the line ahead takes a sudden slack, but this device shall not interfere with pulling cable off the drum freely by hand. Each drum shaft shall be equipped with a gypsy pulley, large enough for handling satisfactorily 4 1/2 inch or 5 inch manila rope anchor lines. One of the gypsy pulleys shall be of a type required to drive two large bilge pump pulleys of 9-in. diameter by belt connection at a speed of 300 R. P. M. The hoist shall be so constructed and geared that when operated with low gear it will have a capacity of not less than 10,000 lbs. pull on a single line at a hoisting speed of not less than 50 feet per minute and with high gear not less than 3000 lbs. pull on a single line at a hoisting speed of not less than 200 feet per minute.

Delivery shall be made f. o. b. U. S. Engineer Storehouse, Rio Vista, Calif., within 15 calendar days after notification of award.

SACRAMENTO, Cal.—Until August 22, 3 P. M., under Order No. 4770-OGS bids will be received by U. S. Engineer Office, California Fruit Bldg., for transporting approximately 5,000 bbls.

of fuel oil per month from Oleum, Cal. to U. S. Government dredges, in the vicinity of Rio Vista, Solano County.

LOS ANGELES, Cal.—Until 11 A. M., Aug. 26, bids will be received by Thomas Oughton, City Purchasing Agent, 107 City Hall, to furnish chlorine gas feeding equipment f. o. b. warehouse of water and power department, 413 Ducommun St. Specification No. 2855.

LOS ANGELES, Cal.—Until 10 A. M., Sept. 14, bids will be received by board of public works for furnishing machinery and equipment for the proposed Terminal Island Sewage Treatment Plant at Los Angeles Harbor, in accordance with plans which may be obtained at the office of the city engineer, room 656, City Hall.

PACIFIC COAST—See "Government Work and Supplies," in this issue. Appropriations included in the Emergency Relief and Construction Act of 1932, providing \$10,000,000 for public works under the Navy Department.

RAILROADS

STOCKTON, San Joaquin Co., Cal.—Willard & Biasotti, 40 W Clay St., Stockton, at \$9,115.92 awarded contract by city council to extend the Stockton Belt Railroad in connection with the deep water project. The work involves construction of the railroad to Rough and Ready Island. The contract for the first unit of the railroad was recently completed by Shanahan Bros. of San Francisco and Los Angeles. Complete bids were published in our issue of August 3.

PACIFIC COAST—See "Government Work and Supplies," in this issue. Appropriations included in the Emergency Relief and Construction Act of 1932, providing \$10,000,000 for public works under the Navy Department.

SAN DIEGO, Cal.—Until August 23, 11 A. M., under Specification No. 6373, bids will be received by Public Works Officer, Eventual Naval District, San Diego, for improvements of railroad track at Naval Operating Base, (Supply Depot), San Diego. The work consists of the provision of materials for and the reconstruction of, approximately 230 linear feet of standard gauge railroad track, and includes in general the removal of present work and the furnishing new and installing of (a) cross-ties, (b) rock ballast, (c) hot asphalt concrete pavement, (d) steam condensate return piping, (e) one new concrete catchbasin and C. I. inlet and one new C. I. inlet for existing manhole, (f) installation, only, of existing railroad track rails and splices and guard rails furnished by the Government, and other miscellaneous work and materials as required to complete the improvement. Plans obtainable from Public Works Officer on deposit of \$10, returnable, checks for same to be made payable to Chief of the Bureau of Yards and Docks.

RESERVOIRS AND DAMS

PASADENA, Los Angeles Co., Cal.—Riverside Cement Co., Southwestern Portland Cement Co., California Portland Cement Co., and Monolith Portland Cement Co. (bidding jointly) awarded contract August 9 by Board of Directors for furnishing 470,000 bbls. of bulk cement, type C at \$1.65 per bbl. delivered at dam site and

1000 bbls. type A cement, in sacks, at \$2.16 per bbl. Bids were received July 26.

LOS ANGELES, Cal.—Until August 29, 2 P. M. (tentative date) new bids will be received by county supervisors to construct a rock fill dam in San Gabriel Canyon, 2.4 miles downstream from the Forks and 8.6 miles from Azusa. Will be 295-ft. in height above stream bed, 1670-ft. in length measured along the road on the crest and 900-ft. thick at the base (stream bed).

The bid of Constructors, Inc., at \$11,270,943.55 (Proposal No. 1, using Gunite, and at \$11,215,865.55, Proposal No. 2, using poured face) was rejected by the board of supervisors Aug. 8, as too high. The engineer's estimates were (1) \$9,734,830 and (2) \$9,691,040.

The specifications will be amended to permit a bid on the work complete and alternative bids on six separate contracts, viz.:

- (1) Excavation;
- (2) Tunnels;
- (3) Rock Fill;
- (4) Concrete;
- (5) Drilling and Grouting;
- (6) Placing of Steel.

A complete listing of the unit bids of Constructors, Inc., lone bidders under the previous bid call, was published in issue of August 4.

PIPE LINES, WELLS, ETC.

SANTA ROSA, Sonoma Co., Calif.—Fred H. Bente, Route 2, Box 42, Santa Rosa, awarded contract by Santa Rosa Junior College District to drill well for the college campus. Well will be double-cased with hard red steel piping 10-in. dia.

Bids will be advertised for pumps immediately on completion of well.

PACIFIC COAST—See "Government Work and Supplies," in this issue. Appropriations included in the Emergency Relief and Construction Act of 1932, providing \$10,000,000 for public works under the Navy Department.

OGDEN, Utah.—J. C. Brown, city engineer, Ogden, has recommended construction of a new pipe line thru Ogden Canyon to replace old wooden stave pipe from Black Point to present city reservoir, 5.22 miles, estimated cost, \$352,252, and in addition, construction of a new reservoir at an estimated cost of \$105,511.

SEWERS AND SEWAGE DISPOSAL PLANTS

PACIFIC COAST—See "Government Work and Supplies," in this issue. Appropriations included in the Emergency Relief and Construction Act of 1932, providing \$10,000,000 for public works under the Navy Department.

LOS ANGELES, Cal.—Until 10 A. M., Sept. 14, bids will be received by board of public works for furnishing machinery and equipment for the proposed Terminal Island Sewage Treatment Plant at Los Angeles Harbor, in accordance with plans which may be obtained at the office of the city engineer, room 656, City Hall.

SANTA CRUZ, Santa Cruz Co., Cal.—No bids received by county supervisors for the purchase of the \$21,500 bond issue of the Capitola Sanitary District; proceeds of the sale of which are to finance construction of a trunk sewer and sewage disposal plant. Efforts will be made to dispose of the bonds "over the counter."

REDWOOD CITY, San Mateo Co., Cal.—City council postpones action on the proposed construction of a storm water sewer system in the Brewster-Hillview district. The cost is estimated at \$16,000. The difficulty met by the council is that the storm waters come from outside the city limits and the Mattoon act would be necessary to undertake the county-city project. The new city act does not permit the municipality to go outside the limits to make improvements.

NEWPORT BEACH, Los Angeles Co., Cal.—City council has abandoned proceedings for construction of a \$165,000 sewage disposal plant near mouth of the Santa Ana river.

SEATTLE, Wash.—City council has postponed construction of the proposed Laurelhurst trunk sewer system, property owners having protested undertaking the improvement at this time. The total cost was estimated at \$402,369, of which \$200,000 would come from the Lake Washington intercepting sewer system bonds, voted in 1926 and \$202,369 would be assessed to the property owners. Details published in issue of August 2.

LOS ANGELES, Cal.—Until 10 A. M., August 31, bids will be received by board of public works for repairs to the Central Outfall Sewer, involving preparing surfaces, removing masonry debris and guniting the entire upper half of the inner surface of the Central Outfall Sewer for a combined length of approx. 1500 ft. Specifications obtainable at room 705, City Hall.

LOS ANGELES, Calif.—American Concrete & Steel Pipe Co., 4635 Firestone Blvd., Southgate, at \$40,343, under Schedule D, submitted low bid to Board of Public Works to furnish 36-48- and 60-in. centrifugal pipe, pipe laying equipment and skilled labor in connection with the improvement of Sixth Ave. bet. 48th St. and 52nd St. and other streets, alleys, ways and rights of way.

- The bids were:
- (A) American Concrete and Steel Pipe Co.: Schedule (A) \$52,651 (B) \$44,665 (C) \$47,224.50 (D) \$40,343.
 - (B) United Concrete Pipe Corp., (A) \$54,348.80 (B) \$46,636.70 (C) \$48,350.50 (D) \$41,150.50.

OAKLAND, Cal.—Heafy-Moore Co., 244 High St., Oakland at \$5,208.70 submitted low bid to city council to sewer portions of 73rd Ave., involving:

- (1) 22,579 cu. yds. excavation;
- (2) 440 lin. ft. 8-in. pipe sewer;
- (3) 2 manholes;
- (4) 1 12-in. lamphole;
- (5) 1 8-in. lamphole;
- (6) 1 8-in. drop lamphole;
- (7) 1 lamphole, remove;
- (8) 10 way branches.

- Complete bids follow:
- (A) Heafy-Moore Co., Oakland, \$5,208.70.
 - (B) Joe Catucci, Oakland, \$5299.30.
 - (C) John Jurkovich, Fresno, \$5376.59.
 - (D) Meyer Rosenberg, San Francisco, \$5774.07.
 - (E) Hutchinson Co., Oakland, \$8,223.67.

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) |
|----------|---------|-------|-------|-------|-------|
| (1)..... | \$.205 | \$.20 | \$.21 | \$.22 | \$.33 |
| (2)..... | .60 | .90 | .50 | .51 | .60 |
| (3)..... | 35.00 | 59.00 | 50.00 | 44.00 | 50.00 |
| (4)..... | 10.00 | 18.00 | 15.00 | 10.00 | 17.50 |
| (5)..... | 8.00 | 12.00 | 10.00 | 6.50 | 14.00 |
| (6)..... | 10.00 | 20.00 | 15.00 | 10.00 | 23.50 |
| (7)..... | 8.00 | 7.00 | 15.00 | 4.00 | 14.00 |
| (8)..... | .50 | 1.25 | 5.00 | .80 | .95 |

Bids held under advisement.

LOS ANGELES, Cal.—Until 10 A. M., August 31, bids will be received by Board of Public Works for constructing sewers in Anaheim Street and Badger Ave. Sewer District, under the 1911 Act. The quantities as previously figured follow:

- (as items will appear on bid form)
 - (1) Sanitary sewer, complete;
 - (2) 832.3 vert. ft. chimney pipe;
 - (3) 882 sq. ft. class C resurf.;
 - (4) 1178 sq. ft. class D resurf.
- The estimated quantities for the sanitary sewer are as follows:
- 561.87 ft. 27-in. vit. pipe;
 - 649.97 ft. 24-in. cement pipe;
 - 1919.84 ft. 18-in. cement pipe;
 - 2345.96 ft. 15-in. cement pipe;
 - 675.34 ft. 12-in. cement pipe;
 - 763.60 ft. 10-in. cement pipe;
 - 11,153.67 ft. 8-in. cement pipe;
 - 866 ft. concr. reinf. for 27-in. (Detall A);
 - 72 ft. concr. reinf. for 27-in. (Detall B);
 - 60 ft. concr. reinf. for 18-in. Type X;
 - 50.5 ft. concr. reinf. for 15-in., Type X;
 - 110 ft. concr. reinf. for 10-in., Type X;
 - 213.5 ft. concr. reinf. for 8-in., Type X;
 - 638 ft. concr. reinf. for 24-in., Type Y;
 - 1832 ft. concr. reinf. for 18-in., Type Y;
 - 2262.5 ft. concr. reinf. for 15-in. Type Y;
 - 663 ft. conc. reinf. for 12-in., Type Y;
 - 462 ft. concr. reinf. for 10-in., Type Y;
 - 395 ft. concr. reinf. for 8-in., Type Z
 - 31 manholes B;
 - 16 drop manholes S;
 - 8 junction chambers F;
 - 3 junction chambers G;
 - 7 lampholes X;
 - 11 flushing structures (5-ft.);
 - 2 flushing structures (4 1/2 ft.);
 - 74 manhole frame and cover sets;
 - 14 vert. ft. manhole extension.
- Note: these quantities are subject to revision.

Bids were previously advertised for July 20, for which no bids were received.

WATERWORKS

MORGAN HILL, Santa Clara Co., Cal.—Clyde C. Kennedy, consulting engineer, Call Bldg., San Francisco, is making a survey of the city of Morgan Hill with a view to reconstructing and extension of a large part of the water system. Tentative estimates place the cost at \$22,900.

STOCKTON, San Joaquin Co., Cal.—Geo. M. Clark, 809 W-Harding St., Stockton, at \$912.50 awarded contract by Board of Education for boring well at the Stockton High School.

Miller-Hays, Grant and Weber Sts., Stockton, at \$149.50 awarded contract to install piping and re-install present motor and pump at the high school grounds. Other bids were. Hild Elec. Co., \$192.75; Pahl & Harry, \$208; Collins Electric Co., \$313.

WEIMAR, Placer Co., Calif.—Until August 25, 11 A. M., bids will be received by Weimar Joint Sanatorium Hospital Central Committee, R. E. Callahan, chairman, Courthouse, Sacramento, to construct a reservoir and complete water system and for the various units comprising such system. Previous bids were rejected. Quantities of materials involved, together with a list of the unit bids received

were published in our issue of August 12. Plans obtainable from the County Clerk's Office at Auburn on deposit of \$10, returnable. Plans prepared by J. A. Shields, county surveyor of Placer County.

OAKLAND, Cal.—Grinnel Co. of the Pacific, Fifth and Brannan Sts., San Francisco, at \$1915.40 submitted low bid to East Bay Municipal Utility District to furnish 650 pieces of red brass tubing. Complete bids follow:

- Grinnel Company, \$1915.40.
 - Rolph Mills & Co., \$1915.87.
 - Dunham, Carrigan & Hayden Co. \$1-935.00.
 - Tay-Holbrook Co., \$1955.34.
 - R. E. Olsen Co., \$2021.75.
 - American Brass & Copper Co., \$2-031.75.
 - Dukeman Corp., 17c lb., approx. \$2-035.95.
 - C. H. Marwedel, 17c lb.
 - Pacific Metals, 17c lb.
 - Walworth California Co., \$1799 lb., approx. \$2104.83.
 - Crane Co., \$2140.74.
 - C. F. Honeywell, \$2158.75.
 - Richmond Sanitary Co., \$2169.60.
 - Chase Brass & Copper Co., \$1508 lb.
- Bids held under advisement.

MARE ISLAND, Cal.—See "Government Work and Supplies," in this issue. Bids wanted by Public Works Officer, Mare Island Navy Yard, for fire protection system for Paint Shop, Building No. 334, Mare Island Navy Yard.

SAN FRANCISCO—Following lump sum bids received by Public Utilities Commission for laying an 8-in. cast iron pipe line in Jefferson St., from Powell to Leavenworth Sts., involving:

- (1) 1970 ft. excavation, backfill, 17x45-in. trench;
- (2) 34 sq. yds. excavation, backfill and remove surplus;
- (3) 53 tons install pipe, except joints;
- (4) 328 ft. mineraloid joints.

- J. O'Shea \$ 895.70
 - E. J. Treacy 1092.73
 - Lacey & Schulz 1235.79
 - Pacific Pavements 1399.51
 - Fay Improvement Co. 1484.77
 - S. F. Water Department 1618.87
 - Eaton & Smith 2069.00
- Unit bids reported in our issue of August 2.

SAN LUIS OBISPO, Calif.—Geo. C. De Golyer, 284 Federal Telegraph Bldg., Oakland, at \$13,590 submitted low bid to county supervisors to construct a water system for Cambria district. Project involves the installation of pumps and distributing system. Complete bids follow:

- Geo. C. De Golyer, Oakland \$13,590
 - W. J. Tobin, Oakland 15,607
 - Union Pacific Co. San Francisco 17,968
- Bids held under advisement until

WHITTIER, Los Angeles Co., Cal.—California Pipe & Supply Co., Los Angeles, awarded contract by the city council August 8, for furnishing copper service pipe, involving 9000 ft. 3/4-in., 200ft. 1 1/2-in., and 1000 ft. 2-in. pipe. The prices are: 7.94c for 3/4-in. 18- to 20-ft. lengths or 8.5c in 60-ft. coils; 16.36c ft. for 1 1/2-in. and 23.88c ft. for 2-in. pipe.

LOS ANGELES, Cal.—National Tank & Mfg. Co. awarded contract by City Purchasing Agent, at \$1186 (\$593 each) for two flat bottom welded steel tanks erected complete on sand-pad foundations to be provided or water and power department property at Grant and Hyatt Sts., Wilmington, 20 ft. inside diam., 16-ft. height, 3/4-in. plate thickness. Bid No. 496.

SACRAMENTO, Calif.—California Corrugated Culvert Co., 5th and Parker Sts., Berkeley, at \$54.28 for galvanized Columbia copper-bearing steel plates, submitted low bid to U. S. Engineer Office, California Fruit Bldg., Sacramento, to furnish:

(1) 50 lin. ft. 14-gauge, corrugated galvanized iron culvert pipe, 15-inch diameter, to be made up in two sections, each 25 ft. long.

(2) one 14-gauge corrugated galvanized iron coupling band to fit 15-inch diameter pipe of Item No. 1. The band to be 1 1/2-in. wide and complete with bolts, etc.

(3) one cast iron, automatic drainage gate with balanced shutter for 15-in. dia. pipe of Item No. 1, complete and assembled to one end of one section of the pipe of Item No. 1. The gate shall be similar and equal to "Calco" automatic drainage gate, model 100. Price bid to include cost of assembly to pipe.

Complete bids follow:

| | |
|--|---------|
| (A) California Corrugated Culvert Co., Berkeley (Galv.)..... | \$54.28 |
| (B) Alternate (Armcoc)..... | 63.48 |
| (C) Western Pipe & Steel, S. F..... | 55.89 |

Unit bids follow:

| | | |
|-----------|-------|-------|
| (1) | (2) | (3) |
| (A) | \$.86 | \$.93 |
| (B) | 1.04 | 1.13 |
| (C) | .83 | 1.09 |

Bids held under advisement.

RED BLUFF, Tehama Co., Calif.—Until August 22, 8 P. M., bids will be received by E. E. Stevens, Superintendent of Water Works, to furnish a deep well turbine pump and motor; capacity 500-g.p.m. Specifications obtainable from above office. Certified check 10% required with bid.

OAKLAND, Cal.—Until August 18, 8 P. M., bids will be received by John H. Kimball, secretary, East Bay Municipal Utility District, 512 16th St., Oakland, to furnish electric welded sheet steel pipe for the Chabot Spillway, involving 166 ft. 10-ft. diameter by 3/8-in. thickness. Specifications No. LS-52 obtainable from above office.

LOS ANGELES, Cal.—South Chester Tube Co. and the Santa Fe Pipe & Supply Co. submitted low bids to City Purchasing Agent for furnishing steel water pipe, involving:

- (1) 3000 lin. ft. 6-in. inside dia. steel water pipe;
 - (2) 4000 lin. ft. 8-in. do;
 - (3) 2000 lin. ft. 12-in. do;
 - (Spec. No. 2882. The unit prices of these bids were:
- South Chester Tube Co.—18 to 24 ft. lengths: (1) 55.09c ft (1 alt.) 56.99c ft (2) 86.7c ft. (2 alt.) 88.5c ft. (3) 11.5948 ft. (3 alt.) 11.56 ft. Terms, 2% 30 days, mill value.
- Santa Fe Pipe & Supply Co.—18 to 24 ft. lengths: (1) 55.09c per c ft. (1 alt.) 56.59 (2) \$86.70 (2 alt.) \$88.80 (3) \$153.48 (3 alt.) \$156. Discount 2% item (1) \$25.26; item (2) \$53.75; item (3) \$178.31; 2% (1 alt) \$34.19 (2 alt.) \$71.04; (3 alt.) \$62.40.

There were eleven other bids.

PACIFIC COAST—See "Government Work and Supplies," in this issue. Appropriations included in the Emergency Relief and Construction Act of 1932, providing \$10,000,000 for public works under the Navy Department.

FAIRVIEW, Alameda Co., Cal.—No bids received by Fairview Water District for the sale of the \$56,000 bond issue to finance construction of water distributing system. Attempts will be made to dispose of the issue at private sale.

PHOENIX, Arizona—The Camelback Water Conservation District has applied to Reconstruction Finance Corp. for a \$400,000 loan to defray cost of installing water and irrigation system 10 miles northwest of Phoenix.

MADERA, Madera Co., Cal.—Until Sept. 19, 8 P. M., bids will be received by James Wakefield, city clerk, to furnish cast iron pipe and fittings and hydrants to be used for water mains, as follows:

- (1) 3000 ft. 6-in. Class 150 b & s C. I. pipe, 16-ft. lengths;
- (2) 3 6-in. crosses, bell ends;
- (3) 7 6-in. tees;
- (4) 2 6x4-in. reducers, 6-in. spigot 4-in. bell;
- (5) 1 6-in. Payton coupling for 6-in. c. I. pipe;
- (6) 1 6-in. Payton coupling for 6-in. riveted steel pipe;
- (7) 1 4-in. Payton coupling for 4-in. c. I. pipe;
- (8) 2 4-in. Payton couplings for 4-in. riveted steel pipe;
- (9) 5 6-in. gate valves, bell ends;
- (10) 3 6-in. Corey hydrants, 3-ft. bury 1 1/4- and 1 1/2-in. hose connections.

Certified check 10% payable to City of Madera required with bid. Specifications obtainable from above office.

MARTINEZ, Contra Costa Co., Cal.—Residents in the Pleasant Hill district will petition the county supervisors to call an election to vote on the formation of a water district. After formation, bonds will be voted to finance construction of a distributing system.

IDAHO—Approximately \$948,750 will be expended by nine Idaho cities for waterworks construction if funds can be secured through the Reconstruction Finance Corporation. Contemplated improvements include:

- Pocatello—\$268,250, reservoir, with capacity of 11,500,000 gals. \$104,200; relining old reservoirs, \$22,500; supply line, \$81,250; distribution system, \$60,300.
- Twin Falls—\$90,000 to construct clear well with capacity of 5,000,000 gallons.
- Coeur d'Alene—\$350,000 for an entirely new water system.
- Payette—\$40,000 to replace 7 miles of wood pipe.
- Idaho Falls—\$40,000 to extend supply service.
- Shoshone—Filtration plant, cost \$40,000.
- Buhl—A filtration plant, the estimated cost of which is \$40,000.
- St. Maries—A filtration plant, estimated cost, \$40,000.
- Caldwell—\$10,500 for relaying old wooden pipe.

WHITTIER, Los Angeles Co., Cal.—Contract for furnishing cast iron pipe to the City of Whittier awarded by city council August 8, as follows:

C. G. Claussen & Co.—1500 ft. 4-in. pipe at 23c ft.; 2200 ft. 8-in. pipe at 44.5c ft. and 1200 ft. 10-in. pipe at 71.5c ft.

National Cast Iron Pipe Co.—20,000 6-in. pipe at 52.5c ft.

CARPINTERIA, Santa Barbara Co., Cal.—Carpinteria Sanitary District rejects bids for a reinforced concrete caisson for a sewage pumping plant and stucco pumphouse. Matter of re-advertising for bids has been taken under advisement. The caisson will be circular in shape, 16-ft. inside diameter, 30-ft. deep and includes both wet and dry pits.

SAN LUIS OBISPO, Cal.—Until August 31, 2 P. M., bids will be received by State Department of Public Works, Division of Architecture, Sacramento, for erection of a 200,000-gallon water tank at California Polytechnic School, San Luis Obispo. The tank is to be built of reinforced concrete with wood frame roof construction and composition roof; tank to rest directly on the ground. An alternate bid will be required for the omission of the wood roof construction and composition roofing and substituting a reinforced concrete roof slab with monolithic finish.

STREETS AND HIGHWAYS

SAN BERNARDINA COUNTY, Cal.—Jahn & Bressi Const. Co., Inc., Lane Mortgage Bldg., Los Angeles, at \$229,159.43 (Alt. B) awarded contract by State Highway Commission to grade and surface with oil treated crushed gravel or stone about 4.5 miles between Camp Waterman and Arrowhead Springs.

LOS ANGELES COUNTY, Calif.—Jahn & Bressi Const. Co., Inc., Lane Mortgage Bldg., Los Angeles, at \$379,820 awarded contract by State Highway Commission to pave with Portland cement concrete about 34.5 miles bet. Castaic School and Piru Creek.

NAPA COUNTY, Cal.—C. W. Wood, P. O. Box 1435, Stockton, at \$4750,50 awarded contract by State Highway Commission to improve 11.9 miles of highway between the Sonoma-Napa County Line and Napa and between Napa Wye and Napa-Solano County Line, rock borders to be bituminous treated by the road mix method on both sides of the pavement.

UKIAH, Mendocino Co., Cal.—County supervisors have approved proposed formation of a joint highway district with Sonoma County to secure state financial aid to improve roads on the Mendocino Coast. Roads included in the improvement plan include the Willits to Fort Bragg road; road from Leggett Valley to Rockport and south via Rockport to Westport, Fort Bragg and Caspar to the north bank of Russian Gulch bet. Caspar and Mendocino, and coast road from mouth of Navarro river south via Greenwood, Manchester and Point Arena to Gualala river.

FERRY COUNAY, Wash.—Until 2 P. M., August 26, bids will be received by U. S. Bureau of Public Roads, 316 New P. O. Bldg., Portland, Ore., to improve the inland Empire Highway surfacing Project E-21-B2, National Forest Road Project, located within the Colville National Forest, County of Ferry.

The length of the project to be constructed or improved is approximately 11,197 miles and the principal items of work are approximately as follows: 2900 cu. yds. unclassified excavation; 11,197 miles fine grading of subgrade and shoulders; 38,000 tons crusher run bottom course; 10,500 tons crusher run top course; 1400 M. gals. watering; 12,300 cu. yds. special crushed rock or crushed gravel top-course, stock piled; 2500 cu. yds. binder; 5000 mi. yds. binder haul.

Plans may be obtained from W. H. Lynch, District Engineer, upon deposit of \$10. Proposal guarantee, 5%.

REDWOOD CITY, San Mateo Co., Cal.—Until September 6, 10 A. M., bids will be received by E. B. Hinman, county clerk, to surface the Haskins Hill Road also known as the Pescadero Road, from Memorial Park to the Alpine road, in the 3rd and 4th Road Districts, involving:

- (1) 650 cu. yds. excav. and grading;
- (2) 7500 cu. yds. broken stone base;
- (3) 485,500 sq. ft. asphalt wearing surf., 1-in.;

(Alternate bid—cold or hot oil)

- (4) 764 lin. ft. install corr. metal pipe culvert (County to furnish pipe);
- (5) 450 lin. ft. timber flume;
- (6) 8 reinforced concrete "L" type culvert inlets;
- (7) 600 lin. ft. 6-in. drain tile.

Certified check 10% payable to county required with bid. Specifications obtainable from Jas. S. James, county surveyor.

ARIZONA STATE.—Until 2 p. m., August 24, bids will be received by State Highway Commission, Phoenix, for highway construction on the Tucson-Nogales Highway, F. A. P. Nos. 25-A, 25-B, 75, E-86-E & E-86-G, Reo. The work, which is considered all one project, begins at the end of the oiled surfacing, approx. 22½ miles south of Tucson, extends south approx. ten miles to the Santa Cruz county line, consists of placing subgrade stabilizer over portions, and the oil processing by the road mix method with shoulder material over the entire length, and is to be completed on or before Jan. 15, 1933. The principal items are:

ROADWAY

- 8,300 cu. yds. subgrade stabilizer;
 - 16,100 cu. yd. ml. subgrade stabilizer haul;
 - 206,350 sq. yds. prepare subgrade or road surfacing;
 - 18,450 cu. yds. mineral aggregate;
 - 33,700 cu. yds. ml. mineral aggregate haul;
 - 313,739 gals. cutback asphalt. cement;
 - 12,561 ml. mix, lay down and finish;
 - 1,000 cu. yds. screenings for seal coat;
 - 4,600 cu. yds. shoulder material;
 - 8,800 cu. yds. ml. shoulder material haul;
 - 335 M. gals. water apply to roadway;
- BRIDGES**
- 320 cu. yds. mineral aggregate;
 - 500 cu. yds. do haul;
 - 5,400 sq. yds. prepare subgrade or road surfacing;
 - 0,193 ml. mix, lay down and finish;
 - 35 cu. yds. screenings;
 - 5 cu. yds. shoulder material;
 - 3 cu. yd. ml. shoulder material haul.

NON-F.A.

- 125 cu. yds. special mineral aggregates for stockpile;
 - 125 cu. yd. ml. haul special mineral aggregate to stockpile.
- Plans obtainable from State Engineer, T. S. O'Connell. Proposal guarantee, 5%.

COCONINO COUNTY, Ariz.—Until August 23, 2 P. M., bids will be received by C. H. Sweetser, District Engineer, U. S. Bureau of Public Roads, 461 Market St., San Francisco, for 7,307 miles of grading Section D of Route 28, the Fredonia-Houserock Valley National Forest Highway, Kaibab National Forest, involving:

- (1) 43 acres clearing;
- (2) 11,400 cu. yds. unclass. excav.;
- (3) 660 cu. yds. unclass. excav. struc.;
- (4) 168,000 sta. yds. overhaul;
- (5) 7,807 miles finish earth graded rd.;
- (6) 25,900 cu. yds. unclass. excavation, borrow;
- (7) 420 cu. yds. cem. rubble masonry;
- (8) 1,826 lin. ft. corr. metal pipe.

Specifications obtainable from above office on deposit of \$10, returnable,

certified checks payable to Regional Fiscal Agent, U. S. Forest Service.

PACIFIC COAST.—Allocation of funds by Secretary Wilbur in connection with roads for the National Park Service, follow:

Approach Roads to Yellowstone Park
Grading Red Lodge-Cook City, \$430,000
Grading southwest approach, Ashton 210,000
Grading grand loop, 225,000
Mt. Ranier
Grading Deer Creek-Cayuse Pass \$200,000
Grading Stevans Canyon, Reflection Lake 200,000
To be advertised after present contract is completed.
Parking area west side, West Side Highway, Nowich Entrance 20,000

Sequoia National Park
Grading General Grant Road, Sequoia \$190,000
Surfacing Trail Ridge Road, Rocky Mt. National Park, 162,000
Grading Desert View-Cameron Exten. to Grand Canyon National Forest 198,000
Petrified Forest National Monument, Painted Desert Extension and railroad overpass (S. Fe Ry.) 102,000
Surfacing Rim Road, Crater Lake 35,000
Surf. Wawona Road, Yosemite National Park 251,000

MARIN COUNTY, Cal.—Until Aug. 24, 2 P. M., bids will be received by State Highway Commission, Sacramento, to surface with bituminous treated crushed gravel or stone about 3.1 miles between Alto and Belvedere Crossing, involving:

- (1) 33,000 sq. yds. asph. paint binder;
- (2) 6,000 tons crushed gravel or stone (bit. treat. surf.);
- (3) 345 ton cutback asphalt (surf. and seal coat);
- (4) 335 tons screenings (seal coat).

DOUGLAS AND GRMSBY COUNTIES, Nev.—Until August 23, 2 P. M., bids will be received by C. H. Sweetser, District Engineer, U. S. Bureau of Public Roads, 461 Market St., San Francisco, for 3,830 miles of highway grading and structures, and portion of Section A of Route 1, the Lake Tahoe National Forest Highway, Tahoe National Forest, involving:

- (1) 114,400 cu. yds. unclass. excav.;
- (2) 1,100 cu. yds. unclass. excavation, structure;
- (3) 44,200 sta. yds. overhaul;
- (4) 3,820 mi. finish earth graded rd.;
- (5) 150 ml. gals. watering;
- (6) 105 cu. yds. concrete;
- (7) 5,700 lbs. reinf. steel;
- (8) 450 cu. yds. cement rubble masonry;
- (9) 75 cu. yds. hand laid rip-rap;
- (10) 836 lin. ft. corr. metal pipe;
- (11) 708 lin. ft. remove and relay C. M. pipe;
- (12) 2,700 cu. yds. selected material;
- (13) 6,300 cu. yd. ml. haul sel. mat.;
- (14) 50 cu. yds. crushed rock or crushed gravel, backfill;
- (15) 84 right of way monuments.

Specifications obtainable from above

TEHAMA COUNTY, Cal.—Until August 23, 2 P. M., bids will be received by C. H. Sweetser, District Engineer, U. S. Bureau of Public Roads, 461 Market St., San Francisco, for 3,715 miles of crushed rock base course, Section A of Route 79, the Morgan Summit-Morgan Springs National Forest Highway, Lassen National Forest, involving:

- (1) 150 cu. yds. unclass. excav., struc.

- (2) 3,715 mi. fine grading subgrade & shoulders;
- (3) 8,500 tons crushed rock base course
- (4) 400 tons supplementad cru. rock;
- (5) 350 M. gals. watering;
- (6) 3,715 miles rolling;
- (7) 1,420 lin. ft. place Govt. furnished C. M. pipe;
- (8) 160 cu. yds. crushed gravel or cru. rock for backfill.

Specifications obtainable from above office on deposit of \$10, returnable, certified checks payable to Regional Fiscal Agent, U. S. Forest Service.

ALAMEDA COUNTY, Calif.—Fredrickson & Watson, 873 81st Ave., Oakland, at \$109,318.05 awarded contract by State Highway Commission to grade and pave with Portland cement concrete 2.4 miles between Castro Hill and Stanton Avenue.

IDAHO STATE.—J. A. Terelling & Sons, 511 Sound, Spokane, Wash., at \$39,333 f.o.b. Leadore, awarded contract by Department of Public Works, Boise, to construct roadbed and drainage structure on 16.262 miles of the Lemhi and Leadore Highway in Lemhi County, involving:

- 190,000 cu. yds. excav., unclass.;
- 3200 cu. yds. excav. struc.;
- 64,000 sta. yds. overhaul;
- 8000 mi. yd. haul on excavation;
- 12- to 36-in. C. M. pipe, furnish and relay;
- 660 lin. ft. construct irrigation ditches
- 54 MFEM lumber for irrigation struc.;
- 54 MFEM lumber, untreated for bridge

Bids on pipe were take nas follows: (A) f.o.b. Leadore; (B) f.o.b. Dubois.

ARIZONA STATE.—Baekard & Tanner, 905 W. Latham St., Phoenix, awarded contract by State Highway Commission, Phoenix, July 29, at \$98,568.19, for highway construction between Mesa and Casa Grande Ruins, F. A. 97-A. The work, which begins at a point approximately 14½ miles southeast of Chandler and extends northwest approximately 10½ miles to the concrete pavement 4 miles due south of Chandler, consists of the grading, draining and placing of subgrade stabilizer, and is to be completed on or before December 15, 1932. The principal items are:

ROADWAY

- 2,600 cu. yds. roadway excavation;
 - 5,600 cu. yds. drainage excavation;
 - 460 cu. yds. structural excavation;
 - 90,000 cu. yds. borrow excavation;
 - 15,200 cu. yds. ml. borrow haul;
 - 23,700 sta. yd. earthwork overhaul;
 - 30,900 cu. yds. subgrade stabilizer;
 - 87,400 cu. yds. ml. subgrade stabilizer, haul;
 - 323 cu. yds. concrete;
 - 19,000 lbs. reinforcing steel (bare);
 - 75 sq. yds. reinf. steel (mesh);
 - 432 lin. ft. 24-in. C. M. P.;
 - 36 lin. ft. 30-in. C. M. P.;
 - 1,500 M. gals. water applied to rdwy.
 - 87 sq. yds. concrete canal lining;
 - 15,400 lin. ft. line fence;
 - 179 removal of trees.
- BRIDGES**
- 5,500 cu. yds. drainage excavation;
 - 2,300 cu. yds. structural excavation;
 - 2,156 cu. yds. class "A" concrete;
 - 230,000 lbs. reinf. steel (bars).
- And other miscellaneous items.

NEVADA COUNTY, Calif.—A. Teichert & Son, P. O. Box 1118, Sacramento, at \$30,978 awarded contract by State Highway Commission to surface with untreated crushed gravel or stone and bituminous surface treatment applied on 11.7 miles between Nevada City and one mile west of Washington Road.

WASHINGTON STATE.—Until August 30, 10 A. M., bids will be received by Samuel J. Humes, Director of Highways, Olympia, for highway construction as follows:

Grading and surfacing 5.8 mi. State Road No. 5, Riffe to Nesika Bridge, Emergency Construction Highway Project No. E-134-D, in Lewis County, involving 50 acres clearing, 114,390 cu. yds. excav., 254 cu. yds. concrete, 17,190 cu. yds. crushed stone, 2.736 lin. ft. pipe culverts and other items.

Surfacing with 13,380 cu. yds. crushed stone 7.3 mi. State Road No. 9, Thurston County Line to Gibson Creek Emergency Construction Highway Project No. E-179-A in Grays Harbor County.

Surfacing with 15,630 cu. yds. of crushed stone 6.6 miles State Road No. 22, Evans north in Stevens Co.

Specifications obtainable from the county engineer of county in which the work is located, and from above office on deposit of \$2.00, returnable. Certified check 5% payable to State Treasurer, required with bid.

FERNDALE, Humboldt Co., Calif.—Mercer-Fraser Co., Eureka, at \$998.75 awarded contract by city trustees to pave Herbert St. from Rosa Ave. to Main St. and a portion of Arlington Avenue.

WASHOE COUNTY, Nevada.—Until August 23, 2 P. M., bids will be received by C. H. Sweetser, District Engineer, U. S. Bureau of Public Roads, 461 Market St., San Francisco for 0.993 mile grading section D of Route 1, the Lake Tahoe National Forest Highway, Tahoe National Forest, involving:

- (1) 11,500 cu. yds. unclass. excav.;
- (2) 50 cu. yds. unclass. excav. struc.;
- (3) 30 cu. yds. foundation fill;
- (4) 21,000 sta. yds. overhaul;
- (5) 0.999 mile finish earth graded rd.;
- (6) 94 M. gals. watering;
- (7) 20 cu. yds. concrete;
- (8) 210 lbs. reinf. steel;
- (9) 268 lin. ft. corr. metal pipe;
- (10) 2,350 cu. yds. selected material;
- (11) 1,500 cu. yds. mi. haul sel. mat.;
- (12) 6 right of way monuments.

Specifications obtainable from above office on deposit of \$10, returnable, certified checks payable to Regional Fiscal Agent, U. S. Forest Service.

SACRAMENTO, Cal.—Until August 22, 5 P. M., bids will be received by Charles C. Hughes, Secretary, Board of Education, 21st and L Streets, to furnish approximately 9000 barrels of fuel oil, more or less, throughout the fiscal year ending June 30, 1933. Certified check 10% required with bid. Specifications obtainable from Assistant Business Manager, Board of Education, 1st and L Streets.

DOUGLAS COUNTY, Nevada.—Until August 30, 2 P. M., bids will be received by C. H. Sweetser, district engineer, U. S. Bureau of Public Roads, 461 Market St., San Francisco, for 7.952-mile subgrade stabilizer on Sections C and D of Route 3, Glenbrook National Forest Highway, Tahoe National Forest, Douglas County, Nev., involving in the main:

- (1) 660 M. gals. watering;
- (2) 16,000 cu. yds. selected material for subgrade stabilizer;
- (3) 100 cu. yds. supplemental selected material;
- (4) 13,950 lin. ft. fencing;
- (5) 6,550 lin. ft. remove and reset fence.

Plans obtainable from district engineer on deposit of \$10, returnable, checks for same to be made payable to the Regional Fiscal Agent, U. S. Forest Service.

LOS ANGELES COUNTY, Calif.—Prow, Lefler and Webster, El Monte, awarded subcontract by Guy F. Atkinson Co. for laying air and water pipe lines in connection with the San Gabriel Highline road. The Guy F. Atkinson Co. has closed its Azusa office and now maintains its construction office at Berry Flats, San Gabriel Canyon. The office at 925 Story Bldg. will be used throughout the job.

DOUGLAS COUNTY, Nev.—Until August 30, 2 P. M., bids will be received by C. H. Sweetser, district engineer, U. S. Bureau of Public Roads, 461 Market St., San Francisco, for 1.723 miles of grading Section E of Rt. 3, Glenbrook National Forest Highway, Tahoe National Forest, Douglas County, involving in the main:

- (1) 26,700 cu. yds. unclass. excav.;
- (2) 280 cu. yds. do. for structures;
- (3) 200 cu. yds. foundation fill;
- (4) 6,800 cu. yds. selected borrow;
- (5) 10,000 sta. yds. overhaul;
- (6) 1,830 miles finish earth graded rd.
- (7) 900 M. gals. watering;
- (8) 19,500 cu. yd. mile hauling borrow
- (9) 215 cu. yds. concrete;
- (10) 17,000 lbs. reinforcing steel;
- (11) 1,248 lin. ft. corr. metal pipe;
- (12) 13,120 lin. ft. fencing;
- (13) 10 wire gates;
- (14) 8 right of way monuments.

Plans obtainable from district engineer on deposit of \$10, returnable, checks for same to be made payable to Regional Fiscal Agent, U. S. Forest Service.

SAN FRANCISCO.—Department of Public Works, John J. Casey, city engineer, completes specifications to improve 19th St. bet. Yukon and Caselli Aves., estimated cost, \$5,600. Project involves:

- (1) 1,350 cu. yds. embankment;
- (2) 800 ft. unarmored concrete curb;
- (3) 250 ft. redwood curb;
- (4) 10,200 sq. ft. 6-in. Class E conc. pavement;
- (5) 3,200 sq. ft. 2-in. asph. concrete pavement;
- (6) 2,840 sq. ft. conc. sidewalks;
- (7) 3,130 sq. ft. 1-in. asph. concrete pavement;
- (8) 60 cu. yds. Class B conc. in walls
- (9) 4,200 lbs. bar reinf. steel;
- (10) 160 ft. fence with conc. posts and 3-pipe railing;
- (11) 2 concrete fence posts;
- (12) 420 ft. 8-in. V.C.P. sewer;
- (13) 60 ft. 10-in. V.C.P. culvert;
- (14) 2 brick manholes;
- (15) 4 brick catchbasins;
- (16) 21 Y or T branches;
- (17) 275 ft. 6-in. V.C.P. side sewers.

CLARK COUNTY, Nev.—Until September 28 (approximate date) bids will be received by S. C. Durkee, State Highway Engineer, Carson City, to grade and gravel surface 23.26 miles between Glendale and the Clark-Lincoln County line. Specifications will be ready for examination about Sept. 7 at above offices and will be obtainable after above date on deposit of \$15 of which \$10 is returnable. Certified check 5% required with bid.

MONO COUNTY, Cal.—Until Aug. 30 2 P. M., bids will be received by J. W. Vickrey, acting district engineer, State Highway Commission at Bishop, Cal., to grade 2.4 miles in Mono County between West Walker River Canyon and two miles south of Coleville. Spec. obtainable from district engineer.

MENDOCINO COUNTY, Cal.—Until August 31, 2 P. M., bids will be received by State Highway Commission, Sacramento, to grade and surface with crusher run base about 1.8 miles

and to surface with untreated crushed gravel or stone about 4.5 miles bet. Little Dahn Creek and Heagneys, about 6.3 miles, involving:

- (1) 16.1 acres clear and grub right of way;
- (2) 103,110 cu. yds. gravel excavation without class.;
- (3) 464,350 sta. yds. overhaul;
- (4) 525 cu. yds. struc. excav.;
- (5) 42 cu. yds. Class A Port. cem. conc. (struc.);
- (6) 3,850 lbs. bar reinf. steel (struc.);
- (7) 2,900 cu. yds. sel. material (shoulders);
- (8) 5,500 cu. yds. crusher run base;
- (9) 8,400 cu. yds. untreated crushed gravel or stone surf.;
- (10) 2,350 cu. yds. untreated crushed gravel or stone in stockpiles;
- (11) 2,210 cu. yds. screenings in stockpiles;
- (12) 1,000 M. gals. water applied to subgrade and surf.;
- (13) 194 lin. ft. 18-in. corr. metal pipe;
- (14) 44 lin. ft. 24-in. do.;
- (15) 44 lin. ft. 48-in. do.;
- (16) 125 timber guide posts and culvert markers;
- (17) 83 sta. finish roadway;
- (18) 28 monuments complete in place. State will furnish corr. metal pipe and cast steel frames and covers for drop inlets.

SAN BERNARDINO COUNTY Calif.—Until Sept. 1, 2 P. M., bids will be received by C. H. Sweetser, District Engineer, U. S. Bureau of Public Roads, 461 Market St., San Francisco, for 0.780 mile grading Section C of Route 68, the Mill Creek National Forest Highway, San Bernardino National Forest, involving:

- (1) 8 acres clearing;
- (2) 108,500 cu. yds. unclass. excav.;
- (3) 1,220 cu. yds. unclass. excavation, struc.;
- (4) 57,000 sta. yds. overhaul;
- (5) 0.780 mile finish earth graded rd.
- (6) 287 cu. yds. concrete;
- (7) 81,200 lbs. reinf. steel;
- (8) 654 lin. ft. corr. metal pipe;
- (9) 234 stretchers for conc. cribbing;
- (10) 266 headers for do.;
- (11) 318 stretchers (Govt. furnished) for concrete cribbing;
- (12) 30 right of way monuments.

Specifications obtainable from above on deposit of \$10, returnable, certified checks payable to Regional Fiscal Agent, U. S. Forest Service.

LINCOLN COUNTY, Nevada.—Until Sept. 28 (approximate date) bids will be received by S. C. Durkee, State Highway Engineer, Carson City, to grade and gravel surface 26.42 miles between the Clark-Lincoln County line and Maynard Lake. Specifications will be ready for examination about Sept. 7 at the above offices and will be obtainable after the date on deposit of \$15, of which \$10 is returnable. Certified check 5% required with bid.

LOS ANGELES COUNTY, Calif.—Griffith Co., 502 Los Angeles Railway Building, Los Angeles, at \$27,985.20 awarded contract by State Highway Commission to grade and pave with Portland cement concrete 6.2 miles between Brea Canyon and Pomona.

LOS ANGELES, Calif.—Griffith Co., Los Angeles Railway Bldg., at \$20,709.63 submitted low bid to Board of Public Works to improve Washington St. bet. Santa Fe Ave. and Alameda St., involving in the main 127,132 sq. ft. 7-in. Bitumuls full penetration pavement at \$118 sq. ft. Next two low bidders on pavement were: C. H. Oswald, Los Angeles, \$117; Southern California Roads Co., \$118.

LAKE AND COLUSA COUNTIES.
 Calif.—C. W. Wood, P. O. Box 1435, Stockton, at \$13,715 awarded contract by State Highway Commission to apply about 13.9 mi. of bituminous surface treatment bet. Abbott Mine and five miles west of Williams.

EUREKA, Humboldt Co., Cal.—Until August 24, bids will be received by Fred M. Kay, county clerk, for rock surfacing on two miles of road on Martin's Ferry Hill, on the Orick-Martin's Ferry Road. Specifications obtainable from Frank Kelly, county surveyor.

LOS ANGELES COUNTY, Calif.—Until August 25, 2 P. M., bids will be received by S. V. Cortelyou, district engineer, State Highway Commission, 808 State Office Bldg., Los Angeles, for highway oiling in Los Angeles County bet. Washington Blvd. and El Segundo about four miles in length, earth shoulders to be treated with fuel oil, involving:
 (1) 2000 bls. heavy fuel oil in place. Specifications obtainable from district engineer.

LOS ANGELES, Cal.—Until Aug. 31, 10 A. M., bids will be received by the Board of Public Works for grading, paving and otherwise improving Wilshire Blvd. bet. Figueroa St. and Park View St., involving grading, concrete and asphaltic concrete paving; ornamental street lighting system; sanitary sewers; storm drains. Quantities of materials involved in this project, comprising 111 items, are on file in the office of Daily Pacific Builder and may be inspected by those interested.

EUREKA COUNTY, Nev.—As previously reported, Geo. French, Jr., P. O. Box 675, Stockton, Calif., at \$31,678.96 awarded contract by the State Highway Commission, Carson City, to furnish, apply and mix asphaltic fuel oil with a crushed rock or crushed gravel surface over 13.83 miles bet. 14 miles west of Hay Ranch and Hay Ranch, Route 2, Section A2, involving:
 (1) 324,579 gals. asph. fuel oil apply to roadway surface;
 (2) 13.83 miles mixing;
 (3) 13.83 miles rebuild and finish shoulders;
 (4) 13.83 miles sanding seal coat.

Complete bids follow:
 (A) Geo. French, Jr., Stockton, \$31,678.96.
 (B) A. D. Drumm, Jr., Fallon, \$32,881.32.
 (C) Smith Bros. Co., Eureka, \$32,923.66.
 (D) Dodge Bros., Inc., Fallon, \$38,044.96.
 (E) Engineer's estimate, \$40,755.90.

Unit bids follow:

| | (1) | (2) | (3) | (4) |
|-----------|--------|----------|---------|----------|
| (A) | \$.078 | \$400.00 | \$10.00 | \$ 50.00 |
| (B) | .08 | 440.00 | 20.00 | 40.00 |
| (C) | .078 | 410.00 | 40.00 | 100.00 |
| (D) | .0925 | 450.00 | 30.00 | 100.00 |
| (E) | .10 | 500.00 | 50.00 | 50.00 |

WASHINGTON STATE.—Until August 23, 10 A. M., bids will be received by Samuel J. Humes, Director of Highways, Olympia, to surface about nine miles of the Inland Empire Highway, Eastern Route, Junction State Road No. 3 (near Rosalia) to Oakdale, in Whitman county, involving 32,900 cu. yds. crushed stone.

WHITE PINE COUNTY, Nev.—As previously reported, Smith Bros., Eureka, at \$45,297.28 awarded contract by State Highway Commission to furnish, apply and mix asphaltic fuel oil with

a crushed rock or crushed gravel surface over 26.61 miles between east foot of Conner's Pass and Ely, Route 7, Sections B1, 2, 3 and C, involving:
 (1) 603,284 gals. asph. fuel oil apply to roadway surface;
 (2) 26.61 miles mixing;
 (3) 26.61 mi. rebuild and finish shoulders.

Complete bids follow:
 (A) Smith Bros. Co., Eureka, \$45,297.29.
 (B) A. D. Drumm, Jr., Fallon, \$47,515.41.
 (C) Geo. French, Jr., Stockton, Calif., \$47,976.52.
 (D) Wheelwright Const. Co., Ely, \$54,072.97.
 (E) Dodge Bros., Inc., Fallon, \$57,841.39.
 (F) Engineer's estimate, \$60,609.02.

Unit bids follow:

| | (1) | (2) | (3) |
|-----------|--------|----------|---------|
| (A) | \$.057 | \$380.00 | \$30.00 |
| (B) | .062 | 370.00 | 10.90 |
| (C) | .061 | 400.00 | 20.00 |
| (D) | .0689 | 430.00 | 40.00 |
| (E) | .0725 | 500.00 | 30.00 |
| (F) | .074 | 550.00 | 50.00 |

ARIZONA STATE.—Martin Bros. Trucking Co., 1339 Gladys Ave., Long Beach, awarded contract by State Highway Commission, Phoenix, July 29, at \$56,981.91, for highway construction on the Phoenix-Prescott Highway, F. A. 84-B. The work, which begins at Congress Junction and extends south approximately 12½ miles to the Yavapai-Maricopa County line, consists of grading, draining and placing of subgrade stabilizer, and is to be completed on or before December 15, 1932. The principal items are:

ROADWAY
 39,500 cu. yds. roadway excavation;
 2,100 cu. yds. drainage excavation;
 600 cu. yds. structural excavation;
 39,200 cu. yds. borrow excavation;
 25,400 sta. yds. earthwork overhaul;
 56,400 cu. yds. subgrade stabilizer;
 96,800 cu. yds. ml. subgrade stabilizer, haul;
 234 cu. yds. concrete;
 9,400 lbs. reinforcing steel;
 1,432 lin. ft. 24-in. C. M. P.;
 1,735 lin. ft. 30-in. C. M. P.;
 74 lin. ft. 36-in. C. M. P.;
 56 lin. ft. resetting 18-in. C.M.P.;
 178 cu. yds. plain riprap;
 7,900 lin. ft. vee ("V") ditch.

ONE BRIDGE
 700 cu. yds. drainage excavation;
 300 cu. yds. structural excavation;
 215 cu. yds. class "A" concrete;
 24,200 lbs. reinforcing steel.

HUMBOLDT COUNTY, Cal.—Hemstedt & Bell, Marysville, were awarded contract by U. S. Bureau of Public Roads, at \$38,667.80 for 1,992 miles of highway grading and structures, Fed-

eral Lands project No. 1, grading unit 2-B Hoopa Valley, Indian Reservation, Humboldt County, involving in the main:
 90,000 cu. yds. unclass. excav.;
 700 cu. yds. unclass. excav. (struc.);
 \$3,200 sta. yds. overhaul;
 1,992 miles finish earth graded road;
 305 cu. yds. Class A concrete;
 21,100 lbs. reinf. steel;
 8- 18- and 24-in. corr. metal pipe;

LANDER COUNTY, Nevada.—Until September 21 (approximate date) bids will be received by S. C. Durkee, State Highway Engineer, Carson City, for highway construction consisting of grading, structures and gravel surface between 12 mi. south of Battle Mountain, 8 miles. Specifications obtainable after September 7 from above office on deposit of \$15, \$10 of which is returnable. Certified check 5% required with bids. Quantities will be published in an early issue.

WASHOE COUNTY, Nevada.—Until September 21 (approximate date), bids will be received by C. S. Durkee, State Highway Engineer, Carson City, for highway construction consisting of grading and a premixed oil surface between Reno and Nevada-California State Line near Purdy, 14.63 miles. Specifications obtainable after September 7 from above office on deposit of \$15, \$10 of which is returnable. Certified check 5% required with bids.

UMATILLA AND GRANT Counties, Ore.—Until August 26, 10 A. M., bids will be received by W. H. Lynch, District Engineer, U. S. Bureau of Public Roads, 216 New Postoffice Bldg., Portland, for 15,437 miles surfacing on John Day Highway Surfacing Project E33-B1, C2, D2 in the Umatilla National Forest, involving:
 (1) 5,050 cu. yds. unclass. excav.;
 (2) 5,000 cu. yds. subgrade reinf.;
 (3) 15,334 miles fine grading subgrade and shoulders;
 (4) 22,500 4-ton s crusher run bottom course;
 (5) 37,500 tons crusher run top course;
 (6) 2,250 tons supple. crushed stone;
 (7) 5,000 mi. yds. binder haul;
 (8) 1,400 M. gals. watering;
 (9) 4,500 cu. yds. binder;
 (10) 3,500 cu. yds. loose rip-rap; and other items.

Specifications obtainable from above on deposit of \$10, returnable, checks payable to Federal Reserve Bank of Portland.

SAN RAFAEL, Marin Co., Calif.—Helwig Const. Co., 115 S Main St., Sebastopol, at \$14,441.35 awarded contract by county supervisors to construct portions of county highway as follows: From Marshall south on the Marshall-Point Reyes Road, 4 miles; also from Church St., Tomales, to Dillon Beach, and streets in the town of Tomales as follows: Widening Main St. from High School to Second St., surfacing First St. from Main St. to John St., surfacing John St. from 1st St. south one block, surfacing Church St. from First St. south one block, resurfacing Main St. to Church St., 9 miles, to be treated with emulsified asphalt and screenings, involving 847,000 sq. ft. emulsified asph. and screenings in place. Complete bids follow:
 Helwig Const. Co., Sebastopol, unit, \$0,1705; total, \$14,441.35.
 Highway Builders, San Anselmo, \$0,185; \$15,669.50.
 Heafey-Moore Co., Oakland, \$0,186; \$15,754.20.

CAPITAL CITY TITLE COMPANY

▼

J. C. PALEN,
Manager

▼

914 Seventh Street
Sacramento :: California

BUILDING NEWS

APARTMENTS

Owner Taking Segregated Figures.
APARTMENTS Cost, \$35,000
SAN FRANCISCO. E Larkin St. 100
 N Bay Street.

Three-story and basement brick veneer, frame and stucco apartments (six 3-room and six 2-room apts.) tile and composition roof, steam heating system, hardwood floors, tile baths and kitchens, canvas walls, etc.

Owner and Builder—S. Bertone, 3008 Larkin Street.
 Plans by Irvine & Ebbets, 2048 Market Street.

FACTORIES AND WAREHOUSES

Contemplated.
MFG. PLANT Cost, \$—
OAKLAND, Alameda Co., Cal.
 Manufacturing Plant.
 Owner—Fleischmann Co. of California,
 245 11th St., San Francisco.
 Architect—Not Given.

The project is in a very preliminary state and will probably not be started for about a year.

STOCKTON, San Joaquin Co., Cal.
 —Following bids received by the city council to erect four warehouse units, 100x150-ft. each, in connection with the Stockton Deep Water Project. Bids were taken on following propositions:

- (1) buildings, using brick curtain walls, A and E;
 - (2) buildings, using hollow tile;
 - (3) buildings, same as (1) using reinforced concrete walls;
 - (4) same as (1) except additional warehouse F;
 - (5) same as (2) except additional warehouse F;
 - (6) same as (3) except additional warehouse F;
 - (7) same as (1) except additional warehouses F and B;
 - (8) same as (2) except additional warehouses F and B;
 - (9) same as (3) except additional warehouses F and B.
- Complete bids follow:

Leo Epp, San Francisco, (1) \$57,651 (2) \$55,489 (3) \$61,877 (4) \$74,941 (5) \$72,185 (6) \$79,877 (7) \$93,440 (8) \$88,877 (9) \$98,877.

John Hackman, Stockton, (1) \$66,600 (2) \$67,000 (3) \$64,000 (4) \$88,800 (5) \$89,600 (6) \$86,000 (7) \$108,800 (8) \$109,200 (9) \$104,000.

E. H. Riley, Stockton, (1) \$68,934 (2) \$67,674 (3) \$67,837 (4) \$89,217 (5) \$87,940 (6) \$88,351 (7) \$110,385 (8) \$109,469 (9) \$109,465.

Barrett & Hill, San Francisco, (1) \$71,162 (2) \$71,550 (3) \$71,165 (4) \$91,600 (5) \$93,008 (6) \$91,700 (7) \$113,200 (8) \$115,049 (9) \$113,210.

Ecker & Stegmiller, Stockton, (1) \$72,005 (2) \$72,955 (3) \$72,962 (4) \$91,935 (5) \$92,336 (6) \$91,203 (7) \$112,440 (8) \$109,307 (9) \$113,252.

J. F. Shepherd, Stockton, (1) \$72,314 (2) \$72,003 (3) \$69,554 (4) \$90,523 (5) \$90,402 (6) \$86,773 (7) \$109,637 (8) \$109,637 (9) \$104,724.

MacDonald & Kahn, San Francisco, (1) \$72,595 (2) \$71,344 (3) \$69,459 (4) \$92,820 (5) \$91,455 (6) \$90,000 (7) \$113,724 (8) \$112,451 (9) \$108,596.

Merritt, Chapman & Scott Corp., San Pedro, (1) \$72,650 (2) \$73,100 (3) \$72,480 (4) \$92,900 (5) \$93,600 (6) \$92,

250 (7) \$113,500 (8) \$114,500 (9) \$112,800.
 J. J. Cavanagh, Stockton, (1) \$73,693 (2) \$72,662 (3) \$72,245 (4) \$34,062 (5) \$92,705 (6) \$91,264 (7) \$119,654 (8) \$112,970 (9) \$109,897.

Fredrickson & Watson, Oakland, (1) \$78,950 (2) \$77,576 (3) \$75,950 (4) \$100,981 (5) \$99,300 (6) \$97,281 (7) \$123,876 (8) \$122,267 (9) \$120,000.

Construction Started.
MILL OFFICE, ETC. Cost, \$40,000.
TORRANCE, Los Angeles Co., Cal.
 Border Street.

Erick and steel chemical laboratory; steel and plaster office and extension to chest mill (60x175 ft.)
Owler—Columbia Steel Corp., Border St., Torrance

Plans by Engineering Dept. of Owner. Owner is doing work by own forces.

STOCKTON, San Joaquin Co., Cal.
 —John Hackman, Sonora Road and Walker Lane, Stockton, at \$91,620, using brick curtain walls, awarded contract by city council to erect warehouse units in connection with the Stockton Deep Water Project. Each structure will be 100x150-ft.

GARAGES AND SERVICE STATIONS

Plans Being Prepared.
SERVICE STATION Cost, \$15,000.
OAKLAND, Alameda Co., Cal. Rand and Lake Streets.
 Super service station (steel and brick construction).

Owner—Shell Oil Co., Shell Bldg., San Francisco.
 Plans by Eng. Dept. of Owner.

GOVERNMENT WORK AND SUPPLIES

Plans Being Figured—Bids Close Sept. 15th.
POST OFFICE Cost, \$140,000.
NAPA, Napa Co., Cal. Randolph and Second Sts. (240x120-ft.)

One-story, basement and mezzanine floor Class A steel and concrete post office (brick and terra cotta exterior, granite base).

Owner—United States Government.
 Architect—Reed and Corlett, Oakland Bank Bldg., Oakland.

Plans Completed.
POST OFFICE Cost, \$150,000.
VALLIJO, Solano Co., Cal. Main and Carolina Streets.

One-story and basement Class A reinforced concrete and granite Post Office building.

Owner—United States Government.
 Architect—Chrales Dean, California State Life Bldg., Sacramento.

Plans will be forwarded to Washington for approval within one week.

SAN DIEGO, Cal.—Until August 18, 11 A. M., under Specification No. 6995, bids will be received by Public Works Officer, Eleventh Naval District, San Diego, for one 100-k.w. motor generator set at the Naval Operating Base (Destroyer Base), San Diego. The work consists in general of a 100-kilowatt motor-generator set with motor starter, three switchboard panels and grille, conduits, wires and cable, miscellaneous work and material. Specifications obtainable from above office on deposit of \$10, returnable, checks for same to be made payable

to Chief of the Bureau of Yards and Docks.

PACIFIC COAST.—Appropriations included in the Emergency Relief and Construction Act of 1932, providing \$100,000,000 for public works under the Navy Department, includes the following projects on the Pacific Coast:

MARE ISLAND
 Paving Railroad Ave. \$5,400
 Improving railroad tracks 50,000
 Improving power plant 400,000
 Extension of Dike No. 12 258,000
 Distributing system 60,000
 CH tank Submarine Base 20,000
 Steam line, Ammunition Depot 50,000
 Improving Magazine Bldg. 50,000
 Improvement of railroad 35,000

PEARL HARBOR
 Dredging \$110,000
 Fleet moorings 540,000
 Improving industrial plant 49,000
 Improving storm drain 50,000
 Repair basin 200,000
 Improving fuel oil system 200,000
 Improving distributing system at Submarine Base 40,000
 Improving waterfront at Submarine Base 60,000

PUGET SOUND
 Culvert \$75,000
 Crane track 145,000
 Distributing system 50,000
 Approach to pier 117,000
 Improving power plant 101,000
 Pier ammunition depot 35,000
 Street lighting for Ammunition Depot 15,000

SAN DIEGO, CALIF.
 Quay wall and crane track at Destroyer base \$80,000
 Supply depot dredging 60,000
 Heating plant at training sta. 200,000

PEARL HARBOR AIR STATION
 Magazine \$18,100
 Extension of storehouse 270,000

COCO SOLO, C. Z.
 Extension of aircraft overhaul shop \$100,000

SEATTLE AIR STATION
 Improving flying field \$50,000

KEYPORT, WASH.
 Power plant extension \$7,000

SACRAMENTO, Cal.—Until Aug. 24, 3 P. M., under Circular Proposal No. 33-24, Specifications No. 4550/1953, bids will be received by U. S. Engineer Office, California Fruit Bldg., Sacramento, to furnish eight complete steel cylindrical pontoons of the swivel type. Specifications obtainable from above office.

WINSLOW, Arizona.—Robt. E. McKee, 108 W 6th St., Los Angeles, at \$110,100 awarded contract by Department of Interior, Washington, D. C., for complete construction (except elevator) of a hospital building, nurses' quarters, physician's cottage and garage at Winslow under the jurisdiction of Hopi Indian Agency, Keams Canyon, Arizona.

FORT LYON, Colo.—Until September 13, 2:30 P. M., bids will be received by the Construction Division, U. S. Veterans' Bureau, Arlington Bldg., Washington, D. C., to erect Veterans' Administration Hospital at Fort Lyon, Colo., including main building and dining hall and attendants' quarters. Separate bids are wanted for (a) general construction; (b) plumbing, heating and electrical work; (c) elevators; (d) refrigerating plant. No deposit required for plans. Same must be returned, however, within 10 days.

WASHINGTON, D. C.—Bids are being received by the Bureau of Supplies and Accounts, Navy Department, Washington, D. C., to furnish and deliver supplies and equipment for various Pacific Coast navy yards and stations, further information concerning the schedules listed being obtainable from the Navy Purchasing Office, 100 Harrison St., San Francisco:

Bids Close August 23

Mare Island, 45,000 fire hose and adapter plugs; sch. 8431.

San Diego, one motor ambulance; Mare Island, one do; sch. 8489.

Mountain View, two motor ambulances; sch. 8489.

Mare Island, 50,000 zinc base beds; sch. 8517.

Mare Island, 12 surgical beds; Puget Sound, 50 do; sch. 8502.

San Diego, 72 forced-draft blowers, electric and spares; sch. 8501.

Western yards, cable, cord and wire insulated; sch. 8487.

Mare Island, 150 pressure lubricating guns; sch. 8505.

Mare Island, 40,000 lbs. rosin; sch. 8504.

Mare Island, 19,000 ft. cotton-covered fire hose; sch. 8503.

Western yards, fire brick, clay and cement, etc.; sch. 8462.

Bids Close August 20

Mare Island, 500,000 lbs. dry pigment, titanium; sch. 8514.

San Francisco, one centering motor-driven machine; sch. 8499.

San Francisco, one motor-driven shaper; sch. 8500.

San Francisco, one centrifugal pump sch. 8515.

Bids Close Sept. 13

Pacific Coast points, upholstered living room furniture, mission type furniture, dining room furniture, gate leg tables, metal bedsteads and springs, bedroom furniture, Windsor chairs, hall chairs, miscellaneous chairs, tables, console tables, mirrors, kitchen tables, reed furniture, fiber furniture and metal furniture during a twelve months' period; sch. 8479.

WEST LOS ANGELES, Los Angeles Co., Calif.—Until Sept. 7, 2:30 P. M. bids will be received by Supervising Superintendent of Construction, Veterans' Administration Hospital, Palo Alto, for furnishing all labor and materials and performing all work required for a Fire Alarm System at the Veterans' Administration Home, West Los Angeles. Work will include all interior and exterior wires and cables, conduits and fittings, wire mold and fittings, trenching and backfilling, pole fixtures for suspending exterior wires, trenching and backfilling, cutting and patching, and all fire alarm apparatus, consisting of central control board consisting of motor-generator set, batteries and rack switches, resistances, meters, shunts, etc., and all miscellaneous equipment, consisting of lightning arrestors, interior and exterior pull boxes, E. M. gongs, tapper bells, punch register and junction boxes necessary for a complete installation. Proposal guarantee 25%. Specifications obtainable from above office.

SUNNYVALE, Santa Clara Co., Cal.

—Until Sept. 21, 11 A. M., under Spec. No. 6512, bids will be received by the Bureau of Yards and Docks, Navy Department, Washington, D. C., to erect batchelor officers' quarters at the Naval Fleet Air Base, Coco Solo, C. Z. The work includes wood piles, concrete footings, walls, floors and framing; hollow tile partitions; ornamental steel and iron work; asbestos shingle roofing; hollow metal doors; marble and tile work; window and door screens; wood framing and fin-

ish; plumbing system; drinking fountains, and electrical work. Plans obtainable from the Bureau at Washington or from the Commandant, 15th Naval District, Balboa, C. Z., on deposit of \$25, returnable, checks for the same to be made payable to Chief of the Bureau of Yards and Docks.

SUNNYVALE, Santa Clara Co., Cal.

—Until September 7, 11 A. M., under Specification No. 7011, bids will be received by Bureau of Yards and Docks, Navy Department, Washington, D. C., for inclined passenger elevator in the airship hangar at the Naval Air Station, Sunnyvale. Plans obtainable from Commandant, 12th Naval District, 100 Harrison St., San Francisco, on deposit of 10, returnable, checks for the same to be made payable to Chief of the Bureau of Yards and Docks.

Plans Being Figured—Bids Close Aug. 22, 8 P. M.

ADDITION, Mont. Cost, \$136,000. BILLINGS, Montana. Addition to and remodeling postoffice. Owner—United States Government. Plans by Supervising Architect, Treasury Dept., Washington, D. C.

Provisions of the economy bill cutting 10 per cent off the limit of cost of all public building for which construction has not been started caused the rejection of the bids for the second time. Under the economy bill, limit of cost was cut from \$240,000 to \$216,000. Eighty thousand dollars was paid for the site, thus leaving only \$136,000 for enlarging present structure.

RENO, Nev.—Montgomery Elevator Co., Moline, Ill., at \$10,763 submitted low bid to Treasury Dept., Washington, D. C., for furnishing and installing elevator plant in the U. S. post office at Reno. Following is a complete list of bids:

| | |
|---|----------|
| Montgomery Elevator Co., Moline, Ill. | \$10,763 |
| Otis Elevator Co., S. F. | 11,265 |
| Wm. A. Miller Machine & Elevator Co., St. Louis | 12,140 |
| Houghton Elev. & Machine Co., Washington, D. C. | 12,437 |
| Kinney Brothers Co., Council Bluffs, Iowa | 12,484 |
| Spencer Elevator Co., S. F. | 13,330 |

Bids held under advisement.

MARE ISLAND, Cal.—Proposed improvements at Mare Island for which allotments totaling \$340,000 have been granted by the Bureau of Yards and Docks, are as follows:

Waterfront improvement, \$250,033. Extension of service systems and streets on water front, \$90,000.

The proposed improvements include approximately 1000 ft. quay walls at the south end of yard, open type concrete wall with concrete sheet piling, and timber relieving platform.

PALO ALTO, Santa Clara Co., Cal.

York Ice Machinery Corp., 294 9th St. San Francisco at \$1,969 awarded contract by Supervising Superintendent of Construction, U. S. Veterans' Hospital, Palo Alto, for refrigeration equipment at the Veterans' Hospital, Palo Alto. This work will include two self-contained refrigerating units and refrigerating coils in existing cold storage rooms complete; also all connections to existing pipework and all cutting, fitting and patching required for a complete installation.

MARE ISLAND, Cal.—Until Sept. 7, 11 A. M., under Spec. No. 7040, bids will be received by Public Works Officer, Mare Island Navy Yard, for fire

Bids Wanted—To Close Aug. 24.

POST OFFICE Cost, \$125,000. GALLUP, New Mexico. Class A post office. Owner—United States Government. Plans by Supervising Architect, Washington, D. C.

WINSLLOW, Ariz.—Otis Elevator Co.,

Washington, D. C., submitted low bid to the Department of the Interior at \$4892, for an elevator to be installed in the Indian hospital to be erected at Winslow. Other bids were: Houghton Elevator Co., \$5067; Kimball Elevator Co., \$5450.

protection system for Paint Shop Bldg. No. 334, at Mare Island Navy Yard.

Work involves a sprinkler system of the wet pipe type, consisting of automatic sprinklers, piping, water operated gong and auxiliary electric connection to Yard fire alarm system, together with a rate-of-rise heat-actuated pre-alarm system consisting of heat actuators, piping, release device and auxiliary electric connection to Yard fire alarm system. Specifications obtainable from above on deposit of \$5, returnable, checks for same to be made payable to the Chief of the Bureau of Yards and Docks.

Plans Being Figured—Bids Close Sept. 21st.

POST OFFICE Cost, \$160,000.

PALO ALTO, Santa Clara Co., Calif. Hamilton Ave., Waverly and Gilman Sts. (140-ft. frontage).

One-story, mezzanine floor and basement Class A post office (concrete walls, clay tile roof, terra cotta, marble, tile work, etc.)

Owner—United States Government. Architect—Birge & Clark, 310 University Ave., Palo Alto.

HALLS AND SOCIETY BUILDINGS

Plans Being Figured.

ALTERATIONS Cost, \$25,000.

NAPA, Napa Co., Cal. Alterations to second floor of Masonic Temple (banquet facilities will be provided).

Owner—Masonic Hall Association.

Architect—Reed and Corlett, Oakland Bank of Savings Bldg., Oakland. Coffield & Arnitz, 430 Even Street, Napa, are the only contractors figuring the plans.

Plans Being Completed.

LODGE BLDG. Cost, \$18,000.

SANTA CRUZ, Santa Cruz Co., Cal. 306 Pacific Avenue.

Three-story Class C reinforced concrete lodge building (tile and composition roof, hot air heating system, ventilating system, hardwood and pine floors).

Owner—Royal Order of Moose (E. C. Kramer, secretary), Santa Cruz.

Architect—Edwards and Schary, 550 Montgomery St., San Francisco.

Plans will be completed in about one week.

Construction Postponed Until Sept. 6.

LODGE BLDG. Cost, \$20,000.

PINOLE, Contra Costa Co., Cal.

Two-story Class C brick lodge building (50x100 ft.) tile, tar and gravel roof, hot air heating system, hardwood, linoleum and tile floors.

Owner—Pinole Lodge, F. & A. M. Plans by Matanovich-Manov, 218-219 Fox Theatre Bldg., Oakland.

Further announcements will be made after the meeting Sept. 6. New plans may be prepared.

HOSPITALS

Plans To Be Prepared.

HOSPITAL Cost, \$—
WATSONVILLE, Santa Cruz Co., Cal.
Brewington Sub-Division, Foot of
Prospect Street.

One-story Spanish type hospital (40
bed capacity; X-ray rooms, etc.
Owner—Watsonville Community Hos-
pital Corp.
Architect—Not Selected.

The Watsonville Community Hos-
pital Corporation capitalized for \$150,-
000 has been formed to finance this
project. Incorporators are: R. C. In-
ger, 2355 Leavenworth St., A. H. Sep-
aulk and Stanley H. Rich, Spreckels
Bldg., San Francisco.

Contracts Awarded.

MEDICAL BLDG. Total Cost, \$600,000
SAN FRANCISCO. Second and Par-
nassus Avenues.

Seven-story and basement welded steel
frame and concrete medical build-
ing (340 ft. overall) steel beams,
composition roof.
Owner—Regents of the University of
California.

Architect—Wm. C. Hays, Crocker 1st
National Bank Bldg.

Mechanical Engineer—Frank Walsh,
care architect.

Structural Engineer—W. L. Huber, 1
Montgomery Street.

General Contract—Lindgren & Swiner-
ton, Inc., 225 Bush St., \$302,356.

Heating and Ventilating—Alta Elec-
tric & Mechanical Co., 938 How-
ard St., \$24,700.

Electrical Work—Alta Electric & Me-
chanical Co., \$21,023.

Plumbing—Scott Co., 243 Minna St.,
\$36,937.

Elevator contract will be awarded
later.

STOCKTON, San Joaquin Co., Cal.
—Until August 31, 2 P. M., bids will
be received by State Department of
Public Works, Division of Architecture,
Sacramento, for the erection of a
new foundation for the Puget Sound
Boiler at the Stockton State Hospital.
The work consists of the removal of
the existing foundation and boiler setting
and the building of a new con-
crete foundation, together with a new
boiler setting under an existing 250-
hp. water tube boiler.

HOTELS

Plans Being Prepared.

HOTEL & APTS. Cost, \$40,000
ALAMEDA COUNTY, Calif. Location
withheld.

Three-story steel frame and brick hot-
tel and apartments (28 rooms, 7
2-room apts., coffee shop, etc.)

Owner—Withheld (corporation being
formed).

Architect—Leonard H. Ford, 1435 Har-
rison St., Oakland.

POWER PLANTS

PORTLAND, Ore.—Carey & Harlan,
consulting engineers, Falling Building
Portland, about September 1 will submit
a report to the city commission for
municipal power development at a
cost ranging from \$15,000,000 to \$50,-
000,000. Estimates have already been
furnished the commission in order that
negotiations with the Federal govern-
ment might be made to finance the
work. Three plans are to be consid-
ered:

No. 1, 50,000-hp. plant at Bear creek
dam; acquisition of Northwestern Elec.
distributing system and steam plants,
\$25,000,000.

No. 2, Purchase of power at the city
limits from a private company, with
the option to buy the private com-
pany's property and the acquisition of
the Northwestern Electric system in
the city, \$15,000,000.

No. 3, 50,000-hp. plant at Bear creek,
acquisition of both the Northwest and
the Portland General Electric distri-
bution systems and steam plants,
transmission lines and auxiliary equip-
ment, \$50,000,000.

REDWOOD CITY, San Mateo Co.,
Cal.—County supervisors have ordered
estimates of cost prepared for installa-
tion of a generating plant at the
Community Hospital at Beresford.
Tentative estimates place the cost at
\$19,200.

LOS ANGELES, Cal.—Until 11 A.
M., Sept. 2, bids will be received by
Thomas Dughton, City Purchasing
Agent, 107 City Hall, to furnish elec-
tric metres for Water & Power Dept.
during a period of one year, f. o. b.
1650 N. Main St. or f. o. b. power
spur No. 2 of A. T. & S. F. Ry. Spec-
ification No. 2384.

PUBLIC BUILDINGS, FIRE HOUSES AND JAILS

Preliminary Plans Completed.

JAIL Cost, \$160,000
SAN JOSE, Santa Clara Co., Calif.
3rd and 1st Street.

Four-story reinforced concrete jail (to
accommodate 148) hospital cells,
special cells for detention and
witnesses, jailors' quarters, mat-
rons' quarters, insane cell, padded
cell, offices for sheriff and jail
administration, consultation rooms
kitchen and kitchen store room,
laundry, locker room, and in the
basement a bedding sterilizer,
laundry, liquor and confiscated
property store rooms.

Owner—County of Santa Clara.
Architect—Binder & Curtis, 35 West
San Carlos St., San Jose.

Election will be held in November
to vote bonds to finance construction.

Bids Wanted—To Close August 16th,
2 P. M.

MISC. EQUIP. Cost, \$—
SAN FRANCISCO. Van Ness Avenue,
Franklin, McAllister and Grove
Streets.

Buffet equipment, floor covering and
leather mats, steel vertical filing
cases, movable elec. station equip-
ment and machine tool equipment
in connection with Opera House
and Veterans' Building.

Owner—City and County of San Fran-
cisco (S. F. War Memorial).

Architect—G. A. Lansburgh, 140 Mont-
gomery St. and Arthur Brown Jr.,
251 Kearny St.

Mgrs. or Const.—Lindgren & Swiner-
ton, Inc., 225 Bush Street.

OAKLAND, Cal.—A proposal to fi-
nance construction of a new county
courthouse on the block bounded by
13th, 14th, Franklin and Webster Sts.,
has been submitted to the county su-
pervisors by Marcellus Krigbaum and
Co., brokers, 26 Montgomery St., San
Francisco. The company offers to fi-
nance the purchase of the property
and construction of the building thru
the Federal Refinance Corporation,
"or through other channels on equally
as favorable terms." A. H. Breed &
Sons, Oakland real estate operators,
are associated with the plan. The
property is now owned by the South-
ern Pacific Railroad.

SANTA BARBARA COUNTY, Cal.
Central Labor Council and the Amer-
ican Legion has presented plans to the
Santa Barbara county supervisors for
a public building program in Santa
Barbara county to cost \$750,000. Plans
contemplate the construction of a mun-
icipal auditorium and veterans' mem-
orial building for the city of Santa
Barbara to cost \$350,000, branch county
courthouse and civic center in Santa
Marina to cost \$250,000, county office
building and veterans' memorial build-
ing in Lompoc to cost \$90,000, and mem-
orial buildings in Carpinteria and
Solvang to cost \$40,000 and \$20,000 re-
spectively. The buildings would be fi-
nanced by a series of unemployment
relief bond issues. Supervisors request-
ed that the plans be submitted to the
various city governments involved.

RESIDENCES

RENO, Nev.—Nevada Brick & Tile
Co., Inc., Reno, will commence con-
struction shortly on twenty homes on
N Virginia St. at the city limits. The
structures will be erected on lots 50
by 150 ft. with 20-ft. alleys. All will
be of the Spanish type of brick and
tile construction. Officers of the Nev-
ad Brick and Tile Co. are: J. Y. Par-
ker, Reno, president; E. W. French,
San Francisco, first vice-president; F.
B. Lovelock, Tonopah, second vice-
president; J. L. Raffetto, Reno, treas-
urer, and Pierre Parisian, Reno, sec-
retary.

Construction Postponed Temporarily.
RESIDENCES Cost, \$20,000-\$30,000
SAN FRANCISCO. Sea Cliff District.
Three two-story and basement frame,
stucco and brick veneer residences
(9 rooms, 3 baths each) tile and
composition roof, gas heat, colored
tile bath and kitchens, electric
refrigeration, etc.

Owner and Builder—Allen & Co., 168
Sutter Street.

Architect—Hyman & Appleton, 63 Post
Street.

Plans To Be Prepared—Contract

Awarded.
RESIDENCE Cost, \$55,000
LOS ALTOS, Santa Clara Co., Cal.

Two-story frame and stucco residence
Owner—F. H. McCarthy, Hearst Bldg.,
San Francisco.

Architect—Edw. E. Young, 2002 Cali-
fornia St., San Francisco.

Contractor—R. A. McLean & Co., 602
California St., San Francisco.

The full amount of insurance on the
residence recently destroyed by fire
has been paid and construction will
be started soon on the new building.

Completing Plans.

RESIDENCE Cost, \$—
HILLSBOROUGH, San Mateo Co., Cal.
14 acre tract.

Two-story and basement brick, frame
and stone residence (English type)
Owner—Thomas Fortune Ryan, Hills-
borough.

Architect—Willis Folk & Co., 277 Pine
St., San Francisco.

SCHOOLS

DAVIS, Yolo Co., Cal.—J. T. Therpe
& Sons, 417 Market St., San Francisco
have been awarded a contract by the
Regents of the University of Califor-
nia for the construction of a boiler
and heating plant at the College of
Agriculture at Davis. Contract price,
\$3,850.

Plans Completed.
HIGH SCHOOL Cost, \$25,000
PERRIS, Riverside Co., Cal.
Brick or reinforced concrete school building.

Owner—Perris Union High School District.
Architect—W. Horace Austin, 532 Chestnut Ave., Long Beach, and Builders' Exchange, Santa Ana.
Will contain domestic and general science departments, two classrooms, administrative offices, two lavatories and art room. Separate bids will probably be taken on brick and reinforced concrete construction. Tile roofing, plaster exterior, art stone entrance trim, maple floors, gas radiators, tile work, vault, lockers and arcade to connect the gymnasium and cafeteria buildings with the new unit. The plans will be presented to the school board for approval soon.

SAN FRANCISCO.—Until August 22 3 P. M., under Bid No. 883, bids will be received by T. A. Brooks, city purchasing agent, 270 City Hall, to furnish steel lockers for the School Department. Specifications obtainable from above office.

EMPIRE, Stanislaus Co., Cal.—Bids will be received until August 25, 1932, 8 P. M., by L. D. Chapin, secretary, Empire Union School District, for installation of new steam boiler and boiler breeching for present school.

Plans Being Figured—Bids Close Aug. 24, 7:30 P. M.
ADDITION Cost, \$15,000
SALINAS, Monterey Co., Cal.

Frame and stucco school addition (tile roof) structure will contain two new classrooms, auditorium, library and a teachers' room.
Owner—Spring Grammar School Dist.
Architect—Charles E. Butner, Glikburg Bldg., Salinas.

Plans obtainable from architect on deposit of \$10, returnable. Certified check 10% payable to clerk required with bid.

FRESNO, Fresno Co., Cal.—With the possibility of raising \$250,000 through the sale of Fresno school district bonds that have re-served for construction of the Alexander Hamilton Junior High School, the Fresno Board of Education will discuss school building needs at a special meeting next week. Speed B. Leas, president of the board, said the matter will be given general consideration and that the board determined long ago that there is no legal obstacle to applying the money to a building other than the proposed Alexander Hamilton School, for which a site was purchased on Palm Avenue, between Clinton and Harvard avenues. There has been no movement toward spending the money, but a survey might show that construction now might prove a saving against the time when a new building would be essential, Leas said. Additional buildings at Roosevelt High School to take the place of bungalow classrooms constitute the only need at present, he said.

SACRAMENTO, Cal.—Until August 29, 7:30 P. M., bids will be received by Chas. C. Hughes, Secretary, Board of Education, 21st and L Streets, for (1) roofing; (2) linoleum in connection with the Oak Park Junior High School in the east side of Sacramento Blvd., between 10th and 12th Sts., plans for which were prepared by Architect W. E. Coffman, 833 Forum Bldg., Sacramento. Certified check 10% payable to secretary required

with bid. Specifications obtainable from the architect on deposit of \$25, returnable.

Working Drawings Being Prepared.
JR. HIGH SCHOOL Cost, \$325,000
SACRAMENTO, Sacramento Co., Cal.
Land Park Drive and Vallejo Way
Two-story Class C reinforced concrete and brick junior high school (auditorium, gymnasium, etc.)
Owner—Sacramento Board of Education.
Architect—Harry J. Devine, California State Life Bldg., Sacramento.
Bids will be called for about Oct. 1.

Working Drawings Being Prepared.
SCHOOL Cost, \$100,000
NORTH SACRAMENTO, Sacramento Co., Cal.
One- and 2-story Class C high school.
Owner—Grant Union High School District.
Architect—Harry J. Devine, California State Life Bldg., Sacramento.
(9229) 1st report Aug. 4, 1932. 15

FRESNO, Fresno Co., Calif.—Until August 26, 5 P. M., bids will be received by L. L. Smith, secretary, Board of Education, 2425 Fresno St., to furnish and install furnaces in the Lincoln School. Certified check or bidder's bond 10% required with bid. Plans obtainable from the secretary.

Working Drawings Being Completed.
SCHOOL Cost, \$300,000
SACRAMENTO, Sacramento Co., Cal.
54th and M Streets.
One- and two-story brick and wood construction junior high school.
Owner—Sacramento City School Dist.
Architect—Charles Deane, California State Life Bldg., Sacramento.
Bids will be called for in about a month.

BANKS, STORES & OFFICES

Contract Awarded.
ALTER STORE Cont. price, \$24,853
OAKLAND, Alameda Co., Cal. No. 1755 Broadway.

Alterations to three-story and basement reinforced concrete store. Work will consist of plate glass and copper store fronts, steel sash ornamental iron, tile and terrazzo floors and stairs, electric wiring, plumbing, sprinkler system, painting and decorating, granite, gas-steam heating, ventilating system, structural steel, freight elevator, cabinet and millwork, hardwood trim, plaster staff, parquet, hardwood flooring, etc.
Owner—E. B. Holladay.
Architect—Nordstrom and Anderson, 1104 W. M. Garland Bldg., L. A.
Contractor—Lindgren & Swinerton, Inc., 1723 Webster St., Oakland.
Construction will be started shortly

Plans Being Figured.
STORES & OFFICES Cost, \$40,000
NAUA, Napa Co., Calif. Second and Brown Streets (Behlwood Bldg.)
Two- or three-story reinforced concrete stores and offices (tar and gravel roof).
Owner—D. J. Beard, 244 Kearny St., San Francisco.
Engineer—Frederick Whitton, 369 Pine St., San Francisco.
Bids are being taken on plastering, mill work, painting, linoleum, sheet metal work and roofing.
Contracts will be awarded soon on plumbing, steam work, electrical work

concrete and reinforcements.
As previously reported, E. W. Doughty, Napa, awarded contract for carpentry.

Plans Being Completed.
OFFICES & STORES Cost, \$—
SAN JOSE, Santa Clara Co., Cal. No. 132-144 S-Market Street.
Rebuild two-story brick stores and offices (recently destroyed by fire).
Owner—Mr. Brassey.
Architect—Bruce Barnard, 1211 Bank of America Bldg., San Jose.
Agent—Jas. Beatty (Liberty Amusement Co.), 60 S-San Pedro St., San Jose.
Bids will be asked in about ten days

Contract Awarded.
ALTERATIONS Cost, \$25,000
RIVERSIDE, Riverside Co., Cal. NW Ninth and Main Streets.
Alterations to two-story reinforced concrete and brick bank (marble work, tile work, etc.)
Owner—First National Bank of Riverside.
Architect—G. Stanley Wilson, 3646 W. Ninth St., Riverside.
Contractor—Cresmer Mfg. Co., 2601 Third St., Riverside.

Plans Being Completed.
STORES & OFFICES Cost, \$10,000
WATSONVILLE, Santa Cruz Co., Calif.

One-story reinforced concrete store and office (46x130 ft.); composition roof, concrete and wood floors, gas heating system, steel trusses, plate glass fronts.
Owner—Dr. H. G. Watters.
Architect—A. W. Story, Fajaro Valley Bank Bldg., Watsonville.
Bids will be taken August 8.

Completing Plans.
STORE Cost, \$35,000
LOS ANGELES, Cal. NW Hollywood Blvd. and Vine St.
One-story masonry store (12 stores).
Owner—Carl Laemmle.
Architect—R. J. Neutra, 1348 Douglas St., Los Angeles.

LONG BEACH, Los Angeles Co., Cal.—Architect Robert H. Orr, 1300 Corporation Bldg., Los Angeles, is preparing sketches for a medical-dental building to be erected in Long Beach for the Medical-Dental Building of Long Beach, Ltd. The building will be a height limit, Class A structure, 100x150 feet in area.

WHARVES AND DOCKS

Plans Being Prepared.
EXTEND PIER Cost, \$—
SAN FRANCISCO, Waterfront, Pier No. 46.
Extend and alter pier; to connect with Pier No. 44 (new offices, steel and wood shed; bulkhead wharf, wood piling, etc.)
Owner—State of California (State Harbor Board).
Engineer—Frank G. White, Ferry Bldg.

Plans Being Prepared.
PIER EXTENSION Cost, \$—
SAN FRANCISCO, Waterfront, Pier No. 42.
Wood pile pier with steel and wood shed.
Owner—State of California (Harbor Board).
Engineer—Frank G. White, Ferry Building.

MEMBERS OF THE ASSOCIATED GENERAL CONTRACTORS

PACIFIC COAST AND INTERMOUNTAIN TERRITORY

CALIFORNIA STATE BRANCH

1318 Pershing Square Bldg.—Trinity 9418—Los Angeles

O. C. STRUTHERS, President

E. L. KIER, Vice-President

GEORGE HERZ, Secretary

MELVILLE DOZIER, JR., Manager

NORTHERN CALIFORNIA CHAPTER

206 Sansome St.—Garfield 7107—San Francisco, Calif.

C. W. Wood, President Geo. G. Pollock, Vice-President
Floyd O. Booe, Secretary-Manager

| | | |
|---|--|--------------------|
| Atkinson, Lynn S. (HPR)..... | 1316-17 Edwards & Wilbey Bldg., L. A., Tr. | 7451 |
| Atkinson, Guy F., Co. Inc. (BHPR)..... | 601 Russ Bldg., S. F., Sut. | 3629 |
| Ball, N. M. (HP)..... | 1889 Yosemite Rd., Berkeley, AS. | 4222 |
| Basalt Rock Co., Inc. (H)..... | 900 8th St., Napa, Napa | 105 |
| Bechtel Co., W. A. (BHPR)..... | 155 Sansome St., S. F., GA. | 0780 |
| Bevanda, M. J. (HP)..... | 319 Elks Bldg., Stockton | 7470 |
| Bishop, E. B. (HP)..... | Forum Bldg., Sacramento, DO. | 2456 |
| Bodenhamer Const. Co. (HPR)..... | Box 643, 354 Hobart St., Oakland, GL | 5022 |
| Calif. Const. Co. (BHPR)..... | 715 Standard Oil Bldg., S. F., DO. | 4820 |
| Casson, Jack A. (HP)..... | Hayward, Calif., Hayward | 856 |
| Clark & Henry Const. Co. (HP)..... | 564 Market St., S. F., DO. | 2903 |
| Colley, W. C. (HPR)..... | 35 Northampton Ave., Berkeley, ASH. | 1323 |
| Conner, J. L. (HP)..... | P. O. Box No. 86, Monterey | 1137-M |
| Connolly, T. E. (BHPR)..... | 461 Market St., S. F., Kearny | 6408 |
| Conyes, R. A. (HPR)..... | 1043 38th St., Oakland, Olym. | 9391 |
| Currie, James (HPR)..... | 1100 Peninsula Ave., Burlingame, Burl. | 3497 |
| Delin, C. M. (HPR)..... | 206 Sansome St., San Francisco, Gar. | 7107 |
| Dodge Bros., Inc. (HP)..... | Fallon, Nevada, Main | 4166 |
| Drumm, A. D., Jr. (HP)..... | Fallon, Nevada, Main | 441 |
| Eaton & Smith (HPR)..... | 715 Ocean Ave., San Francisco, DE. | 6700 |
| Fairbanks, A. J. & J. L., Inc. (HPR)..... | Linden Ave., So. S. F., KE. | 436 |
| Fay Improvement Co., The (HPR)..... | Phelan Bldg., S. F., KE. | 4044 |
| Fitzmaurice, J. H. (HP)..... | 4857 Hannaf., Oakland, Higate | 2490 |
| Force Const. Co. (HP)..... | 70 Bellevue, Piedmont, Calif., HU. | 9349 |
| Franks Contractg. Co. (RWP)..... | 260 California St., S. F., Doug. | 6684 |
| Frederickson Bros. (HPR)..... | First Natl. Bank Bldg., Stockton, 5974 | |
| Frederickson & Watson Const. (BHPR)..... | 873 81st Ave., Oakland, SW. | 1264 |
| French, George J., Jr. (HP)..... | P. O. Box No. 675, Stockton, 6676 | |
| Gerwick, Ben C., Inc. (HP)..... | 112 Market St., S. F., SU. | 8454 |
| Granite Construction (BHPR)..... | 10th St., Sacramento, Calif. | 4688 |
| Hanrahan Co. (HP)..... | Hobart Bldg., San Francisco, CA. | 1639 |
| Harney, Charles L. (HP)..... | 719 New Montgomery St., S. F., CA. | 1711 |
| Hauser, W. H. (HPR)..... | 324 E. 7th St., Oakland, Fruitvale | 6790 |
| Hefley-Moore Co. (HP)..... | Carson City, Nev., Ph. | 1754 (Also Fresno) |
| Hemstreet & Bell (HP)..... | 411 "C" Street, Marysville, 433 | |
| Hodgman & MacVicar (HP)..... | 714 Plymouth, Pasadena, Ter. | 1563 |
| Holland, J. P., Inc. (HPR)..... | 1834 McKinnon Ave., S. F., MI. | 5400 |
| Isbell Const. Co. (HP)..... | Carson City, Nev., Ph. | 1754 (Also Fresno) |
| Jenkins, M. A. (HP)..... | 3560 Y St., Sacramento Capital | 472 |
| Jones & King (HPR)..... | Hayward, Calif., Hay. | 74 |
| Kaiser Paving Co. (BHPR)..... | Latham Square Bldg., Oak., HI. | 2614 |
| Knapp, J. F. (HP)..... | 916 Financial Center Bldg., Oak., HI. | 1620 |
| Larsen Bros. (HP)..... | 10th St., Sacramento, Calif. | 4688 |
| Lee, U. B. (HP)..... | 10059 Carpenter St., San Leandro, Sweet. | 1717 |
| Le Tourneau, R. G. (HPR)..... | 122 Moss Ave., Stockton, 471 | |
| Lord & Bishop (PR)..... | National Sons Bldg., Sacramento, Main | 1910 |
| Lovelace, Nate (HP)..... | 3433 10th St., Sacramento, Capital | 1990 |
| Malcom, C. T. (HPR)..... | Walnut Creek, Calif., W. C. | 277 |
| McDonald, D. (HPR)..... | 204 23rd St., Sacramento, Cap. | 1806 |
| McGillivray Const. Co. (HPR)..... | Box 927, Sacramento, Capital | 2170 |
| McMillan, W. K. (HP)..... | 2088 Howard St., San Francisco, MA. | 3876 |
| Mercer-Fraser Co. (BHPR)..... | Eureka, Eureka | 808 |
| Nevada Contracting Co. (HPR)..... | Fallon, Nevada, Phone | 1851 |
| Nevada Rock & Sand Co. (HP)..... | Reno, Nevada, Reno | 5291 |
| Nightbert, F. W. (HP)..... | P. O. Box 903, Sacramento, Capital | 1990 |
| Pacific Pavements Co., Ltd. (HP)..... | 85 Barstow St., S. F., HE. | 4178 |
| Pacific States Construction Co. (HP)..... | Call Bldg., S. F., DO. | 0879 |
| Phillips, John, Co. (HP)..... | 582 Market St., San Francisco, KE. | 4471 |
| Pollock, Geo., V. Co. (HP)..... | P. O. Box 903, Sacramento, Capital | 1990 |
| Rohl, H. W., Co. (HPR)..... | 4351 Alhambra Ave., Los Angeles, CH. | 6141 |
| Six Companies, Inc. (BHPR)..... | Financial Center Bldg., S. F., Gar. | 3842 |
| Stems-Helmers, Inc. (BHPR)..... | 206 Sansome St., S. F., DA. | 5235 |
| Steeles & Grady (HP)..... | P. O. Box 519, Roseville, Calif. | 4048 |
| Tedford, J. N. (HP)..... | Fallon, Nevada, Main | 461 |
| Teichert, A. & Son, Inc. (HP)..... | 1846 37th St., Sacramento, Main | 6586 |
| Tieslun Bros. (HP)..... | 2819 Grove St., Berkeley, BE. | 8635 |
| Tucker, H. V., Co. (HP)..... | 300 Vermont St., S. F., DO. | 6072 |
| Ulrich Const. Co., Geo. J. (BHP)..... | Modesto, Modesto | 921 |
| Von der Hellen & Pierson (HPR)..... | Castaic, Calif. | |
| Ward Engineering Co. (HP)..... | 315 Montgomery St., S. F., DO. | 6072 |
| Wood, C. W., Co. (HP)..... | P. O. Box 141, Stockton, 8744 | |
| Young, Clarence (HP)..... | 5270 Broadway Ter., Oakland, OL. | 3743 |
| Young & Son Co., Ltd. (HP)..... | 599 Colusa Ave., Berkeley, Berk | 5551 |

Associate Members

| | | |
|--|---|------|
| American Bitumuls Co. (Bitumuls)..... | 200 Bush St., S. F., CA. | 6653 |
| Anderson Bros. Supply Co. (Commissary)..... | Boulder City, Nev. | |
| Andrews, F. T., Co. (C. P. A.)..... | 1650 Russ Bldg., S. F., CA. | 7712 |
| Associated Oil Co. (Asso. Prod.)..... | 79 N. Montgomery St., S. F., KE. | 4800 |
| Austin Western Road Machinery Co. (Road Machinery)..... | 435 Brannan St., San Francisco, DO. | 2183 |
| Autocar Sales & Service Co. (Autocar Trucks)..... | 326 Howard, San Francisco, SU. | 1730 |
| Bacon, Edward R., Co. (Road Machinery)..... | Folsom and 17th St., San Francisco, HE. | 3700 |
| Blake Bros. Co. (Crushed Rock)..... | Balboa Bldg., S. F., KE. | 5320 |
| Calaveras Cement Co. (Cement)..... | 315 Montgomery, San Francisco, DO. | 4224 |
| California Corrugated Culvert Co. (Corrugated Pipe)..... | 5th & Parker, West Berkeley, BE. | 5420 |
| Cement Gun Construction Co. (Gunite)..... | 35 Second St., San Francisco, SU. | 8306 |
| Contractors' Ins. Agency (Insurance)..... | 206 Sansome, S. F., SU. | 3400 |
| Cowell Lime & Cement Co. (Cement)..... | 2 Market St., S. F., CA. | 4870 |
| Garfield & Co. (Equipment)..... | Hearst Bldg., San Francisco, SU. | 1036 |
| Geiger Iron Works (Equip.)..... | P. O. Box 423, Stockton, Stock. | 1893 |
| Granite Rock Co. (Crushed Rock)..... | Watsonville, Wat. | 988 |
| Harneschreger Sales Corp. (Equip.)..... | 82 Beale St., S. F., DO. | 2313 |
| Harron, Rickard & McCone Co. (Equip.)..... | 1600 Bryant St., San Francisco, UN. | 3740 |
| Link-Belt Co. (Equip.)..... | 400 Paul Ave., San Francisco, DE. | 6400 |
| Marion Steam Shovel Co. (Power Shovels)..... | 571 Howard St., San Francisco, KE. | 7493 |
| Modern Vehicle Co. (Mrs. Steel Dump Bodies)..... | 437 7th St., San Francisco, CA. | 1402 |
| Murray & Ready (Labor Agency)..... | 784 Howard St., S. F., SU. | 1205 |
| Northwest Engineering Co. (Shovels)..... | 23 Main St., S. F., SU. | 7053 |
| Pacific Coast Aggregates..... | 700 Wells Fargo Bldg., S. F., SU. | 8940 |
| Pacific Coast Engineering Co. (Structural Steel)..... | Foot of W. 14th St., Oakland, HI. | 1322 |
| Pacific H. B. A. Steel Co., Inc. (Drill Steel)..... | 540 Brannan St., San Francisco, GA. | 6683 |
| Pacific Portland Cement Co. (Golden Gate)..... | Hunter-Dulin Bldg., San Francisco, CA. | 4100 |
| Pland-Evans (Commissary)..... | Merchants' Ex. Bldg., S. F., GA. | 5923 |
| Robinson Tractor Co. (Caterpillar Tractors)..... | 1175 Howard St., San Francisco | 2485 |
| Roebing's, Jno. A., Sons Co. (Wire Rope)..... | 646 Folsom St., San Francisco, GA. | 6490 |
| Santa Cruz Portland Cement Co. (Santa Cruz)..... | Crocker Bldg., San Francisco, GA. | 3307 |
| Shell Oil Co. (Shell Products)..... | 100 Bush St., S. F., EX. | 5400 |
| Soule Steel Co. (Reinforcing Steel)..... | 1750 Army St., S. F., VA. | 4141 |
| Spears-Wells Machinery Co. (Equip.)..... | 1832 9th St., Oak., HO. | 4100 |
| Standard Oil Co. of Calif. (Standard Products)..... | Standard Oil Bldg., San Francisco, SU. | 7700 |
| Traffic Service Bureau (Freight Audits)..... | 24 Calif. St., S. F., CA. | 6194 |
| Union Oil Co. of Calif. (Union Prod.)..... | Mills Bldg., S. F., SU. | 1400 |
| United Commercial Co., Inc. (Commercial)..... | 34 Stewart St., S. F., DO. | 0430 |
| Western Pipe & Steel Co. (Steel Pipe)..... | 444 Market, S. F., DO. | 6788 |

SOUTHERN CALIFORNIA CHAPTER

1318 Pershing Square Bldg.—Trinity 9418
Los Angeles, Calif.

C. G. FitzGerald, President Melville Dozier, Jr., Manager
LYNN S. ATKINSON, First Vice-President (Engineering Div.)
WM. A. SIMPSON, Second Vice-President (Building Div.)

The address of the firm is the same city in which is located the Chapter office unless otherwise shown in membership list.

Building Contractors

| | | |
|---------------------------------|--------------------------------------|-------|
| Atkinson, J. F. | 1102 Story Bldg., VAndike | 7783 |
| Baruch Corp., Herbert M. | 1015 Lincoln Bldg., Trinity | 5473 |
| Bradley Constr. Co., K. R. | 1833 West Pico, Washington | 2786 |
| Burgin, W. Jay. | 1100 Redondo Ave., Long Beach, L. B. | 81103 |
| Byers & Dunn, Inc. | 7908 Santa Monica Blvd., Crestview | 9602 |
| Clinton Construction Co. | 1103 Spring Arcade Bldg., MAdison | 2597 |
| Crowell, Wm. C. | 495 S. Bdwy., Pasadena, Wakefield | 6692 |
| Crowell Co., Weymouth. | 2104 E. 15th St., Westmore | 5708 |
| DeCamp-Hudson Co., Ltd. | 1277 W. 24th St., Westmore | 3382 |
| Dixon, L. E., Co. | 609 So. Grand Ave., Trinity | 4225 |
| Escherich Bros. | 234 W. 37th Place, ADams | 6924 |

| | | | |
|--------------------------|------------------------------------|----------|------|
| Hall, J. F. | 531 Douglas Bldg., | MUtual | 6722 |
| Houghton & Anderson | 143 Rose St., | MUtual | 5430 |
| K. F. Lowell & Co., Ltd. | 606 Union Bank Bldg., | Vandike | 4072 |
| Macdonald & Driver | 311 Board of Trade Bldg., | Tucker | 6467 |
| McKee, Robert E. | 1128 Central Bldg., | TRinity | 0291 |
| Miller, Geo. E. | 401 N. Canon Dr., B. H., | OXford | 7404 |
| Simpson Construction Co. | 1007 Architects Bldg., | MUtual | 7261 |
| Snell, Fred C. | 339 N. Beverly Dr., Beverly Hills, | OXford | 6409 |
| Willard-Brent Co. | 254 E. 27th St., | Richmond | 2101 |

Bridges, Foundations

| | | | |
|---------------------------|-------------------------|---------|-------|
| Ledbetter Co., W. M. | Box 1264, Arcade St., | CApitol | 13415 |
| Oberg Brothers. | 707 San Fernando Bldg., | ANGelus | 8759 |
| Raymond Concrete Pipe Co. | 1008 Washington Bldg., | Vandike | 6536 |

Highways, Paving, Grading

| | | | |
|----------------------------|-----------------------------------|-------------------|-------|
| Basich Bros. | Torrance, Gardena | 446 | |
| Bock, Geo. J. | 1007 S. Harvard, E.Mpire | 7614 | |
| Donovan & Sons, J. G. | 4031 Goodwin Ave., | OLympic | 0423 |
| Ferry, Peter L. | San Fernando Rd. and Bdwy., | Glendale, OL | 0164 |
| Fleming Construction Co. | Pomona | 9343 | |
| Griffith Company | L. A. Railway Bldg., | Westmore | 9343 |
| Hall-Johnson Co. | P. O. Box 387, Alhambra, | Eliot | 1855 |
| Herz & Co., Geo. | 310 Platte Bldg., San Bernardino, | S. B. | 21-42 |
| Heuser, Chas. U. | 316 Allen Ave., | Glendale, Douglas | 3965 |
| Hudson, Chas. H. | 408 Rives-Strong Bldg., | Vandike | 3374 |
| Jahn & Bressi | 701 Lane Mortgage Bldg., | TRinity | 8674 |
| Lang Transportation Co. | 5501 Santa Fe Ave., | JEfferson | 3104 |
| Lewis Construction Co. | 300 S. Juanita St., | WAshington | 1407 |
| Packard & Tanner | 905 W. Latham St., | Phoetox, Ariz. | |
| Pearson & Dickerson | 4485 Cypress, Riverside, | 1600 | |
| Ross, M. S. | 401 Goodwin Ave., | CApitol | 7603 |
| Wells & Bressler | P. O. Box 596, Santa Ana, | 2227 | |
| Willis, C. G. & Sons, Inc. | 2119 E. 25th St., | LAfayette | 9826 |

Pipe Lines, Water Works

| | | | |
|----------------------------|-----------------------------|----------|------|
| American Concrete Pipe Co. | P. O. Box 1428, Arcade St., | JE. | 4211 |
| Haverty Co., Thos. | 316 E. 8th St., | Vandike | 1191 |
| United Concrete Pipe Co. | Box 1, Station H, L. A., | TWInoaks | 9196 |

Subways, Conduits

| | |
|------------------------|-----------------------|
| Delta Construction Co. | P. O. Box 79, Compton |
|------------------------|-----------------------|

General Engineering

| | | | |
|--------------------------------|-----------------------------|---------|------|
| Atkinson, Lynn S. | 609 S. Grand, TRinity | 7451 | |
| Bartmus, Peter | Hollywood Riviera, Redondo, | Redondo | 6404 |
| Bent Bros., Inc. | 418 S. Pecan S., | ANGelus | 7510 |
| Campbell-Reichert Co. | 4000 Whiteside Ave., | ANGelus | 0598 |
| Cox, R. L. | 1100 Westminster, Alhambra | 1699 | |
| Emseo Cone. Cutting Corp. | 1517 Santa Fe Ave., | Vandike | 7168 |
| Fitz-Gerald Eng. & Constr. Co. | 216 Rowan Bldg., | TRinity | 5088 |
| Foley, D. A., Construc. Co. | 716 Grant Bldg., | TUcker | 7814 |
| Kemper Const. Co., Ltd. | 3701 Overland, Los Angeles | | |
| Macco Construction Co. | Hynes, JEfferson | 1148 | |
| Merritt-Chapman-Scott Corp. | P. O. Box 507, San Pedro, | 2880 | |
| Mitty Bros. Construction Co. | 722 Detwiler Bldg., | Vandike | 0210 |
| Morrison-Knudsen Co. | 411 West Fifth St., | MUtual | 7684 |
| Robinson-Roberts Co. | 706 Rives-Strong Bldg., | TRinity | 2889 |
| Spicer, C. A. | 818 Financial Center Bldg., | TUcker | 9570 |
| Standard Dredging Co. | 325 Central Bldg., | TRinity | 3253 |
| Watson, R. A. | 1026 N. McCadden Pl., | GRanite | 4121 |

Affiliates

| | | | |
|------------------------------|------------------------------------|-----------|------|
| Brashears & Co., G. | 501 Security Bldg., | TRinity | 5091 |
| Consolidated Rock Prod. Co. | 650 S. Los Angeles St., | TRinity | 0241 |
| Cilmore Oil Co. | 2423 E. 28th St., | JEfferson | 1211 |
| Graham Brothers. | 1215 W. 7th St., Long Beach, L. B. | 65251 | |
| Hartford Accident & Ind. Co. | 548 S. Spring St., | MAdison | 1471 |
| L. A. Brick Co. | 1078 Mission Road, ANgelus | 5684 | |
| Sun Lumber Co. | Crescent Drive, Beverly Hills, | OXford | 6191 |
| Union Oil Co. | Union Oil Bldg., | TUcker | 7211 |

ALAMEDA COUNTY CHAPTER

354 Hobart St., Rm. 410—Glencourt 7400—Oakland, Calif.

S. G. Johnson, President
G. J. Maurer, Vice-President
H. J. Christensen, Treasurer
W. E. Hague, Manager

| | | |
|---------------------------|---------------------------------|------|
| Brennan, J. P. (B) | 2820 Regent, Berkeley, BE. | 0346 |
| Christensen, H. J. (B) | 1924 Broadway, Oakland, LA. | 7164 |
| DeVelbiss, C. Dudley (B) | 369 Pine St., S. F., CA. | 3225 |
| Dyer Construction (B) | 337 17th St., Oakland, GL. | 3203 |
| Furlong, Thos. H. L. (B) | 460 Jerome Ave., Piedmont, HU. | 0620 |
| Jacobs & Pattiani (BP) | 337 17th St., Oakland, GL. | 3203 |
| Johnson, S. G. (B) | 4652 Dolores Ave., Oakland, FR. | 6650 |
| Keating, W. C. (B) | 925 Forum Bldg., Sacramento | |
| Lesure, E. T. (B) | 87 Ross Circle, Oakland, OL. | 0389 |
| Littlefield, R. W. (B) | 337 17th St., Oakland, HI. | 0994 |
| Lyons, W. E. (B) | 354 Hobart St., Oakland, HO. | 5325 |
| Maurer, George J. Co. (B) | 50 York Drive, Oakland, HU. | 3457 |
| Nordstrom, David H. (B) | 354 Hobart St., Oakland, GL. | 7400 |
| Pedgrift, James H. (B) | 4106 Broadway, Oakland, HU. | 1300 |
| Petersen, George (B) | 1841 Bancroft, San Leandro, TR. | 2043 |
| Petersen, James B. (B) | 4021 Agua Vista, Oakland, FR. | 9887 |
| Schultz, Herbert (B) | 811 Mendocino, Berkeley, AS. | 2360 |
| Sullivan & Sullivan (B) | 2653 Best Ave., Oakland, AN. | 4724 |
| Thornally, W. C. (B) | 354 Hobart St., Oakland, GL. | 8476 |
| Westlund, Fred J. (B) | 354 Hobart St., Oakland, GL. | 7400 |

Associate Members

| | |
|---------------------------------|-------------------------------------|
| Calaveras Cement Co. | 315 Montgomery St., San Francisco |
| Cowell, Henry, Lime & Cemt. Co. | 81 Franklin St., Oakland, HI. |
| East Bay Glass Co. | 621 Sixth St., Oakland |
| Lannom Bros. Mig. Co. | Fifth and Magnolia Sts., Oakland |
| Maxwell Hardware Co. | 1320 Washington St., Oakland |
| Melrose Building Materials Co. | 4591 Tidewater Ave., Oakland |
| Oakland Planing Mill. | Second and Washington Sts., Oakland |
| Pacific Portland Cement Co. | 111 Sutter, San Francisco, CA. |
| Santa Cruz Portland Cement Co. | 354 Hobart St., Oakland |
| Sunset Lumber Co. | 400 High St., Oakland |
| Tilden Lumber Co. | Foot of University Ave., Berkeley |

SAN DIEGO CHAPTER

Spreckels Theater Bldg.—Main 4289—San Diego, Calif.

George R. Dalry, President
M. A. Mathias, Manager
M. H. Golden, Vice-President

| | | |
|--------------------------------|---------------------------------------|--------|
| Carroll, B. G. | 4396 Maryland St., Hillcrest | 5274-M |
| Daley Corporation (HP) | 4430 Boundary St., Randolph | 1136 |
| Dennis Constr. Co., V. R. (HP) | Box 183, Sta. A, Hillcrest | 8293 |
| Ford, E. Paul (HP) | Box 201, E. San Diego, Randolph | 5101 |
| Golden, M. H. (B) | 404 California Bank Bldg., Franklin | 7983 |
| Grove, Cecil B. | 4316 Island Ave., Franklin | 7474 |
| Hazard Constr. Co., R. E. (HP) | 2508 Kettner Blvd., Franklin | 6315 |
| Jarboe Constr. Co. (B) | 208 Spreckels Theatre Bldg., Franklin | 3792 |
| Kier Const. Co., W. E. (B) | First National Bank Bldg., Main | 2427 |
| Larsen, B. O. (B) | 1340 E St., Main | 4752 |
| Miracle Constr. Co. (HP) | Box 601, E. San Diego, Main | 2295 |
| Penick & Sons, T. B. (HP) | 3075 L St., Main | 4582 |

PACIFIC NORTHWEST BRANCH

4134 Arcade Building, Seattle, Wash.

JAS. MURDOCK, President
J. C. COMPTON, Vice-President

H. V. BOGERT, Rec. Secretary

J. B. WARRACK, Treasurer
P. L. CROOKS, Vice-Pres. and Secretary

PORTLAND CHAPTER

Multnomah Hotel—Atwater 7883—Portland, Ore.

Paul L. Crooks, President
Ross B. Hammond, 1st Vice-President
Philip Hart, 2nd Vice-President
J. A. Lyons, Treasurer
G. B. Herington, Executive Secretary

| | | |
|--------------------------------|-----------------------|------|
| Baker Construction Co. (B) | Security Bldg., Atw. | 9211 |
| Christensen, Fred, Inc. (BHP) | 187 E. 34th St., Ea. | 8934 |
| Cochrane Construction Co. (HP) | 65th & Ainsworth, Tr. | 5944 |

Class of Construction: (B) BUILDING; (H) HIGHWAY; (P) PUBLIC WORKS; (R) RAILROAD.

| | | |
|-------------------------------------|---------------------------------|------|
| Compton, J. C. (HP) | McMinnville, Ore., McM. | 106 |
| Crooks, P. L., Inc. (HPR) | Henry Bldg., Atw. | 7767 |
| Dann, J. J. (PHR) | 300 Henry Bldg., Atw. | 5837 |
| Edliefsen-Weygandt Co. (HP) | Foot of Jefferson, Atwater | 4090 |
| Endicott, Wm. | Corvallis, Oregon | |
| Gates, E. L. (HPR) | Eugene, Oregon | |
| Gilpin Construction Co. (HPR) | Henry Bldg., Atw. | 6220 |
| Greenwood, A. C. (HPR) | 500 N. Front St., Br. | 3030 |
| Guthrie & Co., A., Inc. (BPHR) | 552 Sherlock Bldg., Atw. | 8316 |
| Hammond, Ross B. (B) | 1312 Public Service Bldg., Atw. | 2159 |
| Hauser Bros. Construction Co. (PHR) | Multnomah Hotel, Atw. | 7441 |

| | |
|--------------------------------|---|
| Hoffman, L. H. (BP) | Public Service Bldg., Atw. 3181 |
| Jacobsen-Jensen Co. (PH) | 407 Stanton, Gar. 3313 |
| Johnson Contract Co. (HPR) | 414 Exchange Bldg., Atw. 0678 |
| Johnson-Gardner Co. (HPR) | 414 Exchange Bldg., Atw. 0678 |
| Kern & Kibbe (HPR) | 290 E. Salmon St., Ea. 4116 |
| Kernan, F. J. | Porter Bldg., At. 2035 |
| La Pointe Constr Co. | 1291 Cumberland Rd., Be. 6000 |
| Lindstrom & Feigenson (BPHR) | 1991 Halsey St., Ta. 9226 |
| Lyons, J. A. (BPHR) | 1001 Halsey St., Tr. 2841 |
| Milne Constr. Co. | 1853 E. Broadway, Tab. 7277 |
| Morrison & Knudsen (BHPH) | 319 Broadway, Boise, Idaho |
| Morgan, T. M. (H) | 5410 Wilshire Blvd., Los Angeles |
| Newport Construction Co. (PHR) | 317 Exchange Bldg., Atw. 5900 |
| Pacific Bridge Co. (BPHR) | Ft. of E. Salmon St., Ea. 2164 |
| Parker & Banfield (BP) | 984 E. 17th St., Sel. 6182 |
| Parker-Schram Co. (PHR) | Couch Bldg., Atw. 4375 |
| Peck, E. C., & Co. (PH) | Aberdeen, Wash. |
| Puckett, W. H. Co. (PHR) | 319 Broadway, Boise, Idaho |
| Quinn, J. L. (B) | Box 1109, Klamath Falls, Ore. |
| Rebman, J. (PH) | 343 Vancouver Ave., Tr. 7825 |
| Robertson, Hay & Wallace (B) | 605 Weatherly Bldg., Ea. 3613 |
| *Saxton & Looney | Corvallis, Ore. |
| Seed, John S. (B) | 201 Worcester Bldg., Atw. 6444 |
| | Honorary Member and Director of Chapter |
| Shea & Co., J. F. (PHR) | 211 Henry Bldg., Atw. 2435 |
| Sullivan & Doyle (PHR) | Ft. of Curry St., Atw. 5297 |
| | Box 104, Portland, Ore. |
| United Contracting Co. (BPHR) | 309-10 Stock Ex. Bldg., Atw. 5296 |
| | from der Hellen & Pierson (HR) |
| | Naches, Wash. |
| White, Ernest & Co. (B) | Twin Falls, Idaho |
| Wren & Greenough (PHR) | 1037 Com. Bldg., At. 9882 |
| Wright Constr. Co. (BPH) | Aberdeen, Wash. |
| Young, I. L. (BPH) | 524 Henry Bldg., At. 0297 |

Associate Members Portland Chapter

| | |
|-------------------------------------|----------------------------------|
| Balzer Machinery Co. | 275 Pine St., Atw. 9391 |
| Beall Pipe & Tank Co. | 85 Columbia Blvd., Wa. 3171 |
| Clyde Equipment Co. | 555 Thurman St., Br. 5561 |
| Collins Concrete Pipe Co. | 410 River St., Wa. 7670 |
| Feenaughty Machinery Co. | 309 E. Yamhill, Ea. 2187 |
| Grand Sheet Metal Works. | 60 E. Third N., Ea. 2181 |
| Latture, J. L. Equip. Co. | 312-314 E. Madison St., Ea. 8166 |
| Loggers & Contractors Machy. Co. | 345 E. Madison St., Ea. 4128 |
| Metropolitan Casualty Ins. Co., The | Wilcox Bldg., Atw. 7521 |
| National Hospital Assn. | 400 Mohawk Bldg., Atw. 5291 |
| Oregon Portland Cement. | 321 E. Madison, Ea. 3116 |
| Phoenix Iron Works | 360 Hawthorne, Ea. 0029 |
| Pomeroy, J. H., & Co. | Box 48, Seattle, Wash. |
| Pure Iron Culvert & Mfg. Co. | 763 Gladstone, Sel. 2275 |
| Santa Cruz Portland Cement. | 45 Fourth St., Atw. 9848 |
| Standard Oil Co. | Pacific Bldg., Bea. 4161 |
| Swigert, Hart & Yett. | Ft. of E. Salmon St., Lan. 1125 |
| Union Oil Co. of California | Yeon Bldg., Atw. 9521 |
| Wallace Bridge & Structural Steel. | P. O. Box 48, Seattle, Wash. |
| Shell Oil Co. | Commerce Bldg., At. 7321 |

SPOKANE CHAPTER

West 515 First Avenue—Main 6822—Spokane

| | |
|-------------------------------|--------------------------------|
| Max J. Kunej, President | I. G. Anderson, Vice-President |
| Nick Norman, Vice-President | Dan Hannah, Secty.-Treas. |
| Alloway & Georg (B) | Hutton Bldg. |
| Auld & Shinn (B) | 1121 Indiana |
| Burnette, C. A. (H) | 1118 Ide Ave. |
| Byers, W. A. (H) | W. 1204 Mansfield |
| Clifton & Applegate (HPR) | Hutton Bldg. |
| Collins, J. H. & Co. (H) | Colville, Wash. |
| Colonial Building Co. (BH) | Hutton Bldg. |
| Crick, James (H) | Realty Bldg. |
| Degerstrom, N. A. (HPR) | Peyton Bldg. |
| Edwards, J. E. (H) | W. S. 1423 Adams |
| Geist, W. L. (H) | W. 444 23rd Ave. |
| Hansen Construction Co. | W. 1227 R, Opportunity |
| Harding, Geo. (H) | Walla Walla, Wash. |
| Hargrave Construction Co. (H) | W. 418 Twentieth |
| Hewett, F. R. (H) | W. 420 Twenty-second |
| Joslin & McAllister (H) | Realty Bldg. |
| Kunej, Max J. (H) | Hutton Bldg. |
| Larson Bros. (B) | Hyde Bldg. |
| Long, Oliver J. (H) | W. 1924 Mansfield |
| Lyon & Price (H) | W. 503 Fourteenth |
| March Construction Co. | W. 1002 Riverside, Spokane |

| | |
|----------------------------------|----------------------|
| Martin, F. E. (B) | Galax Hotel |
| McLellan, A. (B) | E. 932 Ermina |
| Medby, M. C. (B) | S. 3614 Arthur |
| Meyers, W. C. | S. 2217 Tekoa St. |
| Morin, S. G. (B) | S. 309 Bernard |
| Norman, Nick (B) | 231 Waverly Place |
| Nyberg, Carl (H) | Realty Bldg. |
| Orino, Sam (H) | E. 3104 Boone |
| Payne, Mrs. C. M., | N. 2602 Hamilton St. |
| Power, C. A. (H) | S. 1703 Grand |
| Siems, Spokane Co. (BPHR) | Realty Bldg. |
| Standard Asphalt Paving Co. (HP) | Chronicle Bldg. |
| D. A. Sullivan & Co. | Realty Building |
| Terteling, J. A., & Sons (HP) | 511 Sound Ave. |
| Tobin, James, & Son (H) | Box 916 |
| Triangle Construction Co. (H) | W. 1220 Ide |
| True-House Construction Co. (B) | No. 121 Browne |
| Wheeler & England (HP) | Coeur d'Alene, Idaho |
| Young, Peter J. (B) | S. 11 Cedar St. |

Associate Members

| | |
|---|----------------------------------|
| Beall Pipe & Tank Corp. | Realty Bldg. |
| Brandt Bros. | W. 14 Main Ave. |
| Coeur d'Alene Hardware & Foundry | Wallace, Idaho |
| Commercial Importing Co. | 617 Western Ave., Seattle, Wash. |
| Consolidated Supply Co. | W. 1310 Ide Ave. |
| Construction Equipment Co. | 1118 Ide Ave. |
| Feenaughty Machinery Co. | N. 715 Division St. |
| F. P. Fuller & Co. | N. 229 Post St. |
| General Machinery Co. | E. 3501 Riverside |
| Gladding-McBean & Co. | 524 Old National Bldg. |
| Haweys Fuel Co. | N. 740 Division St. |
| Hofus-Ferris Equipment Co. | W. 728 Mallon |
| Holley-Mason Hardware Co. | S. 157 Howard |
| Jones & Dillingham Co. | W. 715 First Ave. |
| Jones & Mitchell. | Hutton Bldg. |
| Long Lake Lumber Co. | N. 348 Wall St. |
| W. S. McCrea & Co. | 212 Symons Bldg. |
| J. E. McGovern Co. | 550 Peyton Bldg. |
| Nott-Atwater Co. | S. 157 Monroe St. |
| Oriental Importing Tea & Coffee Co. | W. 917 First |
| Spokane Concrete Pipe Co. | N. 2627 Dakota |
| Spokane Culvert & Tank Co. | N. End Division Street Bridge |
| Spokane Paper & Stationery Co. | S. 152 Jefferson |
| Standard Oil Co. of Calif. | Old National Bldg. |
| Union Oil Co. | 611 Chronicle Bldg. |
| Washington Brick, Lime & Sewer Pipe Co. | S. 151 Washington St. |
| Washington Machinery & Supply Co. | W. 9 Cataldo |

MOUNTAIN PACIFIC CHAPTER

(Strictly a Public Works Chapter, practically every member carrying on highway, public works and railroad construction)

Washington Hotel—Seattle, Wash.

| | |
|-----------------------------------|---|
| John W. Rumsey, President | Lee Johson, Secretary, Treasurer |
| John M. Clifton, Vice-President | James D. Brown, Manager |
| Allen & Goven. | Olympia, Wash. |
| Barnard Curtis Co. | Ellensburg, Wash. |
| Clifton, Applegate & Toole. | Hutton Bldg., Spokane, Ma. 4415 |
| Columbia Power & Investment Co. | Stevens, Wash. |
| Coyle Construction Co. | 901 Westlake N., Seattle, Gar. 5741 |
| N. A. Degerstrom | 444 Peyton Bldg., Spokane |
| Dorsey & Wilder, Inc. | 2006 State St., Bellingham, Wash. 1310 |
| Fuel Oil Service. | Olympia, Wash. |
| Goodfellow Bros. | Wenatchee, Wash. |
| Grays Harbor Const. | Hoquiam, Wash., Hoq. 303 |
| Hargrave Construction Co. | W. 418, 20th Ave., Spokane |
| Hendricks & Co. | Chehalis, Wash. |
| F. R. Hewitt | 420 W. 22nd, Spokane, Riv. 7554 |
| Johnson, Homer G. | Perkins Hotel, Portland |
| Joslin & McAllister. | Spokane, Wash. |
| Lee H. Johnson | 920 N. Tacoma Ave., Tacoma, Ma. 6241 |
| Lidral, Wiley | Securities Bldg., Seattle |
| Lyon & Price. | 503 W. 14th, Spokane, Riv. 5319-R |
| Norris Bros. | Burlington, Wash. |
| Chas. A. Powers. | S. 1703 Grand, Spokane, Riv. 3640 |
| Puget Sound Bridge & Dredging Co. | Seattle, El. 7300 |
| Puget Sound Construction Co. | Colman Bldg., Seattle, El. 7311 |
| Fred G. Redmon. | 206 S. 4th Ave., Yakima, 9133 |
| Rumsey & Co. | Lumber Exchange Bldg., Seattle, Ma. 8751 |
| Standard Asphalt Co. | Chronicle Bldg., Spokane, Wash., Ma. 1689 |
| from der Hellen & Pierson | Enumclaw, Wash. |
| Winston Bros. | 4580 Colorado Ave., Seattle, Glen. 2268 |

PACIFIC

SKILL - INTEGRITY



RESPONSIBILITY

25c
per Copy

CONSTRUCTOR

CONSOLIDATED WITH

Building and Engineering News

IN THIS ISSUE



LAW OF MECHANICS' LIENS, ITS HISTORY,
DEVELOPMENT AND ANALYSIS, INCLUD-
ING PROPOSED UNIFORM LAW

(In Two Parts—Part I)

By Leo H. Shapiro and Virgil G. Skinner,
Attorneys at Law

EMPLOYMENT RELIEF THROUGH THE RIGHT
KIND OF PUBLIC WORKS

By Robert D. Kohn, Past-President, A.I.A. and President
of the Construction League of the U. S.

INFLUX OF FOREIGN STRUCTURAL
STEEL PROTESTED

STATE HIGHWAY COMMISSION AUTHORIZES
19 EMERGENCY F. A. PROJECTS

HEARINGS PLANNED ON STATE EDITION OF
UNIFORM BUILDING CODE

UNIT BID SUMMARY—CONSTRUCTION NEWS



Daily Construction Report Service

offering the best for less

CONTRACTORS—EQUIPMENT DEALERS—
MATERIALMEN — Pacific Constructor Daily
News Service, published in connection with the offi-
cial A.G.C. magazine, offers complete and up-to-the-
minute information on all types of Engineering Con-
struction in California and the major projects in the
Western States.

It is compiled by the most complete staff ever assem-
bled on a service of its kind on the Pacific Coast, and
assures its users of only authentic and reliable
reports.

If you have not yet received a copy of this service,
send for a few days' samples (no charge), and be
convinced that it is the most complete Engineering
Report Service in the West.

Subscription price is \$5.00 per month, or \$50.00 a
year when paid in advance, which includes semi-
monthly issues of magazine.

FREE TO ADVERTISERS

PUBLISHED BY
STARK-RATH PUB. CO.

PACIFIC
QUALITY SERVICE RESPONSIBILITY
CONSTRUCTOR

547 MISSION STREET
SAN FRANCISCO

DAILY NEWS SERVICE

PACIFIC CONSTRUCTOR

With which is Consolidated Building and Engineering News

Official Publication of the Associated General Contractors of America
for the Eleven Pacific Coast States

J. P. FARRELL, *Editor*

S. P. McCASLAND, *Assoc. Editor, Am. Soc. C. E.*

VOL. 15

SAN FRANCISCO, CALIF., SEPTEMBER 1, 1932

No. 16

Editorial Comment

Why should materials and equipment in connection with Pacific Coast postoffice construction be sent back to Washington for approval when a branch office of the U. S. Bureau of Standards is located in San Francisco?

Would it not seem more fitting—yea, more economical—for building products manufactured on the Pacific Coast to be tested and approved at home and by home talent. If such local tests were undertaken it would mean a tremendous saving to contractors both from the standpoint of delays in construction, unnecessary loss of time on the part of mechanics plus the expense incurred by the general contractor in packing and shipping such products.

If the local organization of the Standards Bureau is unable to undertake this additional work, we believe that those representatives in Washington who favor economy will at least be interested in increasing the local Standard's Office staff to meet this condition.

* * *

Believe it or not—with apologies to nobody—things are commencing to brighten up in this corner of the country.

Favorable consideration is being given by the Reconstruction Finance Corporation in providing \$75,000,000 to finance the San Francisco-Oakland Bay Bridge. Final designs for the project have been approved and bids to construct the first unit, comprising the West Bay Crossing, to cost eight million dollars, will be asked in the immediate future.

Opposition to the proposed Golden Gate Bridge—at least the biggest part of it—has been removed and indications are that this \$35,000,000 project will be financed through funds provided by the new Federal body. Negotiations to put construction through on this bridge, under the bids received last year, are now under way and with finances available, work on the structure will be started.

Briefly, San Francisco will soon be the center of a bridge building epidemic.

* * *

"The California Building Congress, with the proper support of the industry, is the salvation of the construction business. It is the only sure 'cure-all' for the ailments of the business."

Such is the opinion of a local attorney who has made a study of Building Congress organizations in the East and who is thoroughly familiar with conditions in the business here on the West Coast.

The Building Congress was organized about a year ago by the California State Chamber of Commerce with some 60 organizations of Northern California identified with the building industry participating, with a similar section of the Committee operating in Southern California. The

Congress serves as a clearing house for the building industry for the purpose of stimulating sound economic building construction, standardizing and improving construction practices and rendering a better service to the public, as well as providing a well organized industry capable of taking united action on any question of mutual interest that will promote the general welfare of all concerned.

We agree that the California Building Congress is the one-way out of most of our troubles.

* * *

Money now saved by failure to maintain city streets in response to the clamor of citizens for tax reduction represents a trivial economy in comparison with enormous outlay that will be required to rebuild such thoroughfares later. Taxpayers in some municipalities, determined to reduce public expenditures, have gone so far as to insist upon elimination of funds sorely needed for maintenance of existing streets. In other places, even though money for street maintenance is available, powerful minority groups are demanding that it be not spent under present conditions.

Every city should divide its street work into two distinct classes—first, maintenance and second, new construction. What should be done toward furthering a new construction program is always a matter of careful consideration for both officials and taxpayers, but there never should be any question in the minds of either regarding the advisability of maintaining the streets they have.

Every municipality has thousands and some millions of dollars invested in streets, and as a matter of common sense economy, every taxpayer should not only favor but insist upon these thoroughfares being kept up in proper condition in order to preserve this huge investment. Neglect of proper maintenance for a matter of only a few days can easily put streets into a condition which will involve expensive repairs or reconstruction much more costly than maintenance, this to say nothing of the inconvenience and inevitably higher cost of vehicle operation.

It is to be hoped that taxpayers everywhere in their justifiable demands for economy in public expenditures will insist that our streets be maintained and the investment saved, seeing that streets are not only properly maintained for the remainder of this year, but that financial provisions are made for their adequate maintenance next year.

* * *

London, emulating its cosmopolitan rival, New York, is architecturally reaching toward heaven.

Hitherto satisfied with modest and graceful buildings,

London has expressed a definite desire for taller buildings. Although skyscrapers will never be sanctioned, the London County Council has authorized higher structures.

Eighty feet has always been the maximum height permitted to builders. New rules have increased the limit to 100 feet.

Compared with New York, London is today a city of architectural dwarfs. One of the highest buildings is Broadway House. By a special concession the builders were allowed to build as high as 130 feet. Compare that with the Woolworth Building of 767 feet, or the Empire State of 1245 feet.

The limits to height which have existed in the past were based on requirements for safety from fire, but it is now contended that the limit can be safely increased and building authorities are confident that in the near future London buildings will attain a height of 150 or 200 feet.

Limit Stakes and Levels

By THE EDITOR

Chas D. Vail, recently appointed state highway engineer of Colorado, has stated the minimum wage on state highway projects will be raised from 50c to 65c per hour with the workmen to be limited to 30 hours per week.

San Mateo County Supervisors have voted unanimously to place a proposal for a \$350,000 bond issue on the November ballot to provide relief for unemployed. Captain Edward MacAuley, director of county relief work, estimated between 3000 and 4000 San Mateo county residents, with 12,800 dependents, were out of work.

The "tax cut group" of the Sonoma County Development Board has requested the Sonoma County Supervisors that "not a single dollar be taken from the pockets of the taxpayers this year to finance the construction of highways and bridges." No action was taken on the request other than the statement that "the board will give the matter consideration and will do whatever is possible."

The employment of an alien by a joint highway district is illegal, Attorney-General U. S. Webb informed Earl Redwine, district attorney of Riverside County.

Redwine had inquired for the attorney-general's opinion regarding the employment of Emil Stoffel, an alien, to do maintenance work on Joint Highway No. 15. The highway district claimed the state law was not applicable.

Shady lanes replacing sun-baked pavements will characterize California's highway system of tomorrow.

More than a million trees from the California State Nursery have been planted along the state's highways during the last 10 years, according to R. W. Doney, head of the nursery.

The nursery, located a few miles from Sacramento, maintains an average of a million trees, ranging from one to three years old, and supplies material for highway planting in all parts of the state.

The Building Trades Employers' Association of Washington, D. C., has petitioned the federal government, through the Secretary of Labor, to effect through the operation of the Bacon-Davis prevailing wage law a reduction of wage rates paid to workers in the building trades in Washington, D. C. The petition asks that all

trades with a present wage scale of \$10 per day or less be reduced a minimum of 10 per cent, and those over \$10 a minimum of 14 per cent.

The cement plant which was started by the state of Michigan in 1922 and in which convict labor was employed, ceased operations last spring to be closed until "such time as it is possible for the state to compete with independent company prices," M. H. McGraffigan, superintendent of the plant said. Such a time has not yet arrived, nor is it expected to arrive soon, apparently, for the state prison commission is investigating the possibilities of using the plant for making fertilizer. A proposal has been made to the commission by P. E. Zilk of Ann Arbor, to manufacture fertilizer at the plant, and a special committee has been appointed by the commission to consider this plan.

Legislation to license contractors operating in the province is likely to be sought at the next session of the Ontario Legislature. A committee headed by W. B. Sullivan, president of the Toronto Builders' Exchange, and including representatives of the Ontario Builders' and Supply Dealers' Association, the Ontario Branch of the Canadian Construction Association, the Ontario Association of Architects, the Ontario Branch of the Engineering Institute of Canada and the Toronto Home Builders' Association is at present engaged in drafting a bill to be submitted to the Legislature. Regulations combining features of the licensing law now in force in the State of California and of a local measure operating in Boston are understood to be considered most satisfactory for Ontario.

All "For Sale" and "For Rent" signs on real estate, except on business property, will be removed in three townships suburban to Philadelphia, according to agreement reached by real estate brokers of the neighborhoods, acting at the initiative of the Suburban Brokers' Committee of the Philadelphia Real Estate Board. Indiscriminate display of the signs detracts from the dignity and beauty of the section, and reflects unfavorably upon the value and desirability of property in the section, the text of the agreement states, as reported to the National Association of Real Estate Boards by the Philadelphia board. Signs are to be eliminated by September 15. Non-members of the board participate. The few who did not sign at the outset are expected to be brought into the action by pressure of public opinion. Civic organizations strongly support the movement.

The fourteenth annual convention of the Associated General Contractors of America has been tentatively set for the week of January 16th, at Detroit, in conjunction with the Construction Congress to be sponsored there at that time, by the Construction League of the United States.

Under heavy demands of tax reduction groups, the San Mateo county board of supervisors capitulated and wiped out the 40-cent road levy in its entirety. This will mean a saving of \$64,600. By this new reduction the county's tentative rate now stands at \$3.02, 26 cents under the rate of a year ago.

M. P. Matich, N. B. Piriach and M. Serak of San Jose, and Mallo A. Jasprica of Sunnyvale, will operate in the Santa Clara Valley section under the firm name of Santa Clara Valley Concrete Pipe Company, with headquarters at Wayne Station.

Unemployment Relief Through the Right Kind of Public Works

(By Robert D. Kohn, Past-President, American Institute of Architects and
President of the Construction League of the United States)

“THE Emergency Relief and Construction Act of 1932” is the Official title of the bill passed by Congress and recently signed by the President making funds available to States and municipalities through the Reconstruction Finance Corporation for direct relief and for public works construction of certain kinds. It is surprising to find how little the public appears interested in the potentialities of this legislation and how much misinformation is current as to its purposes. The Federal loans for self-liquidating public works construction, housing and slum clearance were primarily intended as a work-relief measure. It would be deplorable, indeed disastrous, if we failed to take immediate and complete advantage of the opportunity for relief thus afforded in every part of the country. The supporters of this movement (to start up such public works before the coming winter) have been met by the argument that it runs counter to the country-wide propaganda for reduced taxation, for economy in government, for drastic curtailment in city and State expenses. That notion is absurd. Actually only those public works projects can be considered which are independent of taxation. For the first time we have an incentive for wise long-time planning in public works and for an exploration of real needs in the matter of low-cost housing. Most important of all, it makes possible the employment of a large number of men in self-respecting, useful, constructive work instead of foolish, puttering “made” programmes. It cannot entirely replace the need for direct cash relief, but to the extent to which it does, it will be an unmitigated blessing.

Title II of “The Emergency Relief and Construction Act” defines the enlarged powers of the Reconstruction Finance Corporation to be:

(1) To make loans to, or contracts with, State, municipalities and political subdivisions of States, public agencies of States, of municipalities, and of political subdivisions of States, public corporations, boards and commissions, and public municipal instrumentalities of one or more States, to aid in financing projects authorized under Federal, State or municipal law which are self-liquidating in character, such loans or contracts to be made through the purchase of their securities, or otherwise, and for such purpose the Reconstruction Finance Corporation is authorized to bid for such securities: Provided, that nothing herein contained shall be construed to prohibit the Reconstruction Finance Corporation, in carrying out the provisions of this paragraph, from purchasing securities having a maturity of more than ten years;

(2) To make loans to corporations formed wholly for the purpose of providing housing for families of low income, or for reconstruction of slum areas, which are regulated by State or municipal law as to rents, charges, capital structure, rate of return, and areas and methods of operation, to aid in financing projects undertaken by such corporations which are self-liquidating in character;

(3) To make loans to private corporations to aid in carrying out the construction, replacement, or improvement of bridges, tunnels, docks, viaducts, waterworks, canals and markets, devoted to public use and which are self-liquidating in character;

(4) To make loans to private limited dividend corporations to aid in financing projects for the protection and

development of forests and other renewable natural resources, which are regulated by a State or political subdivision of a State and are self-liquidating in character; and

(5) To make loans to aid in financing the construction of any publicly owned bridge to be used for railroad, railway, and highway uses, the construction cost of which will be returned in part by means of tolls, fees, rents, or other charges, and the remainder by means of taxes imposed pursuant to State law enacted before the date of enactment of the Emergency Relief and Construction Act of 1932; and the Reconstruction Finance Corporation is further authorized and empowered to purchase bonds of any State, municipality, or other public body or agency issued for the purpose of financing the construction of any such bridge irrespective of the dates of maturity of such bonds.

This section then goes on to define what is meant by the words “self-liquidating,” specifically excluding taxation as a means for maintaining and amortizing the cost of the projects on which loans are made. It limits to 30 hours per week the individual workers employed on such construction, and it limits the loans to ten year periods in categories 1 to 5, except where on loans to municipalities or States it may seem desirable to the Reconstruction Finance Corporation to extend them to longer periods. The bill also authorized a certain extension of the public works program of the Federal Government, but its immediate importance to the communities and States throughout the country lies in the features heretofore quoted.

It has been estimated that every dollar paid in wages for useful and needed work in a time of depression is of double use since it not only reduces unemployment, but increases consuming power, by a turn over of from six to twelve times the initial amount. It is most astounding that as yet the passage of this bill has hardly awakened any interest among municipal and State officials. They may be afraid to propose even the most necessary work at present for fear of reprisals by organizations of citizens crying “tax reduction,” “no more bond issues,” “no more school building,” “cut down education costs,” “no more roads,” “no more of any kind of spending!” It is true that the real estate interests in most cities are particularly hard hit by the depression and feel the burden of high taxes more than ever. But real estate has profited for years from the prevailing land speculation. Some of the properties now in trouble have been “milked dry” by their owners who have done little to avoid, if indeed they have not encouraged, the congestion from which they profited. Many old city areas are now utterly run down; their buildings neglected after their real usefulness is over, and their present state not an asset but a social menace. But even if all of the protests against taxation were the protests of innocent sufferers (as some undoubtedly are) they have no bearing on the situation we have to face. There is an urgent need to get ready at once to employ workers on constructive and socially desirable works of self-liquidating nature, such as are envisaged by the Federal act just adopted. Taxation will not be affected either way.

In the encouragement of projects for low-cost housing and slum clearance this Emergency Relief and Construc-

tion Act of 1932 is likely to make history. Never before, except indirectly, has the Federal Government shown the slightest interest in this nation-wide problem. We know, to our sorrow, the result of leaving the growth of cities and the living conditions of their workers to the "rugged individualism" of its frequently ignorant and generally narrow-minded "developers." The results of this process are well-known. It is as if public education had been left in each State to be supplied by the lowest bidder, he in turn to make his profit on "all the traffic would bear." Under the incentive of paragraph (a2) of section 201 of the Act it is hoped that States and municipalities will at least start to explore the possibilities of reforming their blighted areas and providing decent living quarters for the lower income groups, heretofore forced to take the left-overs, the inadequate, unsanitary housing abandoned by the better-offs. Even where State legislatures are not in session and may not meet for some time, municipalities may have in some cases the constitutional power to act. But everywhere studies ought to be started in preparation for legislative action. At the request of the Construction League and as a help towards such studies a Committee of the American Institute of Architects has prepared a document for general distribution called "Principles which it is Recommended should be Embodied in a State Housing Law." It is believed that this will be found useful to those who wish to awake local interest in studying housing conditions and slum clearance possibilities. The forty or more State organizations of the Committee on Trade Recovery of the Construction League and all of the Chapters of the American Institute of Architects have received copies of this document. Moreover, one of the foundations has provided a fund which will make it possible to send speakers, well informed on the subject of housing studies, to such of the local Chapters of the American Institute of Architects as may need outside help to interest their communities in the study of local housing conditions.

TRUSCON GRADE X-ING PAVEMENT—The Truscon Steel Co., Youngstown, Ohio, has put on the market a new type of grade-crossing pavement that combines steel and concrete construction. The new pavement, known as the Truscon Steel Concrete Crossing, consists of pressed-steel channel sections, or planks, the full height of the rail, which are filled with concrete and laid in position on the ties between and outside the track rails. The channel sections are 6 feet long and 16¾ inches wide and are pressed from 3 16-inch steel plates. The sections are filled with concrete by the user. The sides of all sections are tapered inward, forming a key for the incased concrete. The end sections have one terminating in a ramp to prevent its catching dragging equipment on trains.

TRACTOR MOUNTED WELDER—A new welding machine that can be mounted on the framework of any standard make tractor is announced by Schramm, Inc., of West Chester, Pa. The welder is operated by a V-belt drive from the rear power take-off. It is located beside the driver's seat on a removable sliding frame. The control panel is on the side opposite the welding unit. The unit is of the single-arc, variable-voltage type. Sizes for mounting on tractors of sufficient power rating, include 200, 300, 400 and 600 amp. The machine is especially adapted to the welding of pipe lines, railroad work, bridge construction, building construction, tank erection and miscellaneous repair work. The maker states that the welder mounting does not affect the pulling or towing feature of the tractor drawbar.

ELIMINATE BID PEDDLING VIA THE SUB-CONTRACTORS

By A. H. ALBERTSON, *Member A. I. A., Seattle, Wash.*

Something for nothing is bad business. Moreover, sooner or later it ends in no business. It is self-evident that the building industry as well as any other, is entitled to a living wage in the form of a reasonable profit. Conversely it is obvious that the building industry cannot be conducted at a loss or without a profit. There can be competition in the amount of profit, but when the competition eliminates profit, it is clear to those who know that the owner will in some manner suffer. The owner may feel that the terms of an unprofitable contract can be enforced to secure the safe beneficial results as would be secured under a reasonable profit contract, but everyone inside the construction industry knows that it cannot be done, human nature and the intricacies of the business being what they are.

Some contractors after awards are made, resort to bid peddling among sub-contractors and material men who may not be fully qualified by experience, or capacity to live up to the requirements of the contract, and who may not expect to do so, and by a policy of looking for the legal loopholes and hoping to "skin through," submit bids that cannot produce an honest profit no matter how small. Federal jobs are perhaps the worst offenders in bid peddling—so much so that a bill was introduced in the last congress with the purpose of correcting it.

Supervision and inspection are most valuable and essential, but they cannot cure inappropriate experience, financial weakness and inattention, nor to mention lack of honorable intentions. No amount of supervision can make a matchmaker out of a boilermaker any more than a policeman can make a saint out of a sinner. The result is that in the end the owner pays the piper in one way or another and moreover, he does not receive as much for his money as he would have if the bids had been limited to those specially qualified to comply with his particular requirements.

What is the remedy? Rome was not built in a day. Neither are undesirable practices eliminated over night—but that is no reason why they should not be eliminated.

(1) The subs should organize among themselves for the co-operative betterment of their services and one of the objectives should be the establishment of a code of business ethics similar to that of the Associated General Contractors Association of America, including the elimination of the major evils of bid peddling.

(2) Architects should specify, with the permission of the owner: (a) That names of the principal subs must be submitted with the bid of the general contractor; (b) that the subs must be qualified and competent and if not they are subject to rejection; (c) and that the general contractor shall submit not more than two subs and may designate his preference for approval.

My experience with this general method in recent work has shown it to be essentially sound and to the best interests of the owner as well as to the betterment of the construction industry.

Hand labor instead of machinery, to provide as much relief for the unemployed as possible, will be used principally in a \$3,500,000 emergency road building campaign in Oklahoma to be completed within a year, Sam Hawks, highway commission chairman, announces.

* * *

October 11 to 14 is the tentative date set by the American Institute of Steel Construction for the annual meeting of that body at White Sulphur Springs, W. Va.

The Law of Mechanics' Liens, Its History, Development and Analysis, Including Proposed Uniform Law

(Published in Two Parts—Part I)

By LEO H. SHAPIRO and VIRGIL G. SKINNER, *Attorneys-at-Law*

Leo H. Shapiro and Virgil G. Skinner, of the San Francisco bar, have prepared an analysis of the law of Mechanics' Liens, commencing with the earliest form sanctioned by the Roman law, and tracing the growth of this form of protection down to the law of California on the subject in force today.

This article, published in two parts, has been carefully prepared, and sheds considerable light on the growth of this beneficial legislation, pointing out the merits of the act, and also certain inequalities which are resulting in considerable antagonism to the entire system.

The article also contains an analysis on the "Uniform Mechanics' Lien Act" as proposed by the Commissioners on Uniform State Laws, and a comparison of the two methods, showing the similarities as well as the points of conflict.

It closes with the recommendations of the writers, which are based not only on the ideal of affording protection for the workman and materialman, but also to guarantee to them that they will be paid, and to guarantee to the owner that when he has paid his bill, he can not be called upon to do so again. The suggestion is not in final shape, and the publishers are desirous of securing the opinion of every one of our readers as to the merits of the proposal or its lack.

We feel that the Mechanics' Lien Law should be improved, that it is capable of improvement, and that it is to the interest of every one in the industry to secure such improvement. To that end, send in your constructive criticisms and suggestions, so that we may have a representative opinion as to what portions of our present law should be corrected, whether we should have the Uniform Act, or whether you are satisfied with the law as it stands.

THE LIEN of mechanics and materialmen was unknown at common law or in equity but is a creation of statute. In the common law a lien merely signified the right to hold a thing as collateral security for the payment of debt or performance of duty, and that right only arose with possession and terminated with its loss. The possession of land was never deemed to be changed by its improvement, but remained in the owner of the freehold, and the mechanic was held to have acquired no right of lien in that over which he had no control. When he made any improvements, either in labor or in materials, upon the land of another, he parted with their ownership and no right of possession either to the land or building vested in him in return. His only remedy was to proceed to a personal judgment against the debtor and secure a lien of the judgment creditor. The records are indeed rare at common law in which a mechanic or materialman had liens for their services rendered or materials furnished. The common law was inadequate to administer the system by which mechanics' liens are secured in the United States. Only by legislative enactment could remedies be provided for the enforcement of the just rights of the parties and the public in the matter of mechanics' liens. No such statutes were adopted and none to this day are to be found upon the statute books of Great Britain, securing in any manner to the mechanic or materialman a lien on the buildings their industry or capital have contributed to erect.

The civil law allows a lien to exist without possession and grants a lien to those who have bestowed labor and material on buildings or other works for its construction, repair and preservation. Continental countries which have adopted the civil law as a basis of their jurisprudence have, with few exceptions, granted liens, which are called privileges, to workmen and materialmen. In France, by the Code Napoleon, architects, contractors, masons and others employed in building and repairing houses, canals or any other work whatsoever, have a privilege upon the same for their reimbursement, pro-

vided that an estimate has been previously drawn up by a competent person officially nominated by the court of first instance within whose jurisdiction such buildings are situated, for the purpose of inspecting the state of the property in relation to the improvements which the proprietor shall declare he has an intention to make, and provided further that such improvements have been within six months from their completion inspected and admitted by a competent person likewise officially nominated; but the amount of the privilege cannot exceed the value set forth by the second statement and is reduced to the surplus value existing at the period of any alienation of the property, resulting from the labor and materials expended thereon. Those who have loaned money to pay or reimburse workmen enjoy the same privilege, providing such employment be authentically verified by the act of the loan and by the acquittance of the workmen that such payment was made with money loaned for that purpose. (See Code Napoleon, Privileges and Mortgages, Sec. 2, Article 2103.) This privilege, in the event of either a judicial or voluntary sale of the property, only extends as against the unpaid vendor to the increased value the improvements give to the property at the time of the sale. It was to ascertain the original value of the property before it was obliterated by the repairs or additions and thus protect the original vendor that it was necessary to have the premises inspected by a competent person nominated by the court. When these formalities were complied with, the privilege took effect from the date of enrollment of the first statement made by the officer named. Almost identical provisions are adopted in Belgium. The laws of Spain and Mexico also secure privileges and likewise Argentine Republic.

There is no direct evidence as to what cause in particular gave rise to the system of mechanics' liens adopted in the United States. It has been supposed by some that in Pennsylvania, which was among the first States to establish the principle, it owed its existence to analogous provisions contained in the act of that commonwealth of 1784 relating to persons employed in building and repairing vessels; others seem inclined to trace its origin exclusively to the necessity of a growing country to foster mechanical and industrial pursuits and to equitably hold buildings and the land upon which they are erected liable for their increased value by reason of such labor and effort as furnished by mechanics and materialmen. Early legislators felt it their duty to protect a large and meritorious portion of the community who were poorly able to sustain loss incidental to business. Nor can it be said that those lawyers who assisted in framing the acts in question were not eminently familiar with the civil law which granted privileges not only to the builder and workman but likewise to those persons who furnished funds expended in the construction and improvement of real estate.

The first attempt to create a mechanic's lien arose from a desire to establish and improve as speedily as possible the City of Washington as the permanent seat of government of the United States. At a meeting held on Sep-

tember 8, 1791, of the commissioners appointed for that purpose, at which both Thomas Jefferson and James Madison were present, the following memorial addressed to the General Assembly of Maryland was adopted:

"Your memorialists conceive it would encourage master builders to contract for the erecting and furnishing houses for certain prices agreed on if a lien was created by law for their just claim on the houses erected and the lot of ground on which they stood."

The following year the Assembly passed such an act.

The next statute upon the subject was passed by the Legislature of Pennsylvania in the year 1803. These statutes, while they contained the germ of all subsequent legislation on the subject, are imperfect and meager in comparison to the state of law at the present time. The whole subject has been one of gradual growth extending from the imperfect and limited enactments, embarrassed by adverse decisions, to the settled policy of all States. The experiment was at first confined to towns and cities, but has by degrees extended itself in a majority of the States to the agricultural districts. The lien was designed in its inception for the most part to secure only the principal contractor, until the frauds perpetrated upon sub-contractors and workmen gave rise to amendments for their proper protection.

In the matter of remedy, there have been valuable amendments. In some instances there were, when the lien once attached, no provisions requiring the mechanic to perfect it, thus operating to the great detriment of the owner and prevention of alienation. Occasionally no time was limited to give notice of the intention to claim the lien, or if limited, was too long, thereby suffering owners to settle with contractors and the public to believe the property was no longer subject to debts for its erection. Frequently great wrong was perpetrated by the owner, after the building was commenced, secretly encumbering it by mortgage or judgment before he made default with his workmen who had therefore filed no notice of lien. This has been remedied either by making the lien date from the commencement of the building or by confining all encumbrances, prior to the notice of the lien, to the value of the land at the date of the commencement of the buildings. These changes are pointed out to show that the law has not by any means reached a perfect status so as to render future legislation unnecessary. In some States the law is still inadequate to the full protection of the rights of the workingman, while in others the privileges secured mechanics operate with hardship upon owners and reflectively to their own detriment.

The true system to be found is that which gives an undue advantage to none while recognizing the just rights of all.

We come now to the history of the growth of lien laws in California, but before commencing on this it is first essential that we ascertain the true meaning of a lien and what it implies. Webster defines the word "lien" to be "a legal right or claim upon a specific property to have it applied on a debt or to hold it until the debt is satisfied; a claim; a bond of obligation; a right to be paid."

Liens are granted upon all types of property and arise out of several varieties of transactions. In connection with personal property, a lien, with but one exception, is dependent upon possession. Among such liens are the lien of a pledge and a mechanic's lien. A chattel mortgage on personal property also gives a lien, which is, however, not dependent upon possession. Liens upon real property are never dependent on possession, and among such liens are the liens of governmental taxes or assessments, the liens of mortgages and the liens of mechanics.

As to personal property, the right of any person bestowing labor or services on the property to hold the

same until he has been paid has been recognized from the beginning of California and is now embodied in the provisions of Section 3051 of the Civil Code of California. This section is but an amplification of the language occurring in Section 13 of the Statutes of California adopted in the year 1850 and under this section, if the person doing the work voluntarily parts with possession of the property, any lien or claim against the specific property is lost and he is relegated to an ordinary civil action for the recovery of his debt. So much for liens on personal property.

We now come to the analysis of mechanics' lien property real property. The liens of mechanics on real property have been granted in California since its organization as a State, and in the first session of its Legislature it passed an act to protect contractors, journeymen, laborers and materialmen. There are two divergent means of protection and enforcement of mechanics' liens. The first limits all liens to the amount of the contract price originally agreed to be paid by the owner. The second system contains no limitation as to the amount of any lien, except that of the original contractor, but no person can claim a lien in excess of the reasonable value of the services or material rendered or furnished by him.

The original Constitution of California, adopted in 1850, was silent on the subject of liens and this matter was regulated by enactment of the Legislature. In 1850 the first mechanic's lien law was adopted, which covered liens upon both real and personal property (Statutes 1850, p. 808). Under this statute, the lien was limited to the balance owing the original contractor and provided a system of enforcement of liens whereby any sub-contractor, laborer or materialman could serve a notice, corresponding to our present notice to withhold, on the owner and at the same time present a copy thereof to his employer. If the employer admitted the correctness of the claim, the owner, if the amount of the claim remained due to the employer, was compelled to pay it. If the employer, however, refused to certify the claim, action was commenced against the employer to determine the amount, and after determination, the owner was compelled to pay. The land around the building to the extent of 500 square feet was also subject to the lien. It also provided for a recording of the notice of the claim and that the lien was preferred to all other liens or incumbrances which attached subsequently to the commencement of work.

This law existed until 1856, at which time a new act was passed (Statutes 1856, p. 203). This act did not change the principle of the prior law, but merely amplified its provisions. It provided, however, that a claim of lien, verified, must be recorded and that a copy of the lien must be served on the owner; that upon such service the owner should withhold a sufficient sum due to the contractor to cover the amount of such lien until the validity of the claim should be determined by proper legal proceedings. The act also provided that only the interest of the person ordering the work done should be subject to the lien, and that the lien was limited in amount to the contract price. Such a lien was required to be filed within 60 days after completion and the lien was lost unless action was commenced thereon within six months, unless a credit was given, in which event the lien existed for a period of two years.

The action to enforce the lien was a summary action and provided for a ten days' notice by publication to all persons. Any person not making an appearance in the action within that time was barred. The act of 1856 also added a new thought, in that a lien was given for any improvement of bare land or for street work adjoining. This act was amended in 1858 and the principal amendment was the extension of the time of the published

notice. This time was extended so that a publication lasted for 20 days. The act was again amended in 1861, which provided for the fixing of a day certain for hearing and a publication of a notice for not less than 20 days. This act remained in force only until 1862, at which time a new act was passed. This act was still based upon the theory of the limitation of the lien to the contract price and was primarily an endeavor to cover all classes of construction work by the lien. In its general terms, it was not materially different from the pre-existing enactments on the subject, but contained a provision authorizing the settlement of rights in the justice court if the total amount of the lien claims or the total amount of the balance remaining due the contractor should not exceed \$200. This act again returns to the theory of the act of 1850 by providing that if the contractor admits the validity of any claim of lien filed, the owner may pay it; or, if there is insufficient money to pay all claims, may distribute the amount of money proportionately. If, however, the claims are disputed, the amount necessary to satisfy the disputed claims shall be deposited in court and the amount of the approved claims shall be paid. This provides for personal service of summons on the original employer and his assigns, and in addition provides for publication of summons once a week for three weeks, and provides that claims may be presented within 10 days after the final publication or within such further time as may be allowed by the court. Any person who fails to appear forfeits his lien.

This act brings in another new provision by providing that if the owner shall make a payment to the original contractor prior to the time the same shall become due under the terms of the contract, such payment shall not affect the right of sub-contractors and materialmen, but as to them shall be construed as if not made. It also provides that any person presenting a false claim shall forfeit his lien.

This act was amended in 1863 to eliminate any jurisdiction of the justice court, and under its jurisdiction over actions to enforce mechanics' liens rested entirely in the district court. The district court corresponds to what is now known as the superior court.

It will be noted that the fundamental rule of each of the foregoing enactments is the limitation of the amount of lien to the contract price agreed to be paid, and it will also be noted that if the owner pays that contract price there shall be no right against the property, the mechanics and materialmen in such case being limited to the balance remaining due on the contract. The property can be sold by decree of foreclosure only in the event that the owner fails to make the payments required or provided for in his contract. This law existed until 1868 and, in that year, a new mechanics' lien law was adopted in California. This law changed the theory of mechanic's lien and was the initial enactment of the theory of law which has since existed and is in force today.

The act of 1868, in general terms, provided for a lien in favor of every person furnishing labor or materials for the work of construction, alteration or repair of any building or other improvement, which lien existed upon the land surrounding the building as well as the building or improvement itself. It was provided, however, that only the interest of the person who caused the work to be done should be subject to the lien, and provided the machinery under which liens could be enforced against buildings upon leased lands, and provided that the building could be sold and the purchaser could remove it. This also provided that the owner of the land must, within three days after obtaining knowledge of the construction or intended construction of any improvement, post notice of non-responsibility, otherwise the land itself would be

responsible. It provides for the recording of lien, the segregation of the amounts as against the several parcels in the event that work is being prosecuted upon two or more contiguous parcels of land simultaneously; provides that action must be brought upon any liens within 90 days after filing, unless a credit be given, which shall continue the lien in force for not to exceed two years; it provides for action to enforce the lien with the same pleadings, process and practice as in other cases, with a special limitation that publication of summons need be made but once a week for four successive weeks, and that the time for answer shall expire upon the completion of the publication. It provides for the division of the proceeds of the sale pro rata among all lienholders if not sufficient to pay in full. It provides for the joinder of all interested parties in the same suit and limits the right of the contractor to the amount that may be due him according to the original contract; permits the owner to withhold all monies during the pendency of any action, and permits a recovery from the contractor for any amounts paid to him in excess of the contract price. It exempts materials furnished for use on a building from attachment, but does not alter the fact that any person furnishing labor or material may retain his personal action against the person employing him for the amount of the contract.

This law was re-enacted in almost its exact language, but in different order, in 1872, becoming a part of the Code of Civil Procedure of the State of California and being sections 1183 and following. The Constitution of 1850 proved inadequate for the rapidly growing State of California and, in the year 1879, a new Constitution was ratified by the people, which Constitution is the one in force today. This Constitution contained, in Article XX, Section 15 thereof, this language:

"Section 15. Mechanic's Lien: Mechanics, materialmen, artisans and laborers of every class shall have a lien upon the property upon which they have bestowed labor or furnished material, for the value of such labor done and material furnished; and the legislature shall provide, by law, for the speedy and efficient enforcement of such liens."

This section of the Constitution is now the fundamental law on the subject of mechanics' liens and applies equally to both real and personal property. It will be noted, from reading the section, that it is not self-executing and is inoperative except as supplemented by legislation. The duty of providing for the enforcement of the lien has been left to the Legislature.

As to the liens on personal property, the provisions of Section 3051 of the Civil Code still remain and are the provisions for the enforcement of those rights.

As to real property, the provisions of Section 1183 and following of the Code of Civil Procedure are the statutory enactments. These sections of the code still follow closely the original principle underlying the statute enacted in 1868 and have, through the intervening years, been gradually broadened and strengthened in their individual particulars.

It will be noted, however, that most of the amendments to this law have not been made as the result of any careful study of the law, but, as is apparent from the analysis of the growth of the respective sections, the amendments have been dictated by some particular set of circumstances in each case, and each respective amendment is apparently an attempt to stop up some gap or loophole which has developed as the result of a particular transaction which has come to the immediate notice of the member of the Legislature introducing the bill to amend such section. An analysis of these sections of the Code of Civil Procedure will be extremely interesting.

Section 1183 provides for liens for labor or material upon any type of work. It has been extended in its language gradually by amendments so that it now includes practically every person who has any dealing with or in connection with any piece of work upon any real property, and covers not only labor and material which actually goes into and becomes an integral part of the work itself, but, in addition, everything that has a bearing on or makes possible the doing of the work. The section makes all liens direct liens, without limit as to amount, except as to the contractor, who shall be bound by the contract price. The only limitation applying to any other person is the reasonable value of what he has done or furnished and the price agreed upon between him and his immediate employer.

In 1911 a new addition was made to this section in the endeavor to protect, to a limited extent, the owner of the property. This is a provision that if the owner shall cause the original contract to be recorded and shall require a bond from the contractor to the amount of 50 per cent of the contract price, conditioned for the payment of laborers and materialmen, the court must "where it would be equitable so to do" restrict the recovery against the owner to the balance due on the contract. It also contains provisions for the character of the bond, the limitations of liability and the conditions under which suit shall be brought. The last paragraph of this section, which was adopted in 1911, states that it is the intention to limit the owner's liability to the contract price if he shall have caused the bond to be filed.

There is one clause in this section which is not clear and that is the clause quoted above, "where it would be equitable so to do." Apparently, from the reading of this clause, even the furnishing of the bond and the fulfillment of all the conditions of the section will not operate to absolutely release the owner from the possibility of losing his property in the event that the contractor does not pay his bills.

However, it will be noted here that for the first time since 1868 there is an endeavor to again offer the owner some means whereby he can limit his liability to the contract price and will not be subject to the necessity of possibly paying twice for his improvement.

A peculiarity of the history of legislative enactments is disclosed, that while the act of 1868 creates an unlimited lien for all except the principal contractor, the first code section, adopted in 1872, contains this language:

"But the aggregate amount of such liens must not exceed the amount which the owner would be otherwise liable to pay."

This insertion is apparently a legislative oversight, because the provision is not allowed to remain and is amended out in 1873 and has not again reappeared in the act.

In 1909 a new section was inserted, known as 1183-a, which provided for a lien in favor of persons supplying power in any form. This section was repealed in 1911 and its substance was inserted in the provisions of Section 1183. In 1901 another idea was enacted into law requiring the filing of plans and specifications of a detailed form. This experiment was abandoned by a repeal of the section in 1903.

The old provisions of the law on the notice to withhold any payment have been partially adopted by the provisions of Section 1184 and the following three sections: Section 1184 provides for a notice to the owner of the furnishing of labor, materials or supplies by any sub-contractor and particularly referring to those engaged upon public works. It provides that they may, and on demand of the owner, must, furnish the owner with a notice reciting that they have performed labor or fur-

nished materials, or have agreed to do so, stating the kind of labor or materials, the name of their employer, the value of that completed, and of the whole contract. It also provides that such persons must, if requested by the owner, or if the contract be a public contract, furnish that notice under penalty of losing their lien. No particular form of the notice is required, provided it is sufficient to advise the owner of the facts. Upon receipt of the notice, it is lawful for the owner to refuse to pay the contractor, but the claimant must, further, within the time allowed by law, file his lien and commence action for the foreclosure thereof. In such suit the amount of the money so withheld may be paid to the lien claimant and the amount so paid is a valid offset against any claim of the contractor. It will be noticed here that there is no provision in the act for permitting the owner to pay over any money without a lawsuit therefor.

Section 1184-a, which was first adopted in 1919, provides that any number of persons who have given the notice required by Section 1184 may join in the same action to collect and the owner can require all claimants to interplead in any such action.

Section 1184-b, which was first adopted in 1919, provides that if the amount so withheld shall be insufficient, there shall be a pro rata distribution among all of the persons entitled to share.

Section 1184-c, also adopted in 1919, protects the lien claimants in their right to recover upon the bond furnished by the contractor, and also contains the provision that any person who shall wilfully misrepresent his claim shall forfeit the right to participate in the distribution of the monies.

Section 1184-c and the following section, 1184-d, which was also adopted in 1919, are applicable at the present time only to public works.

Section 1184-d permits the release of the money to the contractor upon his filing with the public official a bond conditioned upon the payment of all claims against the work.

Section 1185 has, in its general form, existed since 1850, and provides that the land necessary for the convenient use and occupation of the improved property shall be subject to the lien, but also provides that only the estate of the person ordering the work to be done shall be subject to such lien.

Section 1186 has also, in its general terms, been in existence since 1850. It provides that the claims of the lien claimants against any property improved shall be prior to any lien or incumbrance of every kind or character which had not been recorded prior to the commencement of work, unless the lien claimant had knowledge of such incumbrance.

Section 1187 has been a gradual growth and provides that the original contractor shall have 60 days after the completion of his contract and every sub-contractor, materialman or other person claiming a lien shall have 30 days after he has ceased to furnish labor or materials, or until 30 days after the completion of the entire improvement within which to file for record with the county recorder a claim of lien, which claim shall contain a statement of his net demand, the name of the owner, the character of the work done, or materials furnished, the name of his employer, a description of the property, which statement must be verified. It also provides for the filing of a notice of completion by the owner and provides that if the owner does not file such a notice, all persons shall have 90 days after the actual completion of the work within which to file their claims. No lien can be claimed or enforced unless filed within the time specified.

Section 1188 provides for the segregation of liens

(Continued on Page 18)

LOCAL MILLS PROTEST INFLUX OF FOREIGN STRUCTURAL STEEL

Imported structural steel selling in coast cities sometimes as much as \$20 a ton under the domestic price is undermining the concerted efforts of the public to restore employment in the United States. Accordingly, the American Institute of Steel Construction, representing the steel construction industry, has agreed to join in the movement to check this influx of building material in order to make it possible for America mills to re-engage some of their workmen.

The purchasing offices of some states now stipulate in their contracts that only American steel may be used in construction projects. The Reconstruction Finance Corporation is yet to adopt a ruling on the subject, although it is believed quite possible that on all public work domestic material can be exclusively specified under the present law. It is charged, furthermore, that the bulk of the imported steel is being sold in violation of the tariff act prohibiting the dumping of products by foreign producers.

In order to define the position of the American steel constructors, the Board of Directors of the American Institute of Steel Construction has adopted the following resolution:

"WHEREAS in our economic crisis it is incumbent upon industry that it prevent all possible unemployment, and

WHEREAS the importation of steel takes work away from our miners, transportation employes and mill workmen, and

WHEREAS European steel is being shipped into the United States at prices less than cost of production, and

WHEREAS European steel is sold to some of our customers as domestic steel, and

WHEREAS such shipments and sales are unfair trade practices and tend to lower the price of the home products and thus lower the scale of living of our workmen,

NOW THEREFORE BE IT RESOLVED by the Board of Directors of the American Institute of Steel Construction that we reaffirm our loyalty to the steel mills of the United States and to the labor employed in the mining and transportation of the materials used in making steel, and that it is further

RESOLVED, that we condemn, as improper, foreign government subsidies, or any other devices that permit alien steel to be sold in the United States below a legitimate sales price thereby producing unemployment and lowering the scale of living of American workmen, and it is further

RESOLVED, that we continue to support the American mills in their activities to prevent the dumping of foreign steel, and other necessary measures to remove the unfair competition from abroad which is causing unemployment here and disrupting the entire steel industry of the United States, and be it further

RESOLVED, that a copy of these resolutions be sent to each mill rolling structural steel and to the Foreign Steel Committee of the American Iron and Steel Institute.

American Association of State Highway Officials will hold its annual meeting at Washington, D. C., November 14 to 18, inclusive.

E. R. Werdin, president and general manager of the L. A. Paving Company, has been re-elected president of the Los Angeles fire commission, this being his sixth consecutive year as head of the commission.

PACIFIC NORTHWEST CHAPTER COMMENDS U. S. ROAD BUREAU

Glowing tribute is paid the U. S. Bureau of Public Roads by Pacific Northwest Chapter, A. G. C., with headquarters at Portland. In a letter addressed to W. H. Lynch, district engineer for the Bureau at Portland, G. B. Herrington, manager of the Chapter, was directed by the Executive Board to congratulate the Bureau and its officers on the "very intelligent and sound manner of meeting issues," created by new rules concerning Federal construction.

The letter is published herewith:

ASSOCIATED GENERAL CONTRACTORS OF AMERICA, Inc.
PACIFIC NORTHWEST BRANCH

Portland, Ore., Aug. 27, 1932.

Mr. W. H. Lynch,
Bureau of Public Roads,
P. O. Box 3900,
Portland, Oregon.

Dear Mr. Lynch:

This organization has felt for a long time that there being a vast difference in conscience on the part of employers, that a minimum rate of wages should be predetermined on highway work and that any possibility of subterfuge, through subcontracting in an indiscriminate manner, should be overcome and that about the only way this could be done, and uniformity be had, was through definitely so stating in the bid specifications. We recognize the fact that the relief bill passed by the last Congress was passed for the relief of labor and for the bettering of employment conditions in view of the existing emergency.

We appreciate very much that the confidence of the Bureau in the contract system of operation has made it incumbent upon us to cooperate in this matter.

We particularly appreciate the fact that work is placed on a minimum wage basis and that the Government, through its supervisory functioning, will insist upon these clauses being uniformly carried out.

We have seen practices going on which we were powerless to overcome and which were certainly of no credit to the construction business and involved the exploitation of labor by some types of contractors.

We draw a long sigh of relief as we find the new rules in force. We believe they place competition back on a sounder basis, and we admire the courage and clear thinking which has brought these fundamental rules into existence.

We have for a long time advocated and promoted some basis of uniformity in wage and working conditions on public work. We have found considerable sympathy on the part of various bodies having to do with the award of public work, but have found many complications heretofore existing which have prevented the uniform application.

Now that such a system of operation has received so great a stimulus as evidenced by the rules of the Bureau, and inasmuch as they participate to a great extent in financing work of the various states, there is both authority and uniformity available.

This organization wishes to congratulate the Bureau and its officers on the very intelligent and sound manner of meeting this issue, which is evidenced by the new rules, and will cooperate with the Bureau, its officers and its allies in developing the best effect.

By order of the Executive Board.

Yours very truly,

PORTLAND CHAPTER OF ASSOCIATED
GENERAL CONTRACTORS OF AMERICA, INC.

COLD HARD FACTS ON HAND LABOR METHODS ARE CITED

Accumulating records of road construction by hand labor indicate that displacement of machine methods has to be paid for by higher costs, says an editorial in Engineering News-Record. In Michigan, where nearly \$12,000,000 has been spent in hand-labor operations, the practice is reported as "less economical," though the highway department took care to select operations best suited to manual work. Now the state of Washington reports highway bid prices to be 38 to 70 per cent higher for hand than for machine work; the spread may be exceptional, or the jobs may not have been best suited to hand performance or else were badly organized, but the difference remains. If the full spread of employment were completed, it is doubtful if either Michigan or Washington increased employment by discarding machine methods. The Congress and Legislatures in mistaken zeal may insist on outdated procedure, but engineers should keep clearly in mind that it is a step backward. To keep the retrogression from being disastrous will call for all the skill and invention that highway engineers can bring to bear in so choosing and organizing operations that hand labor will be efficient.

PACIFIC CONSTRUCTOR

J. P. FARRELL, Editor S. P. McCASLAND, Assoc. Editor
Am. Soc. C. E.

Consolidated with
BUILDING AND ENGINEERING NEWS

H. BAILY BRUNS, Advertising Manager

Publication Office: 545-547 Mission St., San Francisco
Telephones: CAfield 8743-8745

PACIFIC CONSTRUCTOR is the official publication of the Associated General Contractors of America for the eleven Pacific Coast states. Issued on the first and fifteenth of each month. Printed and published by the Stark-Rath Printing and Publishing Co., 545-547 Mission Street, San Francisco.
Subscription Price: \$5.00 per year, payable in advance. Single copies, 25c.

MONTANA STATE HIGHWAY BODY ADOPTS 6-HR. DAY, 5-DAY WEEK

Workmen on construction projects let by the Montana Highway Commission are to be guaranteed a five-day week and six-hour day under regulations adopted by the state highway commission, James H. Rowe, member of the commission, announces.

Wages, Rowe said, will be 50 cents an hour for common labor and higher for more skilled workers. Contractors are limited to a charge of \$1 a day for board and room.

Not more than three non-residents of Montana will be permitted to work on any one contract and the contractors will be bonded to insure performance of the Commission's regulations.

Rowe explained that the purpose of the regulations is to assure as many jobs as possible, to make certain that they will be occupied by Montana citizens and to protect the laborers from any unscrupulous contractor.

LOCAL APPROVAL OF P. O.

MATERIALS URGED BY A. G. C.

SEEK MORE ALLOCATED FUNDS

Local approval of equipment and materials going into Pacific Coast post office buildings was urged last Monday by the Executive Committee of the Alameda County Chapter, Associated General Contractors of America, at a conference held in the San Francisco offices of U. S. Senator Hiram W. Johnson.

The Executive Committee of the Chapter consisted of S. G. Johnson, president; Geo. J. Maurer, vice-president, and H. J. Christensen, treasurer. W. E. Lyons, chairman of the Promotion of Construction Committee, W. G. Thornally, chairman of the Stabilization Committee and Wm. E. Hague, secretary-manager, were other members taking part in the conference.

Floyd O. Booc, secretary-manager of Northern California Chapter, A. G. C., represented that body at the meeting.

Hague, in opening the conference, pointed out that under the present system Pacific Coast contractors are placed at a disadvantage as all samples, shop drawings, etc., must be sent to Washington for approval. Such approval, Hague pointed out, is often too slow and construction is frequently delayed with consequent loss to the contractor and broken employment for the men. Inspection by the local engineer is often not final, Hague declared. Oft times, he said, when the work is completed an architect comes out from Washington and demands work be gone over even though it has received the approval of the local authorities. Confusion and financial loss results to the contractors.

Hague advocated that inspection of materials and

equipment for Pacific Coast post office projects be made in San Francisco by the local branch of the U. S. Bureau of Standards. It is thought that such inspection could be made without greatly increasing the financial expenditures of the local standards branch.

W. E. Lyons, as chairman of the Promotion of Construction Committee, called the attention of Senator Johnson to appropriations for additional post offices. A statement showing the exact position of the State of California as to allocated post offices, as against the limited actual appropriations made to date, was submitted for consideration. The statement, published herewith, shows that California has the smallest percentage of actually appropriated funds of any State in the Union.

One hundred million dollars, Lyons pointed out, is included in the Wagner Bill for immediate carrying on of the post office building program. He urged Senator Johnson to secure as large an amount as possible of the \$19,000,000 allocated to be appropriated.

POST OFFICE CONSTRUCTION DATA FROM DOCUMENT 728 OF THE SEVENTY-FIRST CONGRESS

Appropriations and allocations for post office work to be done in the leading States, as shown in the above document:

| State | Authorized and appropriated | Allocated to be appropriated |
|---------------|-----------------------------|------------------------------|
| California | \$15,302,500 | \$15,815,000 |
| Connecticut | 3,225,000 | 1,515,000 |
| Florida | 7,465,000 | 960,000 |
| Illinois | 31,750,000 | 7,140,000 |
| Iowa | 5,115,000 | 1,585,000 |
| Kentucky | 5,288,000 | 880,000 |
| Massachusetts | 14,715,000 | 6,795,000 |
| Missouri | 9,670,000 | 8,695,000 |
| Michigan | 11,350,000 | 5,500,000 |
| New York | 59,423,400 | 21,275,000 |
| Ohio | 18,670,000 | 9,110,000 |
| Pennsylvania | 32,352,000 | 15,890,000 |

List of post offices for which allocations have been made, but for which no appropriations have yet been made (California), as prepared from above document:

| City | Amount Allocated | City | Amount Allocated |
|-------------------|------------------|------------------|------------------|
| *Alhambra | \$ 195,000 | *Pacific Grove | \$ 80,000 |
| *Anahiem | 120,000 | *Pasadena | 325,000 |
| *Auburn | 75,000 | *Paso Robles | 80,000 |
| *Bell | 75,000 | *Pittsburg | 105,000 |
| *Brawley | 95,000 | *Reiding | 150,000 |
| *Burbank | 155,000 | *Redondo Beach | 120,000 |
| *Burlingame | 180,000 | *Redwood City | 115,000 |
| *Calexico | 85,000 | *Richmond | 150,000 |
| *Carmel | 80,000 | Riverside | 360,000 |
| *Claremont | 85,000 | *Roseville | 85,000 |
| *Colton | 80,000 | *Salinas | 175,000 |
| *Compton | 125,000 | *San Diego M. H. | 440,000 |
| *Corona | 85,000 | San Diego C. H. | 25,000 |
| *Covina | 80,000 | *San Fernando | 95,000 |
| *Culver City | 120,000 | *San Francisco | 150,000 |
| *El Monte | 80,000 | *San Gabriel | 110,000 |
| *Escondido | 80,000 | *San Mateo | 140,000 |
| *Fresno | 650,000 | *San Rafael | 100,000 |
| *Fullerton | 110,000 | *Santa Barbara | 215,000 |
| *Gilroy | 85,000 | *San Cruz | 110,000 |
| *Hayward | 100,000 | *Santa Maria | 95,000 |
| *Hemet | 80,000 | *Santa Monica | 300,000 |
| *Hollister | 85,000 | *Santa Paula | 85,000 |
| *Hollywood | 425,000 | *Sebastopol | 85,000 |
| *Huntington Beach | 80,000 | *South Gate | 75,000 |
| *Huntington Park | 210,000 | *So. Pasadena | 120,000 |
| *Inglewood | 210,000 | *Susanville | 75,000 |
| *La Jolla | 85,000 | *Torrance | 85,000 |
| *Lindsay | 80,000 | *Tracy | 80,000 |
| *Livermore | 80,000 | *Tulare | 100,000 |
| *Lodi | 105,000 | *Turlock | 100,000 |
| *Los Angeles | 5,850,000 | *Upland | 80,000 |
| Los Angeles | 3,200,000 | *Ukiah | 80,000 |
| Los Gatos | 90,000 | *Van Nuys | 110,000 |
| *Madera | 90,000 | *Vero Beach | 120,000 |
| *Martinez | 95,000 | *Watsonville | 40,000 |
| *Monrovia | 120,000 | *Whittier | 160,000 |
| *Montebello | 85,000 | *Wilmington | 155,000 |
| *Mountain View | 85,000 | *Woodland | 85,000 |
| *N. Hollywood | 110,000 | *Yreka | 75,000 |
| *Oceanside | 85,000 | *Yuba City | 80,000 |
| *Ontario | 135,000 | | |
| *Orange | 90,000 | | |
| *Oxnard | 95,000 | | |
| | | Grand total | \$19,815,000 |

Those marked with * are without Federal buildings, Government paying rent.

GLEDHILL ROAD ADJUSTER—The Gledhill Road Machinery Co., Gallon, Ohio, in an eight-page booklet entitled "The Gledhill Road Adjuster," describes the company's recent development in making equipment for road leveling. The adjuster is an attachment for graders to replace the moldboard, and it is also supplied as a complete unit with its own chassis. Its chief use is in the finishing of various types of macadam roads to a perfect level or to any desired crown. The bulletin is available for distribution.

**HIGHWAY COMMISSION AUTHORIZES
NINETEEN EMERGENCY F. A. JOBS**

In connection with the expenditure of emergency Federal aid appropriated for highway construction, the California State Highway Commission at a meeting August 26 authorized the following projects, these being in addition to the nine projects reported in *PACIFIC CONSTRUCTOR*, issue of August 15:

| | |
|---|-----------|
| IV-Mrn-1-C—Waldo to Sausalito, 1.17 miles grading, paving | \$296,000 |
| X-Sta-4-B—Hatch Crossing to Modesto, 1.4 miles grading, paving and bridge across Tuolumne River | 350,000 |
| IV-SC1-68-B—Whisman Road to Lawrence Station Road, 3.5 miles grading, paving..... | 293,000 |
| II-Teh-7-A—Southerly boundary to Corning, 9 miles grading, paving..... | 185,000 |
| X-Yol-6-B—Yolo Causeway, widen to 44 feet.... | 560,000 |
| V-Mon-2-H—One mile south of San Ardo to six miles south, five miles grading, paving.... | 230,000 |
| III-E.D-11-D—Placerville to railroad crossing, 1.7 miles bituminous treated surface | 8,200 |
| II-Sha-20-B—Redding westerly, 0.5 mile grading, surfacing | 25,000 |
| II-Las-29-C—East of Susanville, 1.8 miles grading, surfacing | 30,000 |
| VIII-SBd-26-D—Colton to Ontario, paving..... | 335,000 |
| VII-S.D-12-C—Alpine line change, 3.4 miles grading, paving | 210,000 |
| VII-L.A.-4-D—Gorman to northerly boundary, grading, paving | 210,000 |
| VII-Ven-60-A—Little Sycamore Creek to Calleguas Creek, 8.7 miles grading, paving..... | 160,000 |
| VII-S.D-12-D—Alpine to Viejas Creek, 4.4 miles grading, paving and bridge..... | 165,000 |
| VII-L.A.-9-A—Tujunga to La Canada, 7.1 miles grading, paving | 200,000 |
| VIII-Riv-26-E—Edom to Indio, 12.3 miles grading, paving | 314,000 |
| IX-Mno-23-C, D—Whiskey Creek to Convict Creek, 4.2 miles grading, surfacing..... | 40,000 |
| IX-Iny-23-E—Bishop to Round Valley Road, 6.4 miles grading..... | 70,000 |
| IX-Iny-23-D—Keough's Hot Springs to one mile south of Bishop, 6 miles grading..... | 120,000 |

The Bucyrus-Monighan Co. announces a large capacity, long boom dragline specialty designed for the construction of river levees, designed as model 10-W. The standard boom length is 160 feet with a 10-yard bucket, or a 150-foot boom with an 11-yard bucket. The reach from the center of the base with the boom at an 18 degree angle is 169 feet, and the operating radius, including the swing of the bucket beyond the end of the boom, is 200 feet. The height from the ground to the top of the A-frame is 60 feet. Under normal conditions the machine performs a cycle in about 70 seconds. The total weight is about 675 tons, but due to the large area of the circular base on which it rests while working, the specific pressure is low, enabling it to operate on comparatively soft ground. The machine is powered by a five-cylinder Fairbanks-Morse diesel engine rated at 450 horsepower at 257 r.p.m. Power for the loading and hoisting drums and the walking device is transmitted by belt, while the swinging and boom-raising mechanisms are motor driven. The machine is fitted with patented Bucyrus-Monighan walking traction and takes a step 7½ feet long.

**HIGHWAY AND BUILDING CONGRESS
TO MEET IN DETROIT IN JANUARY**

The Highway and Building Congress, the largest and most significant gathering in the history of such enterprises, will be held in Detroit during the week of January 16-23, 1933. This was the decision of officials of ten national organizations, representing every phase of the mammoth highway and construction industry, who recently met in Detroit to formulate plans. The Congress will bring to Detroit thousands of persons identified with highway and building construction activity. These will include Federal, State, County and Municipal officials as well as representatives of every branch of the industry. The combined experience and intelligence of the group will be devoted to determining the place of construction in the new economic era in which the Nation finds itself.

The scale of the undertaking which the Congress is to launch is indicated in the list of participating organizations. They are: Construction League of the United States, American Road Builders' Association, Associated General Contractors of America, Motor Truck Executives Association, Asphalt Institute, National Crushed Stone Association, National Paving Brick Association, National Ready Mixed Concrete Association, National Sand and Gravel Association, and Portland Cement Association.

The program mapped by executives calls for concurrent meetings of the several individual organizations during the first three days of the Congress, to be followed by a joint session which will map a co-ordinated procedure for the entire industry and allied enterprises.

The following statement relative to the purposes of the Congress was issued at the close of the meeting:

"Recognizing the fundamental importance of highway and building construction to every phase of the Nation's life, public officials identified with it and leaders of every branch of the industry will meet in Detroit in January to devise a coordinated program of future activity. The meeting will be known as the Highway and Building Congress.

"It will essay to find the course best designed to contribute not only to the immediate improvement in national economic affairs but also to seek a permanent program which will prevent a repetition of conditions which have existed for the past three years.

"One of the basic undertakings of the Congress will be a program of education designed to acquaint the public with the contribution of the construction industry to sustained national economic equilibrium. It will define the place of highway and other forms of construction in respect to improved transportation, industrial and agricultural production and distribution, education, communication, and all other phases of national life.

"In the past, it has been the practice of the associations representing various phases of the construction industries to hold individual meetings in different cities and at different times. They have co-operated in many ways but their programs have lacked that degree of correlation which contributes most effectively not only to the industry's welfare but that of the public generally. The Highway and Building Congress, the first gathering of its kind, will inaugurate a new epoch which promises a more valuable service on the part of the industry to the country as a whole."

HEARINGS SCHEDULED ON PROPOSED NEW STATE UNIFORM BUILDING CODE

The California State Chamber of Commerce is now completing its Uniform Building Code, California Edition, which it will propose for adoption for California municipalities. Before the code is finally written, the Chamber desires to hear representatives of all producers of materials and of safety appliances for buildings and all associations of constructors and others interested in the requirements of such a code.

The Chamber desires to hold these hearings between September 12 and October 12, this year and will endeavor to arrange such hearings either in Los Angeles or San Francisco, at the option of the applicant for a hearing. The address, date and time at which each hearing will be held will be announced later.

Each hearing will be in charge of a member of the Code Executive Committee of the Chamber, and all matters presented at the hearings will be taken under advisement by the representatives of the Chamber.

Only one hearing can be given to any association or to any branch or trade of the building industry, or concerning any material, safety appliance or method of construction.

The amount of time that can be given to each applicant for his hearing will be set by the Chamber, and the hearing will be closed when the allotted time has ended. Necessarily the time given to each applicant will be limited.

Applicants will be allotted hearings in the order the applications are received.

The applicant for a hearing must file a typewritten or printed brief in duplicate with the editors of the code, on or before ten days before the day set for his hearing.

The brief must describe succinctly and accurately the material, safety appliance, method of construction, or other matter which the applicant desires the Chamber to consider for the Code, and must set out the physical properties and characteristics of the product or method of construction, why it should be considered for the Code, and what results are expected to be accomplished by its use. The brief may include blue prints or other form of data.

The hearing will be on the brief filed by the applicant and the argument of the applicant will be held strictly thereto.

In the event there is filed more than one application representing the same association, material, safety appliance or method of construction, the Chamber will notify the several applicants, and they must determine between them who shall speak at the hearing.

Applications for a hearing must be made in writing and in duplicate filed with the editors of the Code on or before September 1, 1932, if possible.

One copy of the application shall be mailed to: Edwin Bergstrom, Editor, Uniform Building Code, California Edition, 1129 Citizens National Bank Building, Los Angeles, Calif.

The other copy shall be mailed to: Henry Dewell, Editor, Uniform Building Code, California Edition, 55 New Montgomery Street, San Francisco.

Every application shall state in writing:

The particular material, safety appliance, method of construction, or other matter which the applicant desires to file a brief.

If the applicant desires a hearing on the brief.

The date on which the applicant would prefer to be heard.

Whether the applicant prefers to be heard in Los Angeles or San Francisco.

The maximum amount of time at the hearing that the applicant considers necessary to amplify his written brief.

The name of every person who will speak for the applicant at the hearing.

The number of persons that the applicant expects will be present at the hearing, representing the matters on which he is to be heard.

An applicant may file his written brief and waive the hearing. The brief will receive full consideration, whether or not there is a hearing thereon.

SELF-LIQUIDATING HIGHWAYS DEMANDED BY MOTORING PUBLIC

A new conception of highway financing based on the fact that gasoline taxes and motor vehicle license fees are in reality tolls for the service rendered by highways, thereby making highways "self-liquidating" in fact, has been advocated by the American Road Builders' Association.

An editorial in a recent issue of the Engineering News-Record calls attention to the public obligation to take advantage of the recent action by Congress placing 1½ billion dollars at the disposal of states, counties and cities for self-liquidating public construction in order to create employment. "Problems of the utmost difficulty are involved in changing from a basis of taxation to one of tolls as required by the Reconstruction Finance Corporation Act," the editorial states.

"While the fact that motor vehicle taxes are tolls for the use of highways has been recognized by tax experts, the self-liquidating feature of such tolls has not received general public acceptance. That highways are truly self-liquidating is evidenced by the continued public demand, even in time of depression, for better and safer highways that provide more economical travel," states T. H. Cutler, president of the American Road Builders' Association.

"As affecting the present unemployment emergency, the speed with which the \$120,000,000 highway aid to the states granted by Congress is now being translated into jobs for men working on needed highway improvements demonstrates the effectiveness of road building in putting men to work quickly.

"The conception that motor vehicle taxes can be used for any purpose other than payment for highway service is contrary to the original intent of such imposts, and it constitutes an extremely dangerous idea to the general public. Motor vehicles are owned by one-fifth of the population of the country and failure properly to provide highways for these vehicles is a definite public loss.

"The income from the service tolls on motor vehicles pays most of the highway costs, and the savings to the public due to improved roads more than pay the remainder. These service tolls make highways self-liquidating in fact," he concluded.

FOR SALE...

110 Horsepower Diesel Engine
at a Bargain

United Commercial Co., Inc.

234 Steuart Street

San Francisco

CALIFORNIA BUILDING CONGRESS RECOMMENDS TWO 5-HOUR SHIFTS

The Northern Executive Committee of the California Building Congress favors a two five-hour shift day on construction jobs with a view to spreading employment. Employers in the construction industry are being urged by the Congress to spread available work, consistent with economical and practical operation, so as to provide employment to the maximum number of men by the application of one of the following plans, the choice to be left to the judgment of the employer:

- (A) Rotation of work by employing a definite percentage of new men at specific periods.
- (B) Use of a six-hour day.
- (C) Use of two six-hour shifts.
- (D) Use of two five-hour shifts.
- (E) Use of a five-day week.
- (F) Use of two groups of three days each week.

The Committee has recommended a two five-hour shift day on construction jobs. This recommendation has received the approval of the Industrial Association of San Francisco and eight leading contracting firms. It was first put into practice by the Board of Trustees of the San Francisco War Memorial on January 18.

A similar plan involving rotation of work and reduction of hours has been recommended by the Southern Executive Committee. This proposal has been presented to the State Department of Public Works to be applied on state construction projects.

The Congress advocates that the per diem rates for all employes be consistent with present living conditions and values and that an effort be made to have public awarding bodies withhold penalty clauses from contracts.

About 18 months ago, the California State Chamber of Commerce initiated an employment stabilization program which has resulted in material benefit in the spread of employment on jobs throughout California. The Building Congress has followed this program. Recent emergencies have resulted in the organization of an Industrial and Banking Committee of the Twelfth Federal Reserve District to more actively deal with the employment relief problem in this western region.

GENERAL ASSEMBLY OF NATIONAL CONFERENCE ON CONSTRUCTION

At the meeting of the executive committee of the National Conference on Construction, June 27, decision was reached to hold a general assembly of the Conference next fall. Invitations will be extended to about 15 groups. In addition to the architects, engineers, general and sub-contracting groups, material supply dealers, realtors, investment and mortgage banking and surety groups will be invited. The conference was organized in 1931 by leaders in the various branches of the construction industry to serve primarily as a service group for the various trade associations in the construction field.

At the recent meeting progress was reported by various committees including those on statistics, on waste, on realty finance, on local organizations and on economic relationships. The latter committee is considering such subjects as bid peddling, pre-qualification, etc. The selection of a president of the conference was left in the hands of a committee. H. J. Kaiser, president, Associated General Contractors of America, and Willard Chevalier, publishing director, Engineering News-Record, were added to the executive committee. J. A. Ehlers, with offices in Washington, D. C., is technical director.

EMPLOYMENT IN CONSTRUCTION IN STATE IS ON THE INCREASE

Employment figures relating to the building and construction industry in California were released for the first time last month by T. A. Reardon, State Labor Commissioner. This marks the beginning of publication of a new bulletin by the State Labor Commissioner, the California Labor Market Bulletin, the Building and Construction Industry, which will appear monthly.

The July, 1932, issue of this bulletin, which covers 192 building and construction firms and 7527 employes in the state, showed an increase of 5.1 per cent in employment for the state in June, 1932, over May, 1932. For the same period total weekly payrolls increased 8 per cent and average per capita weekly earnings showed a gain of 2.7 per cent.

Los Angeles County registered an increase of 25.4 per cent in employment in June, 1932, over May, 1932; weekly payrolls increased 29.7 per cent; and average per capita weekly earnings increased 3.5 per cent; Alameda and San Francisco Counties showed a drop of 9.9 per cent in employment in June, 1932, over the preceding month; a decrease of 7.3 per cent in weekly payrolls; and an increase of 3 per cent in average per capita weekly earnings.

Employment in the remainder of the state in the building and construction industry increased two-tenths of one per cent in June, 1932, over May, 1932; made a gain of 1.6 per cent in weekly payrolls; and increased 1.4 per cent in average per capita weekly earnings.

SACRAMENTO COUNTY IS URGED TO ELIMINATE THE ROAD TAX

Complete elimination of the district road tax of 31 cents and the substitution of the \$140,000 from the county's share of the state gas tax is demanded of the Sacramento County Board of Supervisors by a committee from the City and County Taxpayers' Association.

City members, however, expressed their disapproval of diverting the money to be used on secondary roads in the county and expressed the desire to continue spending the gas tax funds on main arteries into Sacramento.

The city supervisors took the position that with 60 per cent of the registrations in automobiles and a payment of 75 per cent of the gas tax, the money should be spent on main traffic arteries.

County Engineer Charles W. Deterding, Jr., pointed out that the California cities are attempting to get part of the gas tax, and that if the county spends the gas tax funds on roads used only locally, the position of the counties will be weakened.

The taxpayers' committee took the viewpoint that the diversion of funds would only be temporary.

STATE LABOR CAMPS WILL BE INCREASED GOVERNOR ANNOUNCES

Governor Rolph has sent letters to the chief executives of the other forty-seven states explaining California's success with its labor camps last Winter and urging adoption of the plan for the coming seasons.

The governor said California's experiment cared for 3000 homeless and jobless men and that the state expects to double its program for the coming winter, providing food and shelter for at least 6000 in exchange for work on fire breaks and trails under supervision of the state division of forestry. The camps will operate, he said, from October 15 until the following June 1.

LOS ANGELES BUILDERS OUTLINE PROGRAM FOR BETTER CONDITIONS

Objects of the Building Contractors Association, recently organized in Los Angeles to work for better conditions in the contracting business, are outlined by Henry F. McCann, secretary, as follows:

"To enlarge and maintain a non-profit association of reliable and responsible builders, run and managed by builders only.

"To inform the public by the various means of communication of the existence of this organization.

"To associate with material dealers and establish a better relationship. Obtain their support and co-operation to the end that both shall be permitted to charge a profit.

"To secure recognition of the members of this association as retailers of merchandise with a ten per cent margin to cover sales cost and overhead.

"To obtain legislation requiring general contractors to pass a state board examination before license is granted.

"To secure local ordinances enabling the legitimate builder to operate without competition from the 'jerry Builder.'

"To associate with recognized architectural and engineering groups for the betterment of the building industry.

"To promote formation of a building material clearing house or information bureau for the benefit of clients. Said bureau to have data on all approved materials entering into building construction; a contractor to be eligible for membership to have had at least two years of practical experience in Southern California.

"To co-operate with the State Registrar in all matters relative to the requirements for practice in this state.

"To associate the builders of this locality for the benefit of the builders and the building business in general."

STOP—LOOK AND LISTEN!— THEN PROCEED WITH CAUTION

To date, the astonishing outburst of speculative enthusiasm which animates the markets has found no direct reflection in business or construction circles, says an editorial in Engineering News-Record. Yet in construction as well as in commerce there are many signs, as for some weeks past, that restorational forces are counteracting the downward pressure. Contract award figures show increasing activity, and there is prospect of further advance. Favorable indications in other business fields support the hope that before winter revival may win over unemployment, especially if relief act operations are started soon. Business and construction, lacking the temperamental character of the markets, are likely to follow the prudent course of proceeding with caution, but all signs now read, Proceed.

Graver Tank & Manufacturing Corp., East Chicago, Ind., may now make, use and sell water-softening apparatus comprising a casing, a filter bed consisting of a layer of sand or quartz and a layer of zeolites or hydrated aluminosilicates disposed on the layer of sand or quartz, means for permitting the passage of water through the casing, means for cutting off the supply of water on the exhaustion of the zeolites, means for passing through the casing a solution of salt capable of regenerating the zeolites, and means for draining the salt solution out of the casing, according to an opinion of the U. S. supreme court delivered No. 23, 1931, in the Permutit Co. vs. Graver Corp., in which the court declared that claims 1 and 5 of the Gans patent 1,195,923 are invalid.

LAW PROTECTING BUILDING FUNDS SOUGHT IN OHIO STATE

The Michigan Trust Fund Law is finding favor in its neighbor state—Ohio—and a similar measure will be introduced at the next session of the Ohio Legislature, reports the Omaha Builders' Exchange Bulletin. This is designed to protect the owner against dual payments for construction work, and to guarantee subcontractors, material men and labor of payment due them for service performed or materials furnished. The Ohio measure is being pushed at the suggestion of the Allied Construction Industries of Cincinnati.

According to the Akron (O.) Builders' Bulletin, this act provides "that the funds of a building contract when paid by the owner to a contractor, or by the owner or contractor to a subcontractor, shall be considered the trustee of all funds so paid to him for building purposes."

The law provides further that any contractor or subcontractor who, with intent to defraud, retains or uses the proceeds or any part thereof of any payments made to him, for any purpose other than to first pay laborers, subcontractors and materialmen engaged by him to perform services or furnish materials, shall be guilty of a felony in appropriating such funds to his own use.

The law also provides that the contractor or subcontractor shall be punished for any misappropriation by a fine of not less than \$100 or more than \$5000, and/or not less than six months and not more than three years imprisonment.

Under the law an appropriation by a contractor or a subcontractor of any money paid to him before payment of all moneys due or to become due laborers, subcontractors or material men shall be evidence of intent to defraud.

TWO SAN FRANCISCO CONTRACTORS DRAW LICENSE VIOLATION FINES

Convicted of unlawfully acting in the capacity of contractors in constructing a building at Cuesta La Honda, Harold Zelinsky and Harold Doane of San Francisco were given fines of \$50 and the sentences were suspended for six months by Justice of the Peace Edward I. McAuliffe at Redwood City.

The conviction was the first obtained in Redwood City as a result of the campaign which the San Mateo County Building Industries' Association is waging against unlicensed contractors operating in the county.

The two San Franciscans were specifically charged with contracting for the construction of a building in Cuesta La Honda for Miss Bertha Creighton at a cost of \$1000.

The charges were brought by Walter W. Krauter, inspector and registrar of contractors for the state department of professional and vocational standards, San Francisco district. Assisting in the prosecution of the case was James Fellom, inspector for the San Jose district.

P. E. Brand of Redwood City, a director of the county building trades association, and City Building Inspector Con Drathman were present at the hearing.

SKELETON BOOKKEEPING
Keeps your records at practically no cost. Start and stop any time. Always up to date. Especially for material wholesale and retail. We do the work. No business too small.
PARDEE SYSTEMS
503 Market Street Douglas 6436

MOTOR VEHICLE LICENSE FUNDS ARE O. K. ON BOND REDEMPTION

Deputy District Attorney Ralph Cowing has advised the Sacramento County Board of Supervisors that it may legally take motor vehicle license funds and use them in paying the interest and redemption on bonds voted by the county for roads and bridges.

The county last year received approximately \$79,000 as its share of the license funds.

But Cowing also told the board that it cannot use money derived from the motor vehicle fuel fund for the same purpose. The law limits the use of this money by the supervisors to the construction of roads, bridges and culverts.

GOVERNOR OF LOUISIANA BARS "HOME TOWN" PRODUCTS MEASURE

A proposal that contractors performing work for the state of Louisiana be required to use Louisiana materials and Louisiana-grown products whenever possible was rejected by Governor O. K. Allen when the legislature passed a bill containing this requirement. The governor stated, in vetoing the bill, that it would cause delays and probably unnecessary expenses to contractors in the state. He said that he preferred to permit contractors to use their own discretion when purchasing materials and added that he believed that 90 per cent of the contractors who have done public work in the state have patronized Louisiana goods, particularly when services and prices were equal.

RED ARCH DRAGLINE—The new Red Arch dragline bucket (Type X) has recently been announced by Bucyrus-Erne Co., South Milwaukee, Wis. It is a general utility bucket for the average run of dragline work and is built in sizes from ½ to 8 cu. yds., full measure. Special attention has been given to a design and selection of materials which will give maximum strength and wear with elimination of dead-weight. Operation in the field is stated to have shown the new Red Arch fulfills the manufacturer's claim for ready digging, quick filling, easy carrying, and free dumping. Features include the red arch, a one-piece, annealed steel casting providing great strength without excess weight; a strong, smooth, manganese steel lip with low-cost renewable manganese steel teeth; tooth base cast into lip; teeth secured with simple wedges; inexpensive, easily replaced runners and wearing plates protecting bottom of bucket. There are many other special features.

NEW EMPIRE PLASTER SPREADS LIKE BUTTER

Something has happened in the plaster industry. Following its recent announcement of the achievement of Tan Portland Cement, the Pacific Portland Cement Company's Research Laboratories turned to plaster with a critical eye. Empire, their leading brand, had been "the same for 27 years" and was due for a change. Easy application without sacrificing results was the goal set for accomplishment.

"That success has crowned our efforts," said J. A. McCarthy, Vice-President of the Company, "is indicated by the following incident. A plasterer, trying it out for the first time, upon being asked how he liked it, enthusiastically replied, 'Why it spreads on just like butter!' At last somebody has done something about taking hard work out of plastering."

WISCONSIN STATE HIGHWAY WORK ON 30-HOUR WEEK BASIS

All public works construction under the supervision of the state of Wisconsin will be operated on a five-day week and six-hour day basis. An announcement to this effect has been made by the State Unemployment Commission. This rule will apply not only to highway work financed by federal funds but to all construction work paid for by state funds, whether under contract or by day labor.

The commission has taken the stand that the best way to increase the employment of labor on public works construction is to perform the maximum amount of such labor by hand rather than by machine. In contracts awarded by the commission this policy has been followed, including the unloading by hand of all stone, gravel and sand used in concrete construction.

MONTEREY COUNTY WINS SUIT AGAINST RAISCH, CONTRACTOR

Monterey County was pronounced victor in a \$15,899 suit brought against it late in 1930 by A. J. Raisch, San Francisco contractor, for work on the Monterey-Salinas highway. The case was tried in San Benito county this spring and was taken under submission at that time by Superior Judge Maurice T. Dooling of that county.

Raisch claimed that \$15,899 was owed by the county for work not provided for in the \$226,190.04 contract price. The county countered with the claim that when the contract price was paid, Raisch was paid in full.

Under Dooling's decision, no additional payment will be made by the county.

LACROSSE TU-WAY TRAILER—The LaCrosse Tu-Way, new type of heavy-duty carry-all trailer is announced by C. R. Jahn Co., 1140 First National Bank Bldg., Chicago, Ill. The trailer is fully reversible and may be pulled, steered and braked from either end. It is built in capacities of from 10 to 40 tons. Its construction eliminates the necessity of a high front deck. Its low platform may be loaded from either end or side. There are eight wheels, mounted in pairs. The beams making up the main-frame members are tapered, permitting axles to be mounted beneath the beam ends. This method of mounting makes possible free tilting and pivoting action of wheels and axles. The trailer has a short turning radius. Eight-wheel steering and eight-wheel braking is secured, regardless of the position of the pivoting axles.

GASOLINE PORTABLE DRILL—The Guibert Steel Co., Pittsburgh, Pa., announces its gasoline portable "Togglebug" drill. The manufacturer states that this machine will drill, ream or countersink the heaviest steel plates or sections in the field or shop. It has a variable spindle speed of 250 to 600 r.p.m. Power is furnished by a 6-h.p. gasoline motor. A system of weights and counterweights gives the machine the necessary weight required for drilling large holes. The load is so balanced that the machine can be moved easily on two rollers equipped with roller bearings. When in use, the operator, by sitting or leaning on the end of the 5-ft. handle, exerts pressure on the drill point.

SMITH BROS. TRUCK CO.

"TRANSPORTATION SPECIALISTS"

Portable Crane Service—Rigging

1704 E. 16th St. Los Angeles WEstmore 3271

THE LAW OF MECHANICS' LIENS

(Continued from Page 10)

where two or more pieces of property are improved by the same contractor at the same time, and requires the lien claimant to designate the value of his lien as it applies to each piece. This was amended in 1929 to provide that if a single structure shall be erected on two or more lots, then the provisions as to segregation shall not apply.

Section 1189 provides that it is the duty of the recorder to record any claims of lien filed with him.

Section 1190 provides that no lien shall exist for more than 90 days after the same shall have been filed, unless action is brought in a proper court within that time to enforce the same, and provides that the time for the continuance of the lien can be extended to not exceed one year by an agreement to give credit. The history of this section has been a gradual decrease in the time permitted between the filing of the claim of lien and the commencement of the action. The original act of 1850 provided for a limitation of a year. The act of 1856 and 1862 decreased this period to six months, and in 1868 the period was decreased to 90 days, and it has remained 90 days from that time on.

The extension of the lien period by the giving of credit was originally two years and remained at that point until 1911, at which time it was decreased to one year, where it still remains.

Section 1191 is, at the present time, practically a duplication of a portion of Section 1183, as it provides for the lien granted for improvements on lots or for street work. The only different right granted by this section is that the time for the filing of liens shall not commence until the official acceptance of a street has been made where such acceptance is necessary. This provision was added to the law by the amendment of 1913.

Section 1191-a is a special section adopted in 1909 providing a lien in favor of the person doing the work where the board of health has ordered a connection made to a sewer after the owner had refused to do so.

Section 1192 was first adopted in 1868 and provides that any improvement is deemed to have been done at the request of the owner thereof unless the owner shall post and record a notice of non-responsibility upon receiving notice or obtaining knowledge in any manner that any work is being done or intended to be done upon his property. This notice was required to be filed under the original enactment within three days, but the owner now has 10 days within which to file the same.

Section 1193 provides for the limitation of the lien of the original contractor and provides that he shall have a lien only for the amount which shall remain due upon the original contract after deducting the claims of all other persons. It also provides that he shall defend any action brought against the owner upon any lien at his own expense and permits the owner to withhold from him the amount of money for which the lien is filed. It also permits the owner to recover back from him or his bondsmen any excess paid on account of lien over and above the contract price.

Section 1194 permits the entry of a judgment against the party personally liable in the event of any deficiency upon the sale of property to satisfy the lien.

Section 1195 permits and requires the joinder of all lien claimants and persons interested in the property in one action.

Section 1196 protects materials which have been fur-

nished for use in construction work from attachment except for their purchase price.

Section 1197 reserves to every person his right of action upon his contract with the person directly employing him and contains the provision for credit against the amount of his lien so that he will be unable to recover twice.

Sections 1198 and 1199 are two procedural sections which have no bearing upon any substantive rights whatever.

Section 1201 permits a contractor to waive his lien and permits any sub-contractor to also execute a waiver, but prohibits the owner or any contractor, or other, to enter into any contract which will affect the lien of any third person.

Section 1202 provides for the forfeiture of the lien of any person who shall wilfully give or file a false statement, while Section 1203 provides that no mistakes or errors, not made with intent to defraud, shall invalidate any lien or claim of lien filed.

From the foregoing analysis it will be seen that the right of a contractor to claim a lien is limited by the amount specified to be paid to him under his contract, but that it is not possible for the owner to absolutely limit the amount to be paid to any third person. It provides a procedural machinery whereby lien claimants, upon filing a notice of lien and commencing action thereon may force a sale of the property in satisfaction of their lien.

There is an attempt, through the provisions of Section 1184, to provide for the withholding of money from the contractor, but with the exception of public work the sections are not complete in the remedy given. The original code sections, as they existed from 1873 to 1911, offered no protection to the owner whatever in the event he was dealing with a contractor who was not financially responsible and able to respond for the payment of all claims arising out of the work of improvement on the property. In 1911, however, we see the commencement of an attempt to protect the owner, both by the extension of the remedies under the notice to withhold and also under the new portion of Section 1183, adopted at that time, providing for the giving of a 50 per cent bond by the contractor, conditioned upon the payment for all labor and materials. However, in the language of the section itself, it is the intent and purpose to limit the owner's liability to the measure of the contract price, but the court can find that it would be inequitable to so limit the price. Consequently, as we have repeatedly pointed out, there is no absolute protection of the owner under the law as it exists today. Some change should be made for the benefit of the property owner and, in this behalf, there has been proposed a "Uniform Mechanic's Lien Act," which was adopted by the National Conference of Commissioners on Uniform State Laws and which it is promulgating to the legislators of the several States with efforts to secure its adoption throughout the United States.

(CONTINUED IN NEXT ISSUE)

MECHANICAL PLOTTER—A new invention designed to facilitate the plotting of road cross-sections and to record on suitable section paper the horizontal and vertical measurements has been placed on the market by Horace W. Scott, Wilmington, Del. The instrument is known as the Karto-Graf. A level track is set up for the device at the station where a cross-section is desired. The instrument is supported by wheels that run on the track, and by the use of a stem that extends to the ground surface the profile is automatically plotted.

LINK-BELT SCREEN LOADER—The Link Belt Co., Chicago, Ill., announces a new model vibrating screen loader for coke, coal, sand, gravel, etc. A mechanically vibrated screen of the Link-Belt positively driven type is incorporated into the machine's construction. The amplitude of vibration, or throw of the screening surface, is set at the factory before the loader is shipped. The loader has a 10-ft. clearance under the chute. The bucket elevator has a capacity of 1¾ cu. yd. per minute. The foot of the loader is equipped with a helical steel ribbon feeder, which clears a path 7 ft. 7 in. wide. A three-speed transmission gives the crawler a speed of 30 ft. or 66 ft. per minute, in the digging direction and 27 ft. per minute in reverse.

A new series of welding heads with detachable tips has been introduced by the **Linde Air Products Co.**, New York City, for use with the Oxweld Type W-17 welding blowpipe. These will supplement the one-piece heads for this blowpipe, so that the user will have a choice of two types of welding heads. The new heads were developed particularly for pipe-line welding and for production operations. One of the features of the new design is the male thread on the top, which screws into the stem. It is claimed that removal of the welding tip is thereby greatly facilitated.

A new leaning-wheel grader carrying a 12-foot blade is announced by the **Caterpillar Tractor Co.**, Peoria, Ill. It is known as the Caterpillar Fifty grader. The lifting mechanism is hand-wheel operated and is mounted on anti-friction bearings. The lift-arm shaft and important forward parts are heat treated. Axle spindles are of chrome nickel treated steel. Compensating blade lift springs are provided.

REDUCTION OF COUNTY TAXATION FOR HIGHWAYS AIM OF AUTO CLUBS

Opening the way to a reduction of county taxation for highway purposes by use of gas tax revenues and suggesting a method whereby cities would receive a greater share of this fund, the California State Automobile Association and the Automobile Club of Southern California today issued a joint statement proposing the addition of 6,624 miles of county roads to the State Highway System, the taking over by the state of additional through routes in cities, and the allocation of more state money for their maintenance and improvement. The plan is proposed as a means of reducing the tax burden on city and county property to meet existing conditions.

Senator Arthur H. Breed, president pro tem of the State Senate and a director of the California State Automobile Association, announced he will introduce the necessary measures at the coming session of the Legislature to make the plan effective. These measures would take the form of amendments to the Breed Allocation Act. Reviewing the principal features of the plan, Senator Breed said:

"The State Highway System would be expanded to include the addition of 3,724 miles of county highways in the southern part of the state and 2,900 miles in the North. The roads would be added to the secondary system and would place North and South on an equality in total mileage of secondary state highways, conforming to a policy followed by the last two Legislatures. Each section would then have 4,848 miles of secondary roads. Funds for secondary roads are divided equally between the northern and southern sections of the state at present under the Breed Allocation Act, and this equalizing of the mileage of such roads in the two sections would in no way affect the equal division of funds.

"It is intended that the roads taken over by the state should consist of the main inter-county highways, which are now the cause of a greater part of the road tax burden in the counties. Selection of the roads would be on the basis of a scientific traffic survey.

"A distribution of the added state highway mileage would be made over the entire state, so that each section would derive some of the benefits. This would relieve the counties of the cost of improving and maintaining some of their more important roads and permit a substantial reduction in county taxes on real estate. The plan should, in many instances, permit total abolition of the present forty-cent road tax.

"The counties now spend approximately \$6,000,000 in funds derived from local property taxes for road improvement and maintenance. Under the proposed plan considerably more than this sum would be made available each year for the county roads taken over by the state and the improvement of through routes in cities. This would be accomplished through a slight change in the allocation of state highway construction monies and by spreading the maintenance fund to care for almost 14,000 miles of road as against the 7, 300 miles now in the state system.

"The present distribution of gasoline tax monies, registration fees, weight taxes, etc., to the counties would be left undisturbed. The counties would have all that money, which should easily take care of the remaining county roads.

"The efficiency of our present state system of roads would not be impaired nor would their preservation be jeopardized, as the greater spread of state road funds would involve only a slight slowing-up of construction and reconstruction and a somewhat less intensive maintenance program."

Cypress Lawn Memorial Park
 COLMA, SAN MATEO CO., CALIFORNIA
 Executive Office—995 Market St., San Francisco



VIEW OF NEW MEMORIAL COLUMBARIUM
 (Largest and most beautiful Columbarium ever erected)

WE HAVE FACILITIES FOR:
 Earth Interment Cremation
 Mausoleum Entombment Columbarium Inurnment

Cypress Lawn is adequately protected by a
 PERPETUAL CARE FUND.

"VISIT CYPRESS LAWN MEMORIAL PARK"



Here To There And Back Again



WRITING THE "COPY"

Did you ever wonder what the fellow thinks about who writes one of these "high light" pages?

It goes something like this: About a week before the composing room dead-line, the Editor begins to hint around that he is waiting on your copy. This keeps up for a couple of days, and then he becomes rather emphatic on the matter. When it comes to within 48 hours of the dead-line, you tell the Editor that you will have the copy to him "tomorrow sure."

Next day you refuse to answer your phone, as you just know it is the Editor yelling his head off for copy.

Then comes the last night before the forms close, and you know you MUST sit down and write—and write something the Customers will read—and your mind will no more hold an idea than a chicken-wire fence will stop a load of buck-shot.

WHAT to write? WHAT to write? Perhaps Quantity Surveys? And that reminds you: You feel that a cool drink (legal, if you feel that way)—you go to the kitchenette, mix up some ice and flavoring extract, and as to "quantities," you mix two parts orange juice and one part Shasta water, and again sit down in front of your typewriter, gazing at a piece of paper as blank as your mind.

Then you happen to look toward the Golden Gate. The sun is setting, and a steamer is outbound. You make a bet with yourself on the steamer passing thru the Gate before the sun sets.

You suddenly realize that the steamer has disappeared. The sun has disappeared, and you have been watching a picture as it was painted in a sky of lights and soft colors—orange, mauve, gold, violet and purple.

Rousing yourself, you think of the Editor, whom you now paint as a creature with horns. You just MUST quit "dillying" and stop "dallying" and get to work grinding out some "copy"—and you are yet wondering what to write about!

You suddenly spot two rulers on your desk, and you start comparing them. One is "Turtle's" standard type-point rule with which you measure up your ems of type. You note that the makers hold I.T.U. Card No. 5419, and you wonder what happens when this rule is used in a non-union shop.

The other is a 12-inch Lufkin rule, No. 3227. Graduated inches on one side and metric on the other. The metric side is graduated in mm. and 1/2 mm., while the

"English speaking" side is graduated 1/16, 1/32, 1/64, .10, .20, .50 and .100—about enough of that!

Next thing is a couple of road-maps, and then we wonder if the A.G.C. boys have completed that coast-line highway south from Carmel and past Big Sur. Must run a "road test" on that some day!

(Think Walter J. Wilkinson and the Granite Construction Company of Watsonville were mixed up in that highway contract. It will be a good highway, but what will happen when the Clark Brothers of Watsonville put wings on their motor vans, and start an aerial express service?)

Then we see a card issued by Standard Stations, Inc., listing the "all night" stations on the Pacific Coast. Thirty-eight "owl" stations in California; three each in Fresno and Bakersfield—not a single, solitary danged one in San Francisco! Does the Standard Oil Company think that in San Francisco we take the pavement in and lock it up at Midnight?

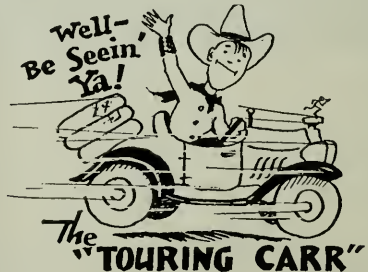
Thinking of "diversions," why not mention something about "Gas Tax Diversion?" THAT should be of interest to some of the Brethren!

Another "diversion" we noted the day after election: A candidate Joe Crail billboard sign, stating "Faithful, Fearless, Free." Slightly inebriated citizen lurches up to the billboard and with a piece of crayon was laboriously underlining the word "Free."

A WRITER'S DREAM

*A Gulliver in a Land of Lilliputian Editors.
A week's "copy" ahead!
Inspired thought when needed.
The perfect stenographer—
To hell with everything!*

So, there! We have filled the page. You read it, and WONDER WHAT we have said! We are ahead of you—we wrote it, and know that we didn't say a danged thing!



UNIT BID SUMMARY

Compiled from the Daily News Service of Pacific Constructor

4.128 MILES GRADING—TEHAMA COUNTY—GOVT.

TEHAMA COUNTY, Calif.—Meyer Rosenberg, 1755 San Bruno Ave., San Francisco, at \$49,968 submitted low bid to U. S. Bureau of Public Roads, San Francisco, August 16, for 4.128 miles of grading Section C of Route 21, to Deer Creek Meadows National Forest Highway, Lassen National Forest, Tehama County, involving in the main:

- (1) 22 acres clearing;
- (2) 97,500 cu. yds. unclass. excav.;
- (3) 1000 cu. yds. unclass. excav. for structures;
- (4) 52,000 sta. yds. overhaul.
- (5) 4.102 miles finishing earth graded roads;
- (6) 200 lin. ft. logs for pier posts;
- (7) 24 M.B.M. untreated timber;
- (8) 3 log truss spans;
- (9) 1200 sq. ft. crib face;
- (10) 262 cu. yds. Class A concrete;
- (11) 25 cu. yds. Class B concrete;
- (12) 23,020 lbs. reinf. steel;
- (13) 30 cu. yds. cement rubble masonry;
- (14) 800 lin. ft. 8-in. perforated corr. metal pipe;
- (15) 1,153 lin. ft. 18-in. corr. metal pipe;
- (16) 532 lin. ft. 24-in. do;
- (17) 76 lin. ft. 30-in. do;
- (18) 34,000 lbs. structural steel;
- (19) 180 cu. yds. hand placed rock fill;
- (20) 105 cu. yds. hand laid rock embankment;
- (21) 200 cu. yds. crushed gravel or rock embankment;
- (22) 200 cu. yds. crushed gravel or rock for backfill.

- Complete bids follow:
- (A) Meyer Rosenberg, San Francisco, \$49,968.
 - (B) MacDonald & Kahn, San Francisco, \$93,763.
 - (C) Nate Lovelace, Sacramento, \$94,376.
 - (D) Hemstreet & Bell, Marysville, \$97,665.
 - (E) Larsen Bros., Galt, \$101,102.
 - (F) F. C. Cuffe, San Rafael, \$103,213.
 - (G) Baker & Taylor, Chester, \$105,742.
 - (H) C. T. Malcolm, Mapleton, Oregon, \$110,668.
 - (I) Young & Sons, Berkeley, \$112,112.
 - (J) Kennedy Const. Co., Oakland \$141,949.
 - (K) Engineer's estimate, \$109,883.

Complete list of unit bids follows:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) |
|------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| (1) | \$160.00 | \$300.00 | \$275.00 | \$200.00 | \$350.00 | \$700.00 | \$500.00 | \$275.00 | \$600.00 | \$400.00 | \$350.00 |
| (2) | .2375 | .61 | .60 | .67 | .63 | .65 | .72 | .77 | .78 | 1.10 | .75 |
| (3) | .60 | 1.50 | 1.50 | 2.00 | 1.50 | 2.00 | 1.50 | 1.75 | 1.50 | 2.00 | 2.00 |
| (4) | .02 | .03 | .03 | .02 | .03 | .03 | .01 | .03 | .02 | .03 | .03 |
| (5) | 150.00 | 250.00 | 250.00 | 250.00 | 300.00 | 300.00 | 700.00 | 900.00 | 300.00 | 300.00 | 300.00 |
| (6) | 2.50 | 1.00 | 1.00 | 1.50 | 1.00 | 2.00 | 1.25 | 1.00 | .75 | 1.50 | 1.00 |
| (7) | 64.00 | 60.00 | 120.00 | 70.00 | 60.00 | 80.00 | 60.00 | 55.00 | 53.50 | 60.00 | 70.00 |
| (8) | 290.00 | 500.00 | 800.00 | 400.00 | 500.00 | 600.00 | 400.00 | 700.00 | 200.00 | 360.00 | 550.00 |
| (9) | .40 | .50 | .60 | .65 | 1.00 | 1.00 | .50 | 1.25 | .40 | .60 | .75 |
| (10) | 26.00 | 28.00 | 24.00 | 33.00 | 25.00 | 40.00 | 25.00 | 30.00 | 24.50 | 32.00 | 35.00 |
| (11) | 26.00 | 27.00 | 22.00 | 32.00 | 25.00 | 45.00 | 25.00 | 25.00 | 24.50 | 31.00 | 32.00 |
| (12) | .06 | .06 | .05 | .05 | .06 | .06 | .06 | .05 | .06 | .05 | .065 |
| (13) | 9.00 | 15.00 | 20.00 | 15.00 | 20.00 | 20.00 | 12.00 | 10.00 | 14.00 | 15.00 | 16.00 |
| (14) | 1.20 | 1.10 | 3.00 | .75 | 1.50 | 1.50 | .60 | 1.00 | .85 | 1.00 | 1.10 |
| (15) | 1.80 | 1.50 | 2.40 | 1.85 | 2.00 | 2.00 | 1.50 | 1.75 | 1.75 | 1.40 | 1.60 |
| (16) | 2.20 | 2.50 | 3.25 | 2.65 | 3.00 | 3.00 | 2.00 | 2.25 | 2.25 | 2.00 | 2.60 |
| (17) | 2.50 | 3.50 | 4.00 | 3.50 | 4.00 | 3.50 | 4.00 | 3.25 | 2.75 | 2.75 | 3.50 |
| (18) | .053 | .10 | .05 | .07 | .03 | .10 | .07 | .06 | .07 | .06 | .06 |
| (19) | 5.40 | 3.00 | 4.00 | 2.50 | 2.00 | 4.00 | 2.00 | 2.00 | 1.50 | 2.00 | 2.50 |
| (20) | 3.00 | 3.50 | 3.50 | 4.00 | 4.00 | 4.00 | 4.00 | 3.00 | 1.75 | 3.00 | 4.00 |
| (21) | 5.00 | 7.50 | 5.00 | 6.00 | 2.00 | 4.00 | 2.50 | 2.50 | 4.00 | 2.00 | 3.00 |

Bids held under advisement.

16.394 MILES GRAVEL BASE COURSE—PLUMAS CO.—GOVT.

PLUMAS COUNTY, Cal.—Skeels & Graham, Box 576, Roseville, at \$60,088 submitted low bid to U. S. Bureau of Public Roads, San Francisco, for 16.394 miles of placing a crushed gravel base course on Sections E and F of Route 23, Quincy-Beckwith National Forest Highway, Plumas County, involving in the main:

- (1) 980 cu. yds. unclass. excav. for structures;
- (2) 48,200 tons crushed gravel base course;
- (3) 2,400 tons supplemental crushed gravel;
- (4) 2,200 M. gallons watering;
- (5) 16,331 miles rolling;
- (6) 74 lin. ft. 8-in. corr. metal pipe;
- (7) 4,542 lin. ft. 8-in. perf. corr. metal pipe;
- (8) 920 cu. yds. crushed gravel for backfill.

Complete bids follow:

- (A) Skeels & Graham, Roseville, \$60,088.
- (B) H. C. Johnson, Portland, \$62,264.
- (C) Hemstreet & Bell, Marysville, \$67,215.
- (D) E. B. Bishop, Sacramento, \$79,066.
- (E) Isbell Const. Co., Carson City, \$81,502.
- (F) Chigris & Sutsos, San Francisco, \$83,381.
- (G) Fredrickson & Watson, Oakland, \$97,050.
- (H) A. Teichert & Son, Sacramento, \$106,916.
- (I) Heim Eros. & Basalt Rock Co., Petaluma, \$125,029.
- (J) A. G. Ralsch, San Francisco, \$161,421.
- (K) D. McDonald, Sacramento, \$171,938.
- (L) Engineer's estimate, \$80,880.

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) |
|-----|---------|--------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| (1) | \$ 1.00 | \$.80 | \$.75 | \$ 1.50 | \$ 1.80 | \$ 1.00 | \$ 1.10 | \$ 2.00 | \$ 1.00 | \$ 2.00 | \$ 2.50 | \$ 1.50 |
| (2) | .95 | 1.05 | 1.10 | 1.25 | 1.33 | 1.35 | 1.65 | 1.75 | 2.17 | 2.80 | 2.85 | 1.30 |
| (3) | .85 | 1.00 | 1.10 | 1.15 | 1.33 | 1.35 | 1.25 | 1.75 | 2.00 | 2.50 | 2.85 | 1.20 |
| (4) | 1.50 | 1.50 | 1.50 | 2.00 | 1.50 | 3.00 | 1.70 | 2.50 | 2.00 | 3.00 | 3.00 | 2.00 |
| (5) | 150.00 | 120.00 | 150.40 | 200.00 | 225.00 | 100.00 | 340.00 | 300.00 | 250.00 | 25.00 | 280.00 | 100.00 |
| (6) | .75 | .65 | .70 | 1.25 | .80 | 1.00 | .65 | 1.00 | .85 | .95 | 3.10 | 1.10 |
| (7) | .80 | .80 | .70 | 1.25 | .85 | 1.00 | .65 | .80 | .94 | .95 | 2.65 | 1.10 |
| (8) | 2.00 | 2.00 | 2.00 | 1.25 | 2.00 | 1.35 | 1.25 | 2.50 | 2.00 | 3.95 | 2.00 | 3.00 |

Bids held under advisement.

RESURFACE BERRY STREET—SAN FRANCISCO

SAN FRANCISCO.—Eaton & Smith, 715 Ocean Ave., at \$10,341.50 submitted low bid to Department of Public Works to resurface Berry Street bet. 4th and 7th Sts.; estimated cost, \$16,260. Project involves:

- (1) 134 ft. 10-in. V.C.P. culverts;
- (2) 6 brick catchbasins;
- (3) 8 brick catchbasins (reconstruct);
- (4) 2,000 ft. granite curb (reset);
- (5) 1,380 tons asphalt concrete binder;

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) |
|----------|---------|---------|---------|---------|---------|---------|---------|---------|
| (1)..... | \$ 1.00 | \$ 1.25 | \$ 1.00 | \$ 1.10 | \$ 1.00 | \$ 1.25 | \$ 1.50 | \$ 1.20 |
| (2)..... | 70.00 | 90.00 | 70.00 | 85.00 | 70.00 | 90.00 | 100.00 | 75.00 |
| (3)..... | 50.00 | 50.00 | 50.00 | 85.00 | 45.00 | 50.00 | 50.00 | 60.00 |
| (4)..... | .40 | .35 | .40 | .40 | .40 | .35 | .75 | .75 |
| (5)..... | 3.30 | 3.55 | 3.80 | 3.80 | 4.00 | 3.55 | 4.00 | 4.30 |
| (6)..... | 3.45 | 4.00 | 3.80 | 4.00 | 4.20 | 4.00 | 4.50 | 4.80 |
| (7)..... | .12 | .07 | .14 | .10 | .10 | .07 | .15 | .06 |

Bids held under advisement.

(6) 1,030 tons asph. concrete wearing surface;

(7) 4,000 sq. ft. basalt blocks (reset).
Complete bids follow:

| | |
|--------------------------------|-------------|
| (A) Eaton & Smith..... | \$10,341.50 |
| (B) Fay Imp. Co..... | 11,106.50 |
| (C) A. G. Ralsch..... | 11,472.00 |
| (D) Theo. Cohn..... | 11,901.40 |
| (E) Pacific Pave Co..... | 11,960.00 |
| (F) E. J. Treacy..... | 12,963.00 |
| (G) C. E. Harney..... | 13,456.00 |
| (H) Dept. of Public Works..... | 14,398.80 |

Unit bids follow:

REINF. CONC. STORM WATER INLET—VENTURA CO.

VENTURA, Ventura Co., Calif.—United Concrete Pipe Corp., 1347 W 208th St., Los Angeles, submitted low bid to county supervisors at \$13,463.50 to construct storm water sewer in Ventura Ave. just outside city of Ventura. Cash Contract, involving:

- (1) 150 ft. 15-in. reinf. concrete pipe;
- (2) 1300 ft. 36-in. reinf. concrete pipe;
- (3) 1200 ft. 42-in. reinf. concrete pipe;
- (4) 10 cu. yds. A concrete;
- (5) 500 lbs. reinf. steel in catchbasins;

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
|----------|--------|--------|--------|---------|--------|--------|--------|
| (A)..... | \$1.57 | \$4.00 | \$4.80 | \$19.00 | \$0.06 | \$4.00 | \$8.00 |
| (B)..... | 1.80 | 3.95 | 4.75 | 30.00 | .04 | .52 | 125.00 |
| (C)..... | 1.50 | 3.50 | 4.25 | 10.00 | .05 | .80 | 10* |
| (D)..... | 2.12 | 4.00 | 5.00 | 20.00 | .04 | .50 | 75.00 |
| (E)..... | 1.50 | 4.20 | 4.60 | 25.00 | .06 | .70 | 80.00 |
| (F)..... | 1.95 | 4.50 | 5.90 | 30.00 | .06 | 1.10 | 85.00 |
| (G)..... | 1.50 | 6.50 | 6.00 | 10.00 | .05 | .50 | 06* |

*per foot.

(6) 5000 cu. yds. struc. excavation;
(7) 600 B. Ft. No. 1 common rough redwood (per M).

The bids were:

| | |
|---------------------------------|-------------|
| (A) United Conc. Pipe Co..... | \$13,463.50 |
| (B) Fillmore Conc. Pipe Co..... | 14,075.50 |
| (C) City Const. Co..... | 14,195.00 |
| (D) Silveria & Robbins..... | 14,288.00 |
| (E) Fowler & Myer..... | 15,033.00 |
| (F) R. G. Whinery..... | 19,102.50 |
| (G) Granich & Granich..... | 18,536.00 |

Unit bids follow:

BIDS OPENED

TEHAMA COUNTY, Calif.—Helm Bros. Basalt Rock Co., Petaluma, at \$23,585 submitted low bid to U. S. Bureau of Public Roads, San Francisco, for 3,715 miles of crushed rock base course, Section A of Route 79, the Morgan Summit-Morgan Springs National Forest Highway, Lassen National Forest, involving:

- (1) 180 cu. yds. unclass. excav. struc.
- (2) 3,715 miles fine grading subgrade and shoulders;
- (3) 8,500 tons crush. rock base course;
- (4) 400 tons suppl. crushed rock;
- (5) 380 M. gals. watering;
- (6) 3,715 miles rolling;
- (7) 1,420 lin. ft. place Govt. furnished 8-in. perf. corr. metal pipe;
- (8) 160 cu. yds. crushed rock or crushed gravel for backfill.

Complete bids follow:

| |
|---|
| (A) Helm Bros. Basalt Rock Co., Petaluma, \$23,585. |
| (B) Hemstreet and Bell, Marysville, \$24,138. |
| (C) E. B. Bishop, Sacramento, \$25,796. |
| (D) Engineer's estimate, \$20,583. |

Unit bids follow:

| | (A) | (B) | (C) | (D) |
|----------|---------|---------|---------|---------|
| (1)..... | \$ 1.25 | \$ 1.00 | \$ 2.00 | \$ 2.00 |
| (2)..... | 225.00 | 300.00 | 200.00 | 300.00 |
| (3)..... | 2.31 | 2.50 | 2.35 | 1.90 |
| (4)..... | 2.20 | 2.20 | 2.25 | 1.80 |
| (5)..... | 2.00 | 2.00 | 2.50 | 3.00 |
| (6)..... | 140.00 | 200.00 | 250.00 | 150.00 |
| (7)..... | .30 | .30 | 1.00 | .10 |
| (8)..... | 1.90 | 3.00 | 3.00 | 2.50 |

All bids held under advisement.

UNIT BID LISTING

COCONINO COUNTY, Arizona—As previously reported, H. J. Hagen, Globe, Arizona, submitted low bid to Bureau of Public Roads, Phoenix, Ariz., at \$32,046.80, for 8,693 miles of grading a portion of Section J of Route 12, the Globe-Helbrook National Forest Highway, Coconino and Tonto National Forests, Arizona, involving in the main:

- (1) 43 acres clearing;
- (2) 7500 cu. yds. unclassified excav.;
- (3) 170 cu. yds. unclass. excav. fur structures;
- (4) 34,000 cu. yds. borrow;
- (5) 25,000 sta. yds. overhaul;
- (6) 8,693 miles finishing earth graded road;
- (7) 11 cu. yds. cement rubble masonry;

- (8) 863 ft. 18-in. C.M.P., in place;
- (9) 108 ft. 24-in. C.M.P., in place;
- (10) 104 ft. 36-in. C.M.P., in place;
- (11) maintenance of existing road and sections accepted for traffic;
- (12) 9200 lin. ft. protection ditch;
- (13) 1 cattle guard.

The total bids were:

| |
|---|
| (A) Harry J. Hagan, \$33,046.80. |
| (B) Olds Bros. Lumber Co. and R. S. Black, Winslow, Ariz., \$39,090.55. |
| (C) Engineer's estimate, \$35,081.95. |

The unit bids were:

| | (A) | (B) | (C) |
|-----------|----------|----------|----------|
| (1)..... | \$100.00 | \$150.00 | \$150.00 |
| (2)..... | 1.00 | 1.35 | .97 |
| (3)..... | .75 | 1.50 | 1.50 |
| (4)..... | .50 | .50 | .45 |
| (5)..... | .02 | .01 | .03 |
| (6)..... | 100.00 | 150.00 | 150.00 |
| (7)..... | 20.00 | 20.00 | 16.00 |
| (8)..... | 1.00 | 1.50 | 1.35 |
| (9)..... | 1.50 | 2.25 | 1.95 |
| (10)..... | 4.00 | 3.50 | 3.40 |
| (11)..... | 200.00 | 200.00 | 200.00 |
| (12)..... | .02 | .08 | .08 |
| (13)..... | 500.00 | 500.00 | 600.00 |

ROCK BASE COURSE—MODOC COUNTY—GOVT.

MODOC COUNTY, Cal.—Hemstreet & Bell, 11th and E Sts., Marysville, at \$109,827 submitted low bid to U. S. Bureau of Public Roads, San Francisco for 28,077 miles placing crushed rock or crushed gravel base course on Section A of Route 11, the Lava Beds National Forest Highway and on Sections A and B of Route 12, the Howard Gulch National Forest Highway, Modoc National Forest, involving:

- (1) 70 cu. yds. unclass. excav. struc.;
- (2) 28,077 miles prepare subgrade;
- (3) 54,000 tons crushed rock or crushed gravel base course;
- (4) 3,000 tons suppl. crushed rock or crushed gravel;
- (5) 2,000 M. gals. watering;
- (6) 28,077 miles rolling;
- (7) 40 lin. ft. 8-in. corr. metal pipe;
- (8) 210 lin. ft. 8-in. perf. corr. metal pipe;

(9) maintenance of existing road;
(10) 7,100 tons sd. material, shoulders
(11) 50 cu. yds. crushed rock or crushed gravel, backfill;
(12) remove existing slide.

Complete bids follow:

| |
|--|
| (A) Hemstreet and Bell, Marysville, \$109,827. |
| (B) H. G. Johnson, Portland, \$142,815. |
| (C) E. B. Bishop, Sacramento, \$156,306. |
| (D) Helm Bros., Basalt Rock Co., Petaluma, \$167,126. |
| (E) A. Telchert & Son, Sacramento, \$167,943. |
| (F) Dunn and Baker, Klamath Falls, Ore., \$174,825. |
| (G) Morrison, Kundsens Bros., Boise, Idaho, \$199,512. |

(H) Engineer's estimate, \$178,495.

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) |
|-----------|---------|---------|---------|---------|---------|---------|---------|---------|
| (1)..... | \$ 1.00 | \$ 1.00 | \$ 2.00 | \$ 1.00 | \$ 2.00 | \$ 1.50 | \$ 1.50 | \$ 2.00 |
| (2)..... | 150.00 | 100.00 | 200.00 | 290.00 | 506.00 | 150.00 | 450.00 | 250.00 |
| (3)..... | 1.50 | 2.00 | 2.15 | 2.32 | 2.12 | 2.50 | 2.65 | 2.80 |
| (4)..... | 1.50 | 2.00 | 2.15 | 2.15 | 2.12 | 2.50 | 2.60 | 2.40 |
| (5)..... | 1.50 | 3.00 | 2.50 | 2.80 | 2.50 | 2.75 | 5.00 | 4.00 |
| (6)..... | 100.00 | 100.00 | 150.00 | 144.00 | 200.00 | 100.00 | 100.00 | 150.00 |
| (7)..... | .75 | .80 | 2.00 | 1.00 | 1.00 | 1.50 | 1.50 | 1.30 |
| (8)..... | .80 | .80 | 2.00 | 1.10 | 1.00 | 2.25 | 2.00 | 1.30 |
| (9)..... | 2000.00 | 2000.00 | 2000.00 | 2000.00 | 2000.00 | 2000.00 | 2000.00 | 2000.00 |
| (10)..... | 1.40 | 1.80 | 2.00 | 2.32 | 2.12 | 2.20 | 2.60 | 1.75 |
| (11)..... | 2.00 | 3.00 | 3.00 | 2.00 | 4.00 | 3.00 | 2.50 | 3.50 |
| (12)..... | 2000.00 | 2000.00 | 2000.00 | 2000.00 | 2000.00 | 2000.00 | 2000.00 | 2000.00 |

Bids held under advisement.

GRADING—DOUGLAS-ORMSBY COS. NEV.—GOVT.

DOUGLAS and Ormsby Counties, Nevada.—Meyer Rosenberg, 1755 San Bruno Ave., San Francisco, at \$68,671 (exclusive of discount) submitted low bid to U. S. Bureau of Public Roads, San Francisco, for 3,830 miles of highway grading and structures, and portion of Section A of Route 1, the Lake Tahoe National Forest Highway, Tahoe National Forest, involving:

- (1) 114,000 cu. yds. unclass. excav.
- (2) 1,100 cu. yds. unclass. excavation structures;
- (3) 44,200 sta. yds. overhaul;
- (4) 3,820 miles finish earth graded rd.
- (5) 150 M. gals. watering;
- (6) 75 cu. yds. Class A concrete;
- (7) 30 cu. yds. Class B concrete;
- (8) 5,700 lbs. reinf. steel;
- (9) 450 cu. yds. cement rubble masonry;
- (10) 86 lin. ft. 18-in. Corru. galvanized metal pipe;
- (11) 534 lin. ft. 24-in. do;
- (12) 66 lin. ft. 30-in. do;
- (13) 250 lin. ft. 8-in. perf. corru. metal pipe;
- (14) 75 cu. yds. hand-laid rip-rap in place;

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) |
|------|---------|--------|--------|--------|--------|--------|--------|--------|
| (1) | \$.425 | \$.43 | \$.48 | \$.50 | \$.53 | \$.60 | \$.63 | \$.50 |
| (2) | 1.50 | 1.50 | 1.00 | 1.50 | 1.00 | 1.50 | 1.50 | 1.50 |
| (3) | .03 | .02 | .02 | .03 | .03 | .02 | .03 | .03 |
| (4) | 250.00 | 250.00 | 300.00 | 150.00 | 300.00 | 150.00 | 300.00 | 250.00 |
| (5) | 2.50 | 3.00 | 2.00 | 3.00 | 2.00 | 1.50 | 1.50 | 2.00 |
| (6) | 30.00 | 35.00 | 30.00 | 30.00 | 35.00 | 32.00 | 25.00 | 35.00 |
| (7) | 27.50 | 35.00 | 30.00 | 30.00 | 35.00 | 32.00 | 25.00 | 32.00 |
| (8) | .08 | .06 | .06 | .06 | .07 | .06 | .05 | .07 |
| (9) | 10.00 | 12.00 | 11.00 | 16.00 | 13.00 | 13.50 | 12.00 | 15.00 |
| (10) | 1.50 | 2.25 | 1.50 | 1.50 | 1.60 | 1.50 | 1.75 | 1.75 |
| (11) | 2.20 | 3.00 | 2.25 | 2.00 | 2.50 | 2.25 | 2.50 | 2.60 |
| (12) | 3.00 | 3.50 | 3.00 | 4.00 | 3.00 | 2.85 | 3.50 | 3.30 |
| (13) | 1.25 | 2.25 | 1.00 | 1.50 | 1.00 | 1.00 | 1.00 | 1.10 |
| (14) | 4.00 | 5.00 | 2.00 | 4.00 | 2.00 | 2.50 | 4.00 | 4.00 |
| (15) | 2.00 | 1.00 | .75 | 1.50 | 1.00 | 1.25 | 1.00 | 1.10 |
| (16) | 4.00 | 6.00 | 3.00 | 5.00 | 5.00 | 6.00 | 2.50 | 3.00 |
| (17) | .70 | .50 | .35 | .60 | .30 | .50 | .40 | .50 |
| (18) | .12 | .10 | .15 | .25 | .15 | .15 | .30 | .15 |
| (19) | 100.00 | 25.00 | 250.00 | 50.00 | 50.00 | 45.00 | 24.00 | 50.00 |
| (20) | 2.50 | 2.50 | 3.00 | 3.00 | 3.00 | 3.50 | 3.00 | 3.50 |
| (21) | 1000.00 | 250.00 | 500.00 | 500.00 | 200.00 | 200.00 | 500.00 | 250.00 |
| | *7% | | *1% | | | | | |

*Discount if awarded this project and the Washoe County Nev., Project, opened this date. All bids held under advisement.

GRADING—COCONINO COUNTY, ARIZ.—GOVT.

COCONINO COUNTY, Ariz.—W. W. Clyde, Springville, Utah, at \$105,918 submitted low bid to U. S. Bureau of Public Roads, San Francisco, for 7,807 miles of grading Section D of Route 28, the Fredonia - Houserock Valley National Forest Highway, Kaibab National Forest, involving:

- (1) 43 acres clearing;
- (2) 114,000 cu. yds. unclass. excav.;
- (3) 660 cu. yds. unclass. excavation structures;
- (4) 25,900 cu. yds. unclass. excavation borrow;
- (5) 168,000 sta. yds. overhaul;
- (6) 7,807 miles finish earth graded rd.
- (7) 420 cu. yds. cement rubble masonry;
- (8) 852 lin. ft. 18-in. 16-gauge corru. metal pipe;
- (9) 596 lin. ft. 24-in. 14-gauge do;

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) |
|-----|----------|-------|---------|---------|--------|-----------|----------|---------|----------|---------|---------|
| (A) | \$ 90.00 | \$ 65 | \$ 1.00 | \$ 3.30 | \$ 0.2 | \$ 200.00 | \$ 25.00 | \$ 1.60 | \$ 32.25 | \$ 2.50 | \$ 5.50 |
| (B) | 200.00 | .62 | 1.50 | .30 | .03 | 300.00 | 20.00 | 2.00 | 2.50 | 3.00 | 4.50 |
| (C) | 75.00 | .60 | 1.25 | .40 | .02 | 800.00 | 30.00 | 2.00 | 2.60 | 3.20 | 5.70 |
| (D) | 50.00 | .75 | 1.00 | .30 | .04 | 250.00 | 17.00 | 2.10 | 2.74 | 3.51 | 5.76 |
| (E) | 115.00 | .77 | 1.54 | .25 | .025 | 350.00 | 15.00 | 1.65 | 2.60 | 3.15 | 6.05 |
| (F) | 200.00 | .65 | 2.00 | .40 | .05 | 150.00 | 20.00 | 3.00 | 4.00 | 5.00 | 6.00 |
| (G) | 75.00 | .80 | 2.25 | .35 | .02 | 300.00 | 20.00 | 1.75 | 2.55 | 3.00 | 5.00 |
| (H) | 200.00 | .75 | 1.25 | .50 | .03 | 300.00 | 10.00 | 1.70 | 2.30 | 2.75 | 5.00 |
| (I) | 100.00 | .98 | 2.00 | .24 | .01 | 100.00 | 24.00 | 1.05 | 1.55 | 1.90 | 3.85 |
| (J) | 90.00 | .70 | 2.00 | .35 | .02 | 200.00 | 16.00 | 2.25 | 3.25 | 4.30 | 7.80 |

All bids held under advisement.

- (15) 708 lin. ft. remove and relay existing corru. metal pipe culverts;
 - (16) 50 cu. yds. crush. gravel or crush. rock, backfill;
 - (17) 2,700 cu. yds. selected material;
 - (18) 6,300 cu. yd. mi. haul selected material;
 - (19) headgate for 24-in. corru. metal pipe;
 - (20) 84 right of way monuments;
 - (21) temporary log bridge.
- Complete bids follow:
- (A) Meyer Rosenberg, San Francisco, \$68,671.
 - (B) Nevada Rock & Sand Co., Reno, \$68,987.
 - (C) Larsen Bros., Galt, \$72,288.
 - (D) Frank C. Cuffe, San Rafael, \$79,277.
 - (E) Nevada Const. Co., Fallon, \$86,580.
 - (F) Isbell Const. Co., Carson City, Nevada, \$87,725.
 - (G) C. T. Malcolm, Walnut Creek, \$91,577.
 - (H) Engineer's estimate, \$79,667.

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) |
|------|---------|--------|--------|--------|--------|--------|--------|--------|
| (1) | \$.425 | \$.43 | \$.48 | \$.50 | \$.53 | \$.60 | \$.63 | \$.50 |
| (2) | 1.50 | 1.50 | 1.00 | 1.50 | 1.00 | 1.50 | 1.50 | 1.50 |
| (3) | .03 | .02 | .02 | .03 | .03 | .02 | .03 | .03 |
| (4) | 250.00 | 250.00 | 300.00 | 150.00 | 300.00 | 150.00 | 300.00 | 250.00 |
| (5) | 2.50 | 3.00 | 2.00 | 3.00 | 2.00 | 1.50 | 1.50 | 2.00 |
| (6) | 30.00 | 35.00 | 30.00 | 30.00 | 35.00 | 32.00 | 25.00 | 35.00 |
| (7) | 27.50 | 35.00 | 30.00 | 30.00 | 35.00 | 32.00 | 25.00 | 32.00 |
| (8) | .08 | .06 | .06 | .06 | .07 | .06 | .05 | .07 |
| (9) | 10.00 | 12.00 | 11.00 | 16.00 | 13.00 | 13.50 | 12.00 | 15.00 |
| (10) | 1.50 | 2.25 | 1.50 | 1.50 | 1.60 | 1.50 | 1.75 | 1.75 |
| (11) | 2.20 | 3.00 | 2.25 | 2.00 | 2.50 | 2.25 | 2.50 | 2.60 |
| (12) | 3.00 | 3.50 | 3.00 | 4.00 | 3.00 | 2.85 | 3.50 | 3.30 |
| (13) | 1.25 | 2.25 | 1.00 | 1.50 | 1.00 | 1.00 | 1.00 | 1.10 |
| (14) | 4.00 | 5.00 | 2.00 | 4.00 | 2.00 | 2.50 | 4.00 | 4.00 |
| (15) | 2.00 | 1.00 | .75 | 1.50 | 1.00 | 1.25 | 1.00 | 1.10 |
| (16) | 4.00 | 6.00 | 3.00 | 5.00 | 5.00 | 6.00 | 2.50 | 3.00 |
| (17) | .70 | .50 | .35 | .60 | .30 | .50 | .40 | .50 |
| (18) | .12 | .10 | .15 | .25 | .15 | .15 | .30 | .15 |
| (19) | 100.00 | 25.00 | 250.00 | 50.00 | 50.00 | 45.00 | 24.00 | 50.00 |
| (20) | 2.50 | 2.50 | 3.00 | 3.00 | 3.00 | 3.50 | 3.00 | 3.50 |
| (21) | 1000.00 | 250.00 | 500.00 | 500.00 | 200.00 | 200.00 | 500.00 | 250.00 |

*Discount if awarded this project and the Washoe County Nev., Project, opened this date. All bids held under advisement.

BIDS OPENED

- SAN BERNARDINO COUNTY, Cal.—F. W. Teschke, 1500 N. Ogden Dr., Los Angeles, at \$18,400.06 submitted low bid to State Highway Commission, Sacramento, to improve 24.7 mi. of highway between the Los Angeles County Line and San Bernardino, and between San Bernardino and Anderson St. Shoulders to be treated with fuel oil, involving 11,018 bids, of heavy fuel oil. Complete bids follow:
- F. W. Teschke, Los Angeles, \$1,67; \$18,400.06.
 - Southwest Paving Co., Los Angeles, \$1,72; \$18,550.96.
 - L. A. Paving Co., Inc., Los Angeles, \$1,73; \$19,061.14.
 - Martin Brothers Truck Co., Long Beach, \$1,82; \$20,052.76.
 - P. J. Akmadvich, Los Angeles, \$1,84; \$20,273.12.
 - Miracle Co., San Diego, \$1,85; \$20,383.30.
 - Kemper Constr. Co., Los Angeles, \$1,86; \$20,493.48.
 - H. E. Cox & Sons, Pasadena, \$1,90; \$20,934.20.
 - C. W. Wood, Stockton, \$1,90; \$20,934.20.
 - Edwin G. Bower Co., Ltd., Los Angeles, \$2,00; \$22,036.00.
 - Oilfields Truck Co., Taft, \$2,75; \$30,299.50.

Bids held under advisement.

BIDS OPENED

- COLUSA, Colusa Co., Cal.—Fredrickson & Watson, 873 81st Avenue, Oakland, at \$94,899 submitted low bid to United States Engineer Office, Sacramento, to furnish all plant, labor and materials and perform all work required for the construction of two levees, with cobblestone revetment, on the easterly side of the Sacramento River, along the north and south sides of the proposed Colusa By-pass, approximately 1.5 miles north of the town of Colusa, involving:
- (1) 237,000 cu. yds. earth embankment in levees;
 - (2) 22,500 cu. yds. cobblestone revetment;
 - (3) 7500 cu. yds. gravel base for revetment.

North Levee—125,200 cu. yds. earth embankment.
3700 cu. yds. gravel base for revetment.

11,200 cu. yds. cobblestone revetment
South Levee—11,900 cu. yds. tarrh embankment.
3500 cu. yds. gravel base for revetment.

11,300 cu. yds. cobblestone revetment.

- Complete bids follow:
- (A) Fredrickson & Watson, Oakland, \$94,899.
 - (B) Delta Dredging Co., Pittsburg, \$95,364.
 - (C) C. W. Wood, Stockton, \$96,702.
 - (D) Larsen Bros., Galt, \$107,722.
 - (E) Geo. Pollock, Sacramento, \$111,315.
 - (F) Olympian Dredging Co., S. F., \$122,154.
 - (G) Ray Sweitzer, Los Angeles, \$139,960.
 - (H) Engineer's estimate, \$103,476.

Unit bids follow:

| | (1) | (2) | (3) |
|-----|--------|-------|--------|
| (A) | \$.095 | \$.65 | \$3.00 |
| (B) | .097 | .80 | 2.95 |
| (C) | .12 | .40 | 2.90 |
| (D) | .07 | .75 | 3.80 |
| (E) | .15 | .90 | 3.10 |
| (F) | .1198 | 1.55 | 3.65 |
| (G) | .10 | 2.00 | 4.50 |
| (H) | .06 | .50 | 3.80 |

Bids held under advisement.

REINFORCED CONCRETE WEIR—COLUSA COUNTY—FEDERAL PROJECT

COLUSA, Colusa Co., Calif.—Fredrickson & Watson, 373 51st Avenue, Oakland, at \$160,573 submitted low bid for concrete structure, including labor and materials, and performing all work required for the construction of a reinforced concrete weir structure and reinforced concrete deck girder type viaduct; for sloping of the river bank and removing an adjacent levee, and placing the material excavated therefrom in side training dikes; and placing rock revetment on slopes and training dikes; all of which work will be located about 1.5 mi. from the town of Colusa, and on the easterly side of the Sacramento River.

Weir Structure will consist of: (a) a reinforced concrete apron 1650 ft. long, 20 ft. wide and 1 ft. thick.

- (b) two reinforced concrete abutments of the slab slope type, each 44 ft. long, 20 ft. wide and 1 ft. thick.
- (c) an interlocking steel sheet piling wall, about 1734 ft. long by 10 ft. deep.
- (d) an open wooden sheet piling wall about 1734 ft. long by 6 ft. deep.
- (e) cobblestone revetments, with gravel base, at both upstream and downstream sides of the weir, about 1734 ft. long, 20 ft. wide and averaging 175 ft. thick upstream and 2.5 ft. thick downstream, with 40 ft. width in the abutments both upstream and downstream.

Contract involves:

- (1) site; cu. yds. excav. at the weir of Sacramento River;
- (2) 110,000 cu. yds. excav. along bank of Sacramento River;
- (3) 6 timber test piles;
- (4) 6900 lin. ft. 16-in. square reinf.

- conc. piles (150 piles, approx. 33 ft. long);
- (A) Fredrickson & Watson, Oakland, \$160,573.00
- (B) Lord & Bishop and J. R. Reeves, Sacramento, \$105,464.80
- (C) Neves & Harp, Santa Clara, \$172,646.00
- (D) Ward Eng. Co., San Francisco, \$190,079.00
- (E) J. M. Abbotts Co., San Francisco \$192,594.00
- (F) Olympan Dredging Co. San Francisco, \$196,433.00
- (G) Utah Const. Co., San Francisco, \$196,753.00
- (H) Rocca & Caletti, San Francisco, \$197,089.00
- (I) M. E. McGowan, San Francisco, \$198,167.00
- (J) Rossington Roberts Co., Los Angeles, \$198,167.00
- (K) Slings-Helmers, Inc., San Francisco, \$248,961.00
- (L) Raymond Concrete Pile Co., San Francisco, \$248,961.00

- Complete bids follow:
- (A) Fredrickson & Watson, Oakland, \$160,573.00
- (B) Lord & Bishop and J. R. Reeves, Sacramento, \$105,464.80
- (C) Neves & Harp, Santa Clara, \$172,646.00
- (D) Ward Eng. Co., San Francisco, \$190,079.00
- (E) J. M. Abbotts Co., San Francisco \$192,594.00
- (F) Olympan Dredging Co. San Francisco, \$196,433.00
- (G) Utah Const. Co., San Francisco, \$196,753.00
- (H) Rocca & Caletti, San Francisco, \$197,089.00
- (I) M. E. McGowan, San Francisco, \$198,167.00
- (J) Rossington Roberts Co., Los Angeles, \$198,167.00
- (K) Slings-Helmers, Inc., San Francisco, \$248,961.00
- (L) Raymond Concrete Pile Co., San Francisco, \$248,961.00

- Francisco, \$188,323.00.
- (M) Porter Bros., San Francisco, \$189,339.00.
- (N) Bodenhamer Const. Co., Oakland, \$189,905.00.
- (O) Ward Eng. Co., San Francisco, \$190,079.00.
- (P) J. M. Abbotts Co., San Francisco \$192,594.00
- (Q) Olympan Dredging Co. San Francisco, \$196,433.00.
- (R) Utah Const. Co., San Francisco, \$196,753.00.
- (S) Rocca & Caletti, San Francisco, \$197,089.00.
- (T) M. E. McGowan, San Francisco, \$198,167.00
- (U) Rossington Roberts Co., Los Angeles, \$198,167.00
- (V) Slings-Helmers, Inc., San Francisco, \$248,961.00
- (W) Engineer's estimate, \$185,408.00.

Unit bids follow:

| (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) |
|-------|--------|-------|--------|-------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| .13 | .19 | .18 | .17 | .18 | .25 | .23 | .23 | .23 | .23 | .23 | .23 | .23 | .23 | .23 | .23 | .23 | .23 | .23 | .23 | .23 | .23 |
| 58.88 | 300.00 | 31.00 | 60.18 | 21.00 | 256.00 | 25.00 | 1.80 | 2.25 | 2.25 | 2.25 | 2.25 | 2.25 | 2.25 | 2.25 | 2.25 | 2.25 | 2.25 | 2.25 | 2.25 | 2.25 | 2.25 |
| 2.00 | 2.50 | 2.00 | 2.25 | 2.00 | 2.00 | 1.80 | 2.30 | 1.75 | 1.75 | 1.75 | 1.75 | 1.75 | 1.75 | 1.75 | 1.75 | 1.75 | 1.75 | 1.75 | 1.75 | 1.75 | 1.75 |
| .70 | .75 | .75 | .72 | .75 | 1.00 | 1.00 | .70 | .30 | .30 | .30 | .30 | .30 | .30 | .30 | .30 | .30 | .30 | .30 | .30 | .30 | .30 |
| .20 | .25 | .15 | .215 | .30 | .25 | .24 | .20 | .17 | .25 | .22 | .22 | .22 | .22 | .22 | .22 | .22 | .22 | .22 | .22 | .22 | .22 |
| 8.50 | 9.00 | 10.00 | 8.81 | 9.50 | 9.00 | 8.81 | 7.50 | 9.20 | 11.50 | 9.20 | 11.50 | 9.00 | 8.50 | 10.00 | 9.00 | 9.75 | 7.50 | 11.32 | 8.25 | 11.26 | 11.26 |
| 13.00 | 13.95 | 13.00 | 15.00 | 14.75 | 17.00 | 3.77 | 16.00 | 14.35 | 11.80 | 15.20 | 20.20 | 14.50 | 16.50 | 22.50 | 18.50 | 16.50 | 14.50 | 18.00 | 15.00 | 18.25 | 19.00 |
| .038 | .038 | .036 | .03225 | .0425 | .05 | .0377 | .037 | .0376 | .034 | .04 | .042 | .04 | .04 | .04 | .04 | .04 | .04 | .04 | .04 | .04 | .04 |
| .035 | .045 | .038 | .06 | .05 | .04 | .042 | .05 | .05 | .05 | .05 | .05 | .05 | .05 | .05 | .05 | .05 | .05 | .05 | .05 | .05 | .05 |
| .085 | .115 | .10 | .15 | .15 | .122 | .09 | .04 | .11 | .06 | .13 | .10 | .095 | .22 | .22 | .22 | .22 | .22 | .22 | .22 | .22 | .22 |
| .50 | .80 | .95 | 1.17 | .26 | .26 | .10 | .30 | .26 | .324 | .27 | .20 | .22 | .25 | .25 | .25 | .25 | .25 | .25 | .25 | .25 | .25 |
| 3.80 | 2.90 | 3.95 | 4.15 | 3.50 | 3.00 | 4.00 | 3.30 | 4.20 | 4.00 | 3.15 | 1.00 | .50 | 1.40 | 1.25 | 3.00 | 2.00 | 1.25 | 3.00 | 2.40 | 3.80 | 1.10 |
| .35 | .35 | .10 | .40 | .50 | .30 | .46 | .35 | .33 | .17 | .33 | .33 | .33 | .33 | .33 | .33 | .33 | .33 | .33 | .33 | .33 | .33 |

BIDS OPENED

CALAVERAS COUNTY, Calif.—Harms Bros., Galt, at \$8,497 submitted low bid to U. S. Bureau of Public Roads, for 3,085 miles of reconstructing Section B of Route 35, the Ebetts Pass National Forest Highway, Stanislaus National Forest, involving:

- (1) 5,000 sq. yds. salvage and replace existing surface;
- (2) 1,000 cu. yds. watering for embank.
- (3) 3,700 cu. yds. unclass. excav.
- (4) 22 tons bit. binder;
- (5) 3,085 miles remix existing surf.

Complete bids follow:

- (A) Harms Bros., Galt.....\$8,497
- (B) L. G. Klpp, Sacramento.....9,465
- (C) Engineer's estimate.....9,181

Unit bids follow:

| (1) | (2) | (3) | (4) | (5) |
|--------|--------|--------|--------|--------|
| \$.20 | \$.60 | \$.60 | \$.60 | \$.60 |
| 3.00 | 2.00 | 1.75 | 1.75 | 1.75 |
| .65 | .50 | .65 | .65 | .65 |
| 25.00 | 30.00 | 22.00 | 22.00 | 22.00 |
| 500.00 | 500.00 | 500.00 | 500.00 | 500.00 |

Bids held under advisement.

BIDS OPENED

MARIN COUNTY, Calif.—Hutchenison Co., 1450 Harrison St., Oakland, at \$16,637.75 submitted low bid to State Highway Commission, Sacramento, to surf, with bituminous treated crushed gravel or stone about 3.1 miles bet. Alto and Belvedere Crossing, involving:

- (1) 33,000 sq. yds. asph. paint binder;
- (2) 6,000 tons crushed gravel or stone (bit. treated surface);
- (3) 345 tons cutback asphalt (surface and seal coat);
- (4) 335 tons screenings (seal coat).

Complete bids follow:

- (A) Hutchenison Co., Oakland, \$16,637.75
- (B) C. W. Wood, Stockton, \$16,962.00
- (C) Pacific States Const. Co., San Francisco, \$17,970.50
- (D) Helwig Const. Co., Sebastopol, \$18,377.25
- (E) A. J. Raisch, San Jose, \$18,398.85
- (F) Peninsula Paving Co., San Francisco, \$19,322.50
- (G) Highway Builders, Ltd., San Anselmo, \$19,466.25
- (H) Heafey-Moore Co., Oakland, \$19,639.75
- (I) W. H. Larsen, Berkeley, \$21,550.00

Unit bids follow:

| (1) | (2) | (3) | (4) |
|-------|--------|---------|--------|
| \$.01 | \$2.05 | \$ 9.80 | \$2.05 |
| .068 | 2.05 | 11.00 | 1.30 |
| .025 | 2.12 | 10.40 | 2.50 |
| .05 | 2.20 | 10.50 | 2.15 |
| .02 | 2.31 | 9.00 | 2.21 |
| .03 | 2.20 | 11.00 | 2.50 |
| .01 | 2.46 | 10.50 | 2.25 |
| .02 | 2.40 | 10.75 | 2.20 |
| .02 | 2.80 | 10.00 | 2.00 |

BIDS WANTED

LAS VEGAS, Nev.—Until Spec. No. 537, bids will be received by Elwood Mead, Commissioner, U. S. Bureau of Reclamation, Denver, Colo., to furnish, install and paint one electrically-operated cableway, capacity 150 tons, span approximately 1,200 ft., at Hoover Dam, Boulder Canyon Project. To be operated and controlled by direct-current electrical apparatus. Vertical distance between highest and lowest landings, 590 ft. Five control stations are required; one for the chief operator at the tower, and four at landing platforms in the canyon. Hoisting equipment will provide for two-speed operation, with a raising and lowering speed of approximately 120 ft. per minute for loads up to 50 tons, and 30 ft. per minute for raising loads from 40 to 150 tons or lowering loads from 50 to 150 tons. Government will construct all concrete anchors, hoisting machinery, foundations, hoist house and tower footings. Specifications obtainable from U. S. Bureau of Reclamation, Denver, or Washington, D. C. on payment of \$1; no charge to prospective bidders. Proposal guarantee, 10%.

ENGINEERING NEWS

BRIDGES

PETALUMA, Sonoma Co., Calif.—Leibert & Trobeck, Rialto Bldg., San Francisco, at \$77,750 awarded contract by city council to construct bascule bridge in D Street over the Petaluma River, which will consist of one 80-ft. single-leaf bascule span and a 40-ft. concrete approach on concrete piers. The construction will require 110 tons of structural steel, 1300 cu. yds. concrete, asphalt pavement and electrical equipment (the latter estimated to cost \$7500). A complete list of the unit and total bids on this project was published in issue of August 9.

August 25, 1932

EMERGENCY CONTRACT AWARD

UKIAH, Mendocino Co., Cal.—Under emergency proceedings, Mercer-Fraser Co., 2nd and Commercial Sts., Eureka, at approximately \$50,000 were awarded contract by county supervisors to construct new steel truss bridge over the Eel river at Dos Rios, replacing the structure which recently collapsed. Funds to finance this work were provided by rearranging the road budgets. Each of the four districts donated \$10,000 and the fifth district \$4,000. Other funds, if needed, will be provided from the Third district funds. Ed. Smith is county surveyor.

KERN COUNTY, Calif.—Until Sept. 14, 2 P. M., bids will be received by State Highway Commission, Sacramento, to construct a bridge across Kern River near Bakersfield, consisting steel stringer spans with concrete deck on concrete pile bents and concrete piers with timber pile foundations and timber trestle spans with concrete deck on timber pile bents, involving:

- (1) 3,300 cu. yds. struc. excav.
- (2) 36,000 lin. ft. furnish redwood piles, including test piles;
- (3) 1,165 drive redwood piles, including test piles;
- (4) 2,585 lin. ft. reinf. conc. piles, including test piles;
- (5) 930 cu. yds. Class A Portland cement concrete (footing blocks)
- (6) 3,715 cu. yds. Class A Port. cem. concrete (struc.);
- (7) 697 cu. yds. Class A Port. cem. concrete (pavement);
- (8) 278 cu. yds. sand fill;
- (9) 509,000 lbs. bar reinf. steel;
- (10) 1,855,000 lbs. struc. steel (deck);
- (11) 123,500 lbs. struc. steel (railing);
- (12) 6,950 lbs. cast steel;
- (13) 96,500 lbs. cast iron;
- (14) 372 M. ft. b.m. redwood timber, dense select all-heart struc. grade;
- (15) 189 M. ft. b.m. redwood timber, select all-heart struc. grade;
- (16) 1 lot lighting equipment;
- (17) 6,830 lin. ft. traffic stripe;
- (18) 1 lot misc. items of work.

OREGON STATE.—Application will be filed with the Reconstruction Finance Corporation by the Oregon State Highway Commission for a loan of \$2,000,000 to finance construction of four bridges on the Oregon Coast Highway. The estimated costs of the four bridges are: Newport, \$700,000; Redport, \$600,000; Waldport, \$350,000, and Florence, \$350,000.

LOS ANGELES, Calif.—Contractors and others who have procured plans for bridge to be constructed on Del

Amo Ave. over Los Angeles River, for which bids will be received by County Supervisors Sept. 19, at 2 P. M. (previously noted, are:

Sharp and Fellows Contracting Co., Central Bldg., Los Angeles.

Minneapolis - Moline Power Implement Co., 4340 District Blvd., Los Angeles.

Patten-Blinn Lumber Co., 521 East 5th St., Los Angeles.

Modern Iron Works, 4850 Pacific Blvd., Vernon.

Mittry Bros. Construction Co., 5531 Downey Road, Los Angeles.

R. R. Bishop, 5017 East Broadway, Long Beach.

Fred F. Greenfield, 7310 Figueroa St., Los Angeles.

John Strona, Pomona.
Schuck Const. Co., 1937 W 62nd St., Los Angeles.

UKIAH, Mendocino Co., Cal.—Until September 13, 2 P. M., bids will be received by H. M. Burke, county clerk to construct bridge and two wings to same over Mill Creek in Round Valley, 1½-mile north of Covelo, involving:

- (1) 968 lin. ft. piling
- (2) 26,628 ft. B.M. lumber

Bids will be received to furnish the above materials, also, under item 3, bids will be considered to furnish labor only to construct the bridge, the county to furnish all materials.

Certified check 10% required with bid. Plans on file in office of clerk.

TULARE COUNTY, Cal.—Western Iron Works, 141 Beale St., San Francisco, awarded contract by National Park Service, San Francisco, at \$120 for materials only for a steel suspension bridge to be built in Hamilton Gorge, Sequoia National Park.

LOS ANGELES COUNTY, Cal.—Until Sept. 7, 2 P. M., bids will be received by State Highway Commission, Sacramento, to construct four deck plate girder bridges across Piru Creek at points between 13¾ and 15 miles north of Castale: the first consisting of three 80-ft. spans and two 50-ft. spans, the second consisting of three 80-ft. spans and one 50-ft. span, the third consisting of three 80-ft. spans and two 60-ft. spans, and the fourth consisting of two 80-ft. spans and two 60-ft. spans, involving:

- (1) 7,300 cu. yds. struc. excavation;
- (2) 1,432 cu. yds. Class A cem. conc. (footing blocks);
- (3) 3,655 cu. yds. Class A cem. conc. (struc.);
- (4) 60 cu. yds. Class A cem. concrete (slope paving);
- (5) 360,000 lbs. bar reinf. steel;
- (6) 1,520,000 lbs. structural steel;
- (7) 30,660 lbs. cast steel;
- (8) 2,735 lin. ft. solid timber railing;
- (9) 280 lin. ft. 8-in. corr. metal pipe
- (10) 1 lot miscellaneous items of work.

State will furnish corrugated metal pipe and spillway assemblies.

STOCKTON, San Joaquin Co., Cal.—U. S. War Department has approved plans and specifications for belt-line rail road bridge across the San Joaquin River to Rough and Ready Island. The bridge will be jointly built by the Southern Pacific, Western Pacific and Santa Fe Railroads. It will be located about 300 feet from the present Borden Highway bridge. The structure will be of the through truss swing type with a passage of 100 feet

between aprons. When closed the bridge will be three feet above high water. The city will lease the bridge at 5 per cent of the cost per year, with an option to buy at cost within ten years.

Superstructure Bids Wanted—Bids Close Sept. 6, 2 P. M.

BUILDINGS Cost, \$—
ALAMEDA, Alameda Co., Cal. Government Island.

Nature of Work: erect superstructures of Units 14, 15, 16 and 17 and install part of unit 24 Heating System at Government Island. Structures follow:

One-story concrete and hollow tile shop (120x75-ft.);

Two-story concrete and hollow tile storage depot (100x125-ft.);

One-story concrete and hollow tile forest service garage (175x125-ft.);

One-story concrete and hollow tile coast guard garage (64x27-ft.);

One-story concrete and hollow tile pump house (11x18-ft.);

Concrete and pile tank foundations

Owner—United States Government, Engineer—Plans by Bureau of Public Roads, 161 Market St., San Francisco.

Bids are being received for all work exclusive of piling and other foundation work, separate bids on this portion of the project to be opened Aug. 25, 2 P. M. A list of the prospective bidders for the foundation work was published in issue of August 12.

Bids are to be opened by the U. S. Bureau of Public Roads, 461 Market St., San Francisco.

SAN JOSE, Santa Clara Co., Cal.—Carl N. Swenson, 355 Stockton Ave., San Jose, at \$13,200 awarded contract by City Council to construct a reinforced concrete bridge on Hamline St. over the Guadalupe River, involving:

- (1) 450 cu. yds. excavation;
- (2) 433 cu. yds. concrete;
- (3) 42½ tons steel;
- (4) 40 concrete piles, 16 ft.;
- (5) 38 concrete piles, 20 ft.;
- (6) 212 lin. ft. concrete handrail;
- (7) 47 lin. ft. galv. pipe handrail;
- (8) 3765 sq. ft. 1½-in. asph. concrete surface;
- (9) 160 cu. yds. fill at sides of existing roadway;
- (10) 2000 sq. ft. oil macadam pave;
- (11) 400 cu. yds. excav. on widening of channel.

NOTE: Steel and concrete estimate exclusive of piles and handrails. Estimated cost, \$16,000.

Complete bids follow:

Carl N. Swenson, San Jose.....\$13,200.00
Thos. J. Doyle, San Jose..... 13,489.00
Pacific Truck Service Co., San

| | |
|-----------------------------------|-----------|
| Jose | 14,190.95 |
| L. C. Seidel, Oakland | 14,283.00 |
| J. F. Shepherd, Stockton..... | 14,326.00 |
| Neves & Hart, Santa Clara..... | 14,787.60 |
| John D. Carlson, San Jose..... | 14,798.00 |
| Collins & Martin, San Jose..... | 15,089.00 |
| A. J. Raitsch, San Jose..... | 15,680.00 |
| Thermotite Constr. Co., S. J..... | 15,691.00 |
| R. O. Summers, San Jose..... | 17,147.00 |
| City Constr. Co., Oakland..... | 21,500.00 |

RICHMOND, Contra Costa Co., Cal.—Richmond-San Rafael Ferry Co., 1 Drumm St., San Francisco, will seek loan from Reconstruction Finance Corporation to finance construction of the proposed Richmond - San Rafael toll bridge. The cost of construction is estimated at \$10,000,000.

LOS ANGELES, Cal.—Until 2 P. M., Sept. 19, bids will be received by the County Supervisors to construct timber and steel bridge on Del Amo Ave. over the Los Angeles River near North Long Beach west of the Virginia Country Club. The proposed bridge will consist of eleven 60 ft. Howe truss spans with a 30-foot roadway, the paving of which is not included in the present contract. Bids will be taken on Douglas fir crossoted and on untreated redwood. Estimated cost, \$60,000. W. D. Armstrong, County Bridge Engineer.

DREDGING, HARBOR WORKS & EXCAVATIONS

MENDOCINO COUNTY, Cal.—Until Sept. 7, 3 P. M., bids will be received by U. S. Engineer Office, Custom House, San Francisco, for dredging at the mouth of Noyo River, California, involving \$320 cu. yds. of dredging. Specifications obtainable from above office.

LOS ANGELES, Cal.—Until 3 P. M. Sept. 6, bids will be received by U. S. Engineer Office, 751 S. Figueroa St., Los Angeles, for dredging in Los Angeles Harbor, involving 106,000 cu. yds. material to be removed. Specifications obtainable from W. H. Langhain, Major, Corps of Engineers, District Engineer, at above address.

SACRAMENTO, Cal.—T. S. Atkins, Berkeley, at \$7019 awarded contract by U. S. Engineer Office, to construct a levee, approximately 3 3/4 miles long, on the north bank of the American River, just south of the town of North Sacramento, involving the moving of 550,000 cu. yds. of material.

STOCKTON, San Joaquin Co., Cal.—Puget Sound Bridge & Dredging Co., 2929 16th S. W., Seattle, at \$0624 for (2) and \$0674 for (3) submitted low bids to U. S. Engineer Office, California Fruit Building, Sacramento, for dredging approximately 1,243,000 cu. yds. of material from the San Joaquin River 26 ft. channel prism.

Bids received on the following propositions:

- (1) 171,000 cu. yds. dredging in San Joaquin River (parts A and B awarded together);
- (2) 1,072,000 cu. yds. dredging in San Joaquin river and across Venice and Mandeville islands Part (C) awarded separately;
- (3) 1,243,000 cu. yds. dredging in the San Joaquin River and across Venice and Mandeville islands. Parts (A) (B) and (C) awarded together.

Complete bids follow:

- Puget Sound Bridge & Dredging Co. (1) (2) \$0624; (3) \$0674.
 - Hydraulic Dredging Co., (1) \$167; (2) \$0810; (3) \$092.
 - American Dredging Co., (1) (2) \$0822; (3)
 - San Francisco Bridge Co., (1) \$16; (2) \$0825; (3) \$0931.
- Bids held under advisement.

PORTLAND, Ore.—Parker - Schram Co., Couch Bldg., Portland, at \$147,286 awarded contract by U. S. Engineer Office, Portland, to construct 2 dikes in Columbia river, 110 miles below Portland.

LAS VEGAS, Nev.—Clark County Commissioners apply to Reconstruction Finance Corporation for \$350,000 to finance a flood control project in the Virgin Valley, a similar project in Moapa Valley and construction of lateral sewers in Las Vegas city.

LOS ANGELES, Cal.—Major W. H. Lanagan, U. S. District Engineer, 751 S. Figueroa St., announces bids for construction of a 12,500 ft. extension to Los Angeles Harbor Breakwater will be called in September or October. The project is estimated to cost \$7,000,000. An appropriation of \$1,000,000 has been made for initial work on the breakwater. Laying of a clay base for the rock fill has been underway some time. This project will require five years to complete.

SUISUN, Solano Co., Cal.—Until Sept. 8, 3 P. M., (previously reported Sept. 9) bids will be received by United States Engineer Office, Custom House, San Francisco, for dredging in the Suisun Slough near Suisun, involving 150,000 cu. yds. dredging. Specifications obtainable from above office.

COLUSA, Colusa Co., Calif.—Fredrickson & Watson, 873 81st Avenue, Oakland, at \$160,573 awarded contract by United States Engineer Office for furnishing all plant, labor and materials, and performing all work required for the construction of a reinforced concrete weir structure and reinforced concrete deck girder type viaduct; for sloping of the river bank and removing an adjacent levee, and placing the material excavated therefrom in side training dykes; and placing rock revetment on slopes and training dykes; all of which work will be located about 1.5 miles northerly from town of Colusa, and on the easterly side of the Sacramento River.

SACRAMENTO, Calif.—L. G. Kipp, 2516 7th Ave., Sacramento, at \$08 per cu. yd., submitted low bid to U. S. Engineer Office, California Fruit Bldg., Sacramento, for furnishing all plant, labor and materials and performing all work for raising the existing levee along the easterly side of Yolo By-Pass in Reclamation District No. 327, about 2.9 miles south of Elkhorn Station on the Sacramento-Woodland Ry., involving 227,000 cu. yds. material to be removed.

- Complete bids follow:
- L. G. Kipp, Sacramento.....\$08
 - Olympian Dredging Co., S. F.....1298
 - J. B. Reeves, Sacramento.....1939
 - Ray Sweitzer, Los Angeles.....218
 - Engineer's estimate.....139
- Bids held under advisement.

SAN DIEGO, Cal.—Until 11 A. M., Sept. 6, bids will be received by the Public Works Officer, 11th Naval District, San Diego, for repairs to fender system, Station Pier, at the Naval Operating Base (Fuel Depot), San Diego, Spec. No. 6968. The work consists in general of (a) the removal of seven existing damaged piles from present pile dolphins "C" and "H"; (b) the provision and installation of new crossoted piles to take place of the dolphin piles removed; (c) the removal of 19 existing damaged fender piles of main pier; (d) the provision and installation of 19 new crossoted fender piles to replace the ones removed; (e) the provision and installation of 20 new crossoted fender piles along south face of approach; (f) new wire rope dolphin wrappings, new spring castings, bolts, straps, etc., as required for making repairs; and (g) alterations and repairs to existing steel chafing strips on fender and dolphin piles. Plans obtainable from Public Works Office, Headquarters, San Diego, on deposit of a check or postal money order for \$10 payable to Chief of the Bureau of Yards and Docks.

VALLEJO, Solano Co., Cal.—Healy-Tibbitts Co., 64 Pine St., San Francisco, at \$2915 awarded contract by city council for repiling and capoling a portion of the Municipal Wharf at foot of Virginia Street, involving: (1) 5000 ft. crossoted piles; (2) 300 lbs. bolts.

IRRIGATION PROJECTS

COLUSA, Colusa Co., Calif.—Fredrickson and Watson, 873 81st Avenue, Oakland, at \$94,899 recommended for award by U. S. Engineer Office, Sacramento, to furnish all plant, labor, and materials and perform all work required for the construction of two levees, with cobblestone revetment, on the easterly side of the Sacramento River, along the north and the south sides of the proposed Colusa By-pass, approximately 1.5 miles north of the town of Colusa.

MACHINERY AND EQUIPMENT

SACRAMENTO, Cal.—Kratz & McClelland, Inc., 522 Bryant Street, San Francisco, at \$1564.26 submitted low bid to U. S. Engineer Office, Sacramento, to furnish one new gasoline engine-driven 2-drum stationary hoist complete with all auxiliaries and accessories, including the engine for installation on an anchor barge, to be used for handling dredge pipes, pulling barges, operating two bilge pumps and for other purposes.

Edward R. Bacon, San Francisco, at \$1758.50 submitted only other bid. Bids held under advisement.

OAKLAND, Cal.—Allis-Chalmers Mfg. Co., 2553 Peralta Ave., Oakland, at \$457.75 awarded contract by city council to furnish one track type tractor, 35 HP.

MODESTO, Stanislaus Co., Cal. City Council has adopted Ordinance 422-N.S. appropriating \$2,200 from the General Fund for the purchase of two motor trucks and \$650 for the purchase of one Bitumulus Patcher for the Public Works Department. H. E. Gregg is city clerk and Frank Rossi, city engineer.

STOCKTON, San Joaquin Co., Cal.—Until September 6, 3 P. M., bids will be received by B. L. Trahern, city clerk, to furnish:

- (a) Locomotive Crane;
- (b) Four Lift Trucks.

The above equipment to be used in connection with the Stockton Deep Water Project. Previous bids received for this equipment were rejected. Plans on file in office of city clerk. L. B. C. Allin is city port director.

LOS ANGELES, Calif.—Until 11 A. M., Sept. 6 (time extended from Aug. 23) bids will be received by the City Purchasing Agent, Thomas Oughton, 107 City Hall, for furnishing steam boiler equipment, Spec. No. 2826, as follows:

- (1) Furnishing and erecting on purchaser's site at Wilmington, the first of two steam generating units and appurtenances of 1400 lbs. per sq. in. maximum pressure, 1250 lbs. normal working pressure. Alternative bids will be taken on equipment of 480 lbs. maximum pressure, 450 lbs. working pressure.
- (2) Furnishing and erecting the second of two steam generating units, etc.

Specifications No. 2826 may be obtained from the office of Thos. Oughton, Purchasing Agent, 107 City Hall.

LOS ANGELES, Cal.—Until 11 A. M., Sept. 6 (time extended from Aug. 23), bids will be received by City Purchasing Agent, Thomas Oughton, 107 City Hall, for furnishing steam turbine electric generator unit f. o. b. cars (bidder to designate point), in accordance with Specifications No. 2837 which may be obtained at the office of the Purchasing Agent, 107 City Hall. Equipment is to be substantially of the following specifications: 1,250 K.V.A.; 65,000 K.W.; power factor, 0.80; voltage, 13,800; phases, 3-Y conductor; 50 cycles.

VERNON, Los Angeles Co., Cal.—Cuniff Engineering Co., Meridian, Conn., awarded contract by city council Aug. 22 at \$4274 to furnish oil filters to be installed in the power plant now under construction. The bid was: 10 engine lubricating oil filters, \$3400; 5 fine engine oil filters, \$275; and one receiving medium fine fuel oil filter motor operated, \$569.

LOS ANGELES, Cal.—Specifications for two steam generating units to be installed in power house at General Hospital, 1100 Mission Rd., have been completed by County Mechanical Department. The specifications provide for the furnishing and installing of two 500-hp. water-tube boilers designed for battery setting, including the burners, breeching, stack, piping, foundations and all appurtenances, including the removal of two 250-hp. Stirling boilers.

RAILROADS

SUNNYVALE, Santa Clara Co., Cal.—Hutchinson Co., 1450 Harrison St., Oakland, at \$11,215.11, bidding on re-lay rails, awarded contract by Bureau of Yards and Docks, Navy Department, under Spec. No. 6935, to construct spur tracks at the Naval Air Station, Sunnyvale.

SUNNYVALE, Santa Clara Co., Cal.—As previously reported, Hutchinson Co., 1450 Harrison St., Oakland, at \$11,215.11 awarded contract by Bureau of Yards and Docks, Navy Department, under Spec. No. 6935 to construct spur tracks at the Naval Air Station, Sunnyvale. Following is a complete list of the bids:

| | |
|---|--------------|
| (a) new rail; (b) relayers, deduct. | |
| Hutchinson Co., Oakland..... | (a) \$14,347 |
| | (b) 3,132 |
| Schuler & McDonald, Oakland | (a) \$15,973 |
| | (b) 3,202 |
| Shanahan Bros. & Warden & Forsythe, San Leandro | (a) \$16,750 |
| | (b) 3,636 |
| United Commercial Co., S. F. | (a) \$16,750 |
| | (b) 4,775 |
| Siems-Helmets, Inc., S. F..... | (a) \$17,375 |
| | (b) 4,000 |
| M. B. McGowan, S. F..... | (a) \$19,569 |
| | (b) 1,531 |
| E. J. Treacy, S. F..... | (a) \$25,735 |
| | (b) 3,500 |

RESERVOIRS AND DAMS

KLAMATH FALLS, Ore.—E. A. Thomas, city engineer, has completed specifications and construction will be started at once by day labor on a 1,300,000-gal. reservoir and dirt filled dam in Mocre Park. Hand labor will be used throughout.

LOS ANGELES, Cal.—September 6, 2 P. M., has been officially set by the County Supervisors for opening bids to

construct San Gabriel Dam No. 1, rock fill type, in San Gabriel Canyon, 2.4 miles downstream from the Forks and 8.6 miles from Azusa.

The specifications have been amended to permit a bid on the work complete, either on Proposal No. 1 (Gunite) or Proposal No. 2 (concrete), and/or six segregated contracts as shown below.

A certified check or cashier's check for \$300,000 will be required with each bid on the job complete. Bids on the segregated contracts must be accompanied by checks for amounts as follows:

| | |
|--------------------------------|------------|
| Alternate Prop. No. 3, | \$30,000. |
| " No. 4, | \$10,000. |
| " " No. 5, | \$221,000. |
| " " No. 6 and No. 6A together, | \$30,000. |
| " " No. 7, | \$4500. |
| " " No. 8, | \$4500. |

The railroad companies have established special rates provisional on the district paying directly to them the freight charges between Azusa Station and the following points of origin:

- Beckleyville.
- Ormond.
- Corona.

For all classes of rock.
For the first 1,300,000 tons — 60c per ton.

For the succeeding 3,000,000 tons—45c per ton.

For the remainder (regardless of quantity)—40c per ton.

Plans may be obtained from the office of E. E. Eaton, county flood control engineer, 202 N. Broadway, upon payment of \$4 each copy.

The proposed dam will be 295 ft. in height above streambed, 1670 ft. in length measured along the road on the crest, and 900 ft. thick at the base (streambed).

The bid of Constructors, Inc., at \$11,270,043.55 (Proposal No. 1, using Gunite, and at \$11,215,868.55 (Proposal No. 2, using poured face, was rejected by the board of supervisors Aug. 8, as too high. The engineer's estimates were (1) \$9,734,330 and (2) \$9,691,040.

The complete bid and engineer's estimate appeared in issue of August 1.

The complete list of amended quantities as called for in the eight segregated contracts are:

PROPOSAL NO. 1

- (1) 400,000 cu. yds. class A excavation on west abutment above elevation 1190;
- (2) 125,000 cu. yds. class B excavation on east abutment above elevation 1190;
- (3) 659,000 cu. yds. class C excavation, streambed below elevation 1190 in vicinity of cut-off;
- (4) 633,000 cu. yds. class D excavation, streambed below elevation 1190 downstream from cut-off;

- (5) 15,000 cu. yds. class E excavation, cut-off trenches;
- (6) 24,000 cu. yds. class F excavation, miscellaneous open cut;
- (7) 1750 cu. yds. class G excavation, inclined outlet shaft;
- (8) 62,700 cu. yds. class H excavation, main outlet tunnel;
- (9) 735 cu. yds. class J excavation, spillway pilot tunnel;
- (10) 55,000 cu. yds. backfill;
- (11) 4,100,000 cu. yds. class A rockfill in body of dam;
- (12) 643,000 cu. yds. class B rockfill below streambed downstream from cut-off;
- (13) 470,000 cu. yds. class C rockfill, large rock on downstream face;
- (14) 349,000 cu. yds. class D rockfill, packed on upstream face;
- (15) 19,100 cu. yds. class A concrete, main cut-off wall;
- (16) 725 cu. yds. class B reinf. conc.;
- (17) 3300 cu. yds. class C concrete, trash racks and tunnel outlet;
- (18) 400 cu. yds. class D concrete, lining in outlet shaft;
- (19) 12,300 cu. yds. class E concrete, lining in outlet tunnel;
- (20) 35,500 cu. yds. class F concrete, plain concrete;
- (21) 325 cu. yds. class G concrete, tunnel plug;
- (22) 6609 cu. yds. class H concrete, floater slabs;
- (23) 2,167,000 sq. ft. placing 6-in. Gunite facing slabs;
- (24) 4500 lin. ft. drilling grout holes, Class A, less than 10 ft.;
- (25) 11,300 lin. ft. drilling grout holes, class B, greater than 10 ft. and less than 50 ft.;
- (26) 34,000 lin. ft. drilling grout holes, class C, greater than 50 ft. and less than 150 ft.;
- (27) 8500 lin. ft. drilling grout holes, class D, redrilling through grout;
- (28) 17,500 lin. ft. drilling grout holes, class E, less than 20 ft., in shaft tunnels only;
- (29) 2500 holes, placing fittings on grout holes;
- (30) 6650 lin. ft. placing grout pipe;
- (31) 620 cu. yds. pressure grouting;
- (32) 36,000 lin. ft. placing metal seals;
- (33) 220,000 lbs. placing gates and valves;
- (34) 154,000 lbs. placing steel trash racks;
- (35) 3000 lbs. placing iron pipe hand-railing;
- (36) 5250 lbs. placing structural steel;
- (37) 143,000 lbs. installing pipe for valve operation;
- (38) 1000 lbs. placing operating machinery;
- (39) 7,675,000 lbs. placing reinf. steel;
- (40) 1500 lbs. placing iron pipe conduit
- (41) 3100 lbs. placing miscellaneous metal;
- (42) 2040 lin. ft. placing tile drains;
- (43) 1120 lin. ft. placing steel dowels.

PROPOSAL NO. 2

- Same as No. 1, except:
- (23) 2,167,000 sq. ft. placing 6-in. concrete facing slabs.
- ALTERNATIVE PROPOSAL NO. 3 FOR ALL OPEN CUT EXCAVATIONS**
- (1) 400,000 cu. yds. excav., class "A" on west abutment above elevation 1190;
 - (2) 125,000 cu. yds. excav., class "B" on east abutment above elevation 1190;
 - (3) 659,000 cu. yds. excav., class "C" streambed below elevation 1190 in vicinity of cut-off;
 - (4) 633,000 cu. yds. excav., class "D" streambed below elevation 1190 downstream from cut-off;
 - (5) 15,000 cu. yds. excav., class "E" cut-off trenches;
 - (6) 3000 cu. yds. excav., class "F-1," miscellaneous open cut;

**CAPITAL CITY
TITLE COMPANY**

▼

J. C. PALEN,
Manager

▼

914 Seventh Street
Sacramento :: California

(10) 55,000 cu. yds. backfill.
ALTERNATIVE PROPOSAL NO. 4
 Large rock on downstream face;
FOR THE DRIVING OF ALL TUNNELS AND INCLINED SHAFT.
 (6-B) 21,000 cu. yds. excav., class "P-2," miscellaneous open cut;
 (7) 1750 cu. yds. excav., class "G," inclined outlet shaft;
 (8) 62,700 cu. yds. excav., class "11," main outlet tunnel;
 (9) 735 cu. yds. excav., class "J," spillway pilot tunnel.

ALTERNATIVE PROPOSAL NO. 5
FOR FURNISHING AND PLACING COMPLETE OF ALL ROCK FILL
 (11) 4,100,000 cu. yds. rockfill, class "A," in body of dam;
 (12) 643,000 cu. yds. rockfill class "B," below streambed, downstream from cutoff;
 (13) 470,000 cu. yds. rockfill, class "C,"
 (14) 349,000 cu. yds. rockfill, class "D," packed rock on upstream face;
 (14-A) construct diversion works complete, lump sum.

ALTERNATIVE PROPOSAL NO. 6
FURNISHING AND PLACING OF ALL CONCRETE AND GUNITE
 (15) 19,100 cu. yds. concrete, class "A" main cutoff wall;
 (16) 725 cu. yds. concrete class "B," reinforced concrete;
 (17) 3300 cu. yds. concrete, class "C," trash racks and tunnel outlet;
 (18T) 400 cu. yds. concrete, class "D," lining in outlet shaft;
 (19) 13,800 cu. yds. concrete, class "E" lining in outlet tunnel;
 (20) 35,500 cu. yds. concrete, class "F" plain concrete;
 (21) 325 cu. yds. concrete, class "G," tunnel plug;
 (22) 6600 cu. yds. concrete, class "H," floater slab;
 (23) 2,167,000 sq. ft. placing 6-in. gunite facing slabs;
 (24) 2040 lin. ft. placing tile drain.

ALTERNATIVE PROPOSAL NO. 6-A
FOR THE PLACING OF ALL CONCRETE

Items 15, 16, 17, 18, 19, 20, 21, 22 and 42, as in Proposal No. 6, with alternative as follows:
 Item (23) 2167,000 sq. ft. placing 6-in concrete facing slabs.

ALTERNATIVE PROPOSAL NO. 7
FOR THE DRILLING OF ALL GROUT HOLES AND THE GROUTING THEREOF

(24) 4500 lin. ft. drilling grout holes, class "A," less than 10 ft.;
 (25) 11,300 lin. ft. drilling grout holes, class "B," greater than 10 ft., less than 50 ft.;
 (26) 34,000 lin. ft. drilling grout holes, class "C," greater than 50 ft., less than 150 ft.;
 (27) 8500 lin. ft. drilling grout holes, class "D," re-drilling through grout;
 (28) 17,500 lin. ft. drilling grout holes, class "E," less than 20 ft. in shaft and tunnels only;
 (29) 2500 holes placing fittings on grout holes;
 (30) 650 lin. ft. placing grout pipe;
 (31) 620 cu. yds. pressure grouting.

ALTERNATIVE PROPOSAL NO. 8
PLACING OF ALL METAL
 (32) 35,000 lin. ft. placing metal seals;
 (33) 220,000 lbs. placing gates and valves;
 (34) 151,000 lbs. placing steel trash racks;
 (35) 3009 lbs. placing iron pipe hand-railing;
 (36) 5350 lbs. placing structural steel;
 (37) 148,000 lbs. installing pipe for valve operation;
 (38) 1000 lbs. placing operating machinery;
 (39) 7,675,000 lbs. placing relnf. steel;

(40) 1503 lbs. placing iron pipe conduit;
 (41) 3100 lbs. placing miscellaneous metal;
 (42) 2040 lin. ft. placing tile drains;
 (43) 1120 lin. ft. placing steel dowels.

WILLOWS, Glenn Co., Cal.—Representatives from irrigation districts in Glenn and Colusa counties, meeting in Willows, appointed a committee to prepare a petition for presentation to the Reconstruction Finance Corporation seeking a loan of approximately \$1,250,000 to finance construction of a diversion dam near Hamilton City to supply water to the districts by gravity flow. The committee consists of: Provident District—A. E. Moutrey, Glenn-Colusa District—S. S. Havenor.

Jacinto District—Wm. Koehler.
 Princeton - Codora - Glenn District—V. D. Shaver.
 Compton - Delevan District—W. H. Lovell.

Maxwell District.—Joseph Garibaldi. It is proposed to construct the dam above Hamilton City near the present pumps of the Glenn-Colusa district. The dam would be 12 ft. high and 1800 ft. long. It would serve 400,000 acres on the west side and 80,000 acres on the east side of the river, according to tentative plans. It was brought out at the meeting that power charges of the various districts in Colusa and Glenn counties total between \$80,000 and \$100,000 yearly.

Fred H. Tibbets, consulting engineer, Alaska Commercial Bldg., San Francisco, has completed preliminary surveys in connection with this project.

PIPE LINES, WELLS, ETC.

VENTURA, Ventura County, Cal.—United Concrete Pipe Corp., 1347 W. 208th St., Los Angeles, at \$13,463.50 awarded contract by county supervisors to construct reinforced concrete storm water sewer in Ventura Ave., just outside the Ventura city limits.

SEWERS AND SEWAGE DISPOSAL PLANTS

DECOTO, Alameda Co., Cal.—Chamber of Commerce has started a movement to organize a sanitary district with a view to voting bonds to finance construction of a sewer system.

RENO, Nev.—City council will seek loan of \$20,000 from the Reconstruction Finance Corporation to finance construction of a 24-inch sewer line in the district south of Fourth Street and east of Sierra Street to a connection with the main sewer line near Riverside mill.

BEVERLY HILLS, Los Angeles Co., Cal.—Until 8 P. M., Sept. 13, bids will be received by city council to construct reinforced concrete box culvert on Rexford Drive; will be 60 ft. in length with an inside diameter of 5x8 ft. Plans obtainable from Salisbury, Bradshaw & Taylor, 714 W. 10th St., Los Angeles, Consulting Engineers.

LONG BEACH, Calif.—Proceedings for the North East Storm Drain Project, estimated to cost \$324,000, have been abandoned by the Long Beach city council.

LOS ANGELES, Cal.—American Concrete and Steel Pipe Co., 4635 Firestone Blvd., South Gate, awarded contract by board of public works to furnish at \$40,343 (Schedule D) centrifugal

pipe, pipe laying equipment and skilled labor, in connection with the improvement of Sixth Ave. bet. 48th St. and 52nd St. and other streets.

SALT LAKE CITY, Utah—W. D. Beens, city engineer, completing plans for storm sewer in 13th South street, between Sugarhouse and State Sts., involving 8000 lin. ft. concrete pipe; estimated cost \$80,000.

OAKLAND, Cal.—Neptune Meter Co. 320 Market St., San Francisco, at \$6,474.40 awarded contract by East Bay Municipal Utility District to furnish 1000 ½-in. water meters.

LAS VEGAS, Nev.—Clark County Commissioners apply to Reconstruction Finance Corporation for \$350,000 to finance a flood control project in the Virgin Valley, a similar project in Moapa Valley and construction of lateral sewers in Las Vegas city.

IDAHO FALLS, Ida.—City council has applied to Reconstruction Finance Corporation for a loan of \$75,000 to finance construction of storm sewers, water line replacements, and other unemployment relief projects.

SAN CARLOS, San Mateo Co., Cal.—City Engineer George A. Kneese in report to city trustees recommends correction of flood conditions between Morse Blvd. and Arroyo Ave., Cedar and Chestnut Sts., involving:
 30 lin. ft. 12-in. pipe;
 300 lin. ft. 18-in. pipe;
 915 lin. ft. 24-in. pipe;
 455 lin. ft. 30-in. pipe;
 7 standard catchbasins;
 1 special catchbasin;
 2 manholes and a concrete headwall at Puglas Creek.

WATERWORKS

PALO ALTO, Santa Clara Co., Cal.—Until Sept. 26, 2:30 P. M., bids will be received by Supervising Superintendent of Construction, U. S. Veterans' Hospital, Palo Alto, to erect steel water tank and tower at Palo Alto. Tank will have capacity of 100,000 gallons. Work will include the furnishing of all labor and performing all work required for the fabrication and erection of tank and tower, on existing footings, including piping, valves and appurtenances. Specifications obtainable from the Supervising Superintendent of Construction, Palo Alto.

DENVER, Colo.—Until Sept. 8, 2 P. M., under Spec. No. 576-D, bids will be received by U. S. Bureau of Reclamation, Denver, to furnish one motor-driven horizontal centrifugal pump of a capacity of 500-g.p.m. when operating at a total effective head of 230-ft. complete with motor and electrical control equipment. Specifications obtainable from above office.

OAKLAND, Cal.—Steel Tank & Pipe Co., 1100 4th St., Berkeley, at \$3520.50 (\$21.25 ft. unit) awarded contract by East Bay Municipal Utility District to furnish electric welded sheet steel pipe for the Chabot Spillway, involving 166 ft. 10-in. diameter by ¾-inch thickness.

LOS ANGELES, Cal.—Golden State Culvert Mfg. Co., Ltd., awarded contract by the City Purchasing Agent at \$51.30 to furnish 110 lin. ft. 16-gauge, 12-in. corrugated iron culvert pipe, copper bearing steel in 22-ft. sections, at 45c ft., and four couplings at 45c each. Bid No. 866.

LOS ANGELES, Cal.—Vernon Frye, Inc., was awarded contract by City Purchasing Agent at an estimated price of \$28,210.68 for cast iron fittings under specifications No. 2386.

FILLMORE, Ventura Co., Cal.—City council plans to lay 10- or 12-in. cast iron water main on Central Ave. bet. Santa Clara and Sespe Sts. C. Arrasmith, city manager, has been authorized to purchase about 1200 ft. of Class B or Class 150 pipe.

LOS ANGELES, Cal.—Bids for furnishing f. o. b. trenchshims from San Fernando Power Plant penstock south to upper San Fernando Reservoir, 2688 feet laying length, 16-inch inside diameter, welded steel water pipe under Specifications No. 2591, opened by City Purchasing Agent, Aug. 23, follow:

L. A. Mfg. Co.—2 girth scans, undipped, 20 ft. sections, \$1.68 lin. ft. Terms, net. Delivery, begin in 30 days after date of contract, complete in 90 days. Electric weld.

Western Pipe & Steel Co.—\$2.25 ft.; total, \$4698. net. Delivery, begin 10 days, complete 15 days. Welded. Consolidated Steel Co.—\$2.41 ft. Net. Delivery, begin 15 days, complete 25 days. Electric weld.

SAN FRANCISCO.—Until Sept. 8, 3 P. M., bids will be received by Felton Taylor, secretary, Public Utilities Commission, 225 City Hall, for laying 8-inch cast iron pipe line in Army and Kansas Sts. from Hampshire to south of 26th St. Certified check 10% payable to City and County of San Francisco required with bid. Plans obtainable from San Francisco Water Department, 425 Mason St., on deposit of \$10, returnable.

SAN LUIS OBISPO, Calif.—Geo. C. De Golyer, 284 Federal Telegraph Bldg., Oakland, at \$13,590 awarded contract by county supervisors to construct a water system for Cambria district. Project involves installation of pumps and distributing system.

BEVERLY HILLS, Los Angeles Co., Cal.—Fairbanks-Morse & Co., 427 E 3rd St., Los Angeles, awarded contract by city council at \$757.24 for item (1) and \$1057.53 for item (2). Kimball-Kroeh Pump Co., 1010 East 62nd St., awarded contract for item (3) at \$335, for furnishing pump equipment including a booster pump and a return water pump, for Treatment Plant No. 2.

KINGSBURG, Fresno Co., Cal.—City council plans to secure \$15,000 loan from the Reconstruction Finance Corporation to finance installation of new mains in connection with the municipal water system.

LOS BANOS, Merced Co., Cal.—Until September 7, 2 P. M., bids will be received by V. G. Bryant, city clerk, for improvements in connection with the Municipal Water System involving:

(1) for certain alterations and additions in present Municipal Water Filter Plant including two concrete rapid sand filters. (As an alternate the substitution of pressure filters for rapid sand filters).

(2) for furnishing and installing two axial flow type pumps complete with motors, etc.

Certified check 10% payable to city clerk required with bid. Plans on file in office of city clerk and obtainable from W. E. Bedesen, engineer, Shaffer Bldg., Merced.

MODESTO, Stanislaus Co., Cal.—City council has adopted Ordinance 422-N.S., providing a \$2500 appropriation from the General Fund to finance drilling of well for the municipal water system and the purchase of pumping equipment in connection therewith. H. E. Gragg is city clerk and Frank Ross, city engineer.

CARPINTERIA, Santa Barbara Co., Cal.—Petitions asking county supervisors to call election for formation of water district to serve Carpinteria are being circulated. Fred L. Johnston, 23 West Figueroa St., Santa Barbara, is consulting engineer, and Fred H. Schauer, attorney, is handling legal details.

OAKLAND, Cal.—Grinnel Co. of the Pacific, Fifth and Brannan Sts., San Francisco, at \$1915.46 awarded contract by East Bay Municipal Utility District to furnish 680 pieces of red brass tubing.

OAKLAND, Cal.—Steel Tank & Pipe Co., 1109 4th St., Berkeley, at \$3520.50 (\$21.25 ft. unit) submitted low bid to East Bay Municipal Utility District to furnish electric welded sheet steel pipe for the Chabot Spillway, involving 166 ft. 10-in. diameter by 3/4-in. thickness. Only other bid submitted by Berkeley Steel Construction Co. at \$21.80 ft.; total \$3618.18. Bids held under advisement.

SAN FRANCISCO.—Following is a complete list of bids received by City Purchasing Agent under Bid No. 825, to furnish 4- 6- and 8-in. detector check water meters for the San Francisco Water Department:

- (1) 1-in. by-pass 4-in. check;
 - (2) 1 1/2-in. by-pass 6-in. check;
 - (3) 2-in. by-pass 8-in. check;
 - (4) 3/4-in. 4-in. check;
 - (5) 3/4-in. 6-in. check;
 - (6) 1-in. 8-in. check;
- | | |
|-------------------|-----------------|
| Neptune Meter Co. | Hersey Mfg. Co. |
| 1).....\$ 71.00 | \$ 78.75 |
| 2).....110.75 | 148.50 |
| 3).....172.40 | 234.00 |
| 4).....63.10 | 67.95 |
| 5).....79.45 | 121.50 |
| 6).....123.98 | 199.80 |

Pittsburgh Equitable Meter Co. bid on items 1, 2 and 3, \$240; \$480 and \$720 respectively, but failed to specify size of by-pass.

Bids taken under advisement.

COCO SOLO, C. Z.—Until September 21, 11 A. M., under Specification No. 6620 (with Addendum No. 1), bids will be received by Bureau of Yards and Docks, Navy Department, Washington, D. C., for steel tanks, concrete ethylizing plant enclosure, motor operated pumps and fan, and piping and churning systems at the Naval Fleet Air Base, Coco Solo. Plans obtainable from above office on deposit of \$15, returnable, checks for same to be made payable to the Chief of the Bureau of Yards and Docks.

MARE ISLAND, Calif.—Chicago Bridge & Iron Works, Philadelphia, Pa., at \$8988 awarded contract under Specification No. 6857, by Bureau of Yards and Docks, Navy Department, Washington, D. C., for 740,000-gallon steel tank for the Mare Island Navy Yard. Complete list of bids follows:

- Chicago Building & Iron Co., Phila., \$8988.
- Berkeley Steel Constr. Co., Berkeley, Calif., \$9162.
- Western Pipe & Steel Co., San Francisco, \$9347.
- Steel Tank & Pipe Co., Berkeley, Calif., \$9575.

Pittsburgh-Dess Molnes Steel Co., Pittsburgh, \$9880.

Graver Tank & Mfg. Co., East Chicago, Ind., \$10,670.

Boiler Tank & Pipe Co., Oakland, Calif., \$19,690.

McClintock-Marshall Corp., Bethlehem, \$10,947.

California Steel Products Co., San Francisco, \$11,489.

SAN FRANCISCO.—Until September 6, 3 P. M., under Bid No. 887, bids will be received by T. A. Brooks, city purchasing agent, 270 City Hall, to furnish approximately 2,150,000 pounds of steel reinforcing bars for the Hetch Hetchy Project. Specifications obtainable from above office.

- ANAHEIM, Orange Co., Cal.—Until 8 P. M., Sept. 13, bids will be received by city council to furnish cast iron bell and spigot water pipe and fittings, as follows:
- 512 lin. ft. 10-in. pipe, A. W. W. A., class B, or equal;
- 3360 lin. ft. 6-in. pipe A. W. W. A., class B, or equal;
- 3200 lin. ft. 4-in. pipe, A. W. W. A., class B, or equal;
- 2900 lbs fittings, A. W. W. A., standard.

Said pipe and fittings shall be in accordance with "Specifications for Cast Iron Water Pipe, Series of 1929-B, City of Anaheim."

Certified or cashier's check 10%. J. W. Price, City Clerk.

SAN FRANCISCO.—Until September 6, 3 P. M., under Bid No. 888, bids will be received by T. A. Brooks, city purchasing agent, 270 City Hall, to furnish 517,000 barrels of Portland cement for the Hetch Hetchy Project. Specifications obtainable from above office.

LOS ANGELES, Cal.—South Chester Tube Co. was awarded contract by City Purchasing Agent at \$538.70 (estimate) to furnish steel water pipe, involving:

- (1) 3000 lin. ft. 6-in. nominal inside diameter;
 - (2) 4000 lin. ft. 8-in. do;
 - (3) 2000 lin. ft. 12-in. do.
- Spec. No. 2882.

PLAYGROUNDS & PARKS

SAN FRANCISCO.—Until Sept. 6, 3 P. M., under Bid No. 890, bids will be received by T. A. Brooks, city purchasing agent, 270 City Hall, for furnishing 5,500 standard plants for Signmund Stern Recreation Grove. Spec. obtainable from above office.

36

STREETS AND HIGHWAYS

MARIN COUNTY, Cal.—Hutchinson Co., 1450 Harrison Street, Oakland, at \$776,550 awarded contract by the State Highway Commission to apply bituminous surface treatment to three miles between Alto and Waldo.

VALLEJO, Solano Co., Calif.—City Engineer T. D. Kilkenny is preparing plans to improve Packard Alley bet. Branciforte and Santa Clara Streets. Quantities of materials involved will be published shortly.

SPOKANE, Wash.—City council approves plans for \$1,109,100 by-pass highway system, including bridge over Spokane river at cost of \$379,000, and development of a new highway system around the west and north sections of the city. State Legislature will be asked to finance the project.

SAN DIEGO, Cal.—V. R. Dennis Const. Co., 3911 5th Ave., San Diego, awarded contract by city council at \$29,453.33 for paving portions of the Municipal Airport and Atlantic St.; also lifting, hauling and placing approximately 2000 cu. yds. of earth for subgrade fill. The work involves:
 (1) 349,320 sq. ft. 4-in. (2 course) asphalt concrete pavement;
 (2) 11,800 sq. ft. 8-in. (3 course) do;
 (3) 2060 cu. yds. fill.

COCONINO COUNTY, Ariz.—Until August 25, 10 A. M., bids will be received by U. S. Bureau of Public Roads, 802 Title & Trust Bldg., Phoenix, Ariz., for 26,454 miles of placing subgrade reinforcement and crushed rock base course on Sections B and C of Route 10, the Pine-Winslow National Forest Highway, Coconino National Forest, involving:
 (1) 27,500 cu. yds. sel. material, subgrade;
 (2) 13,500 cu. yds. sel. material, binder
 (3) 39,000 cu. yds. crushed gravel or rock base course;
 (4) 290,000 cu. yd. mi. haul sel. material, subgrade reinf.; selected material, binder; and crushed rock or crushed gravel for base course.

Specifications obtainable from above office on deposit of \$10, returnable, certified checks payable to Regional Fiscal Agent, U. S. Forest Service.

SAN JOSE, Santa Clara Co., Cal.—Until August 29, 11 A. M., bids will be received by Henry A. Pfister, county clerk, to improve Foothill Avenue between San Martin Ave. and Church Avenue in Supervisor District No. 1, involving 141,000 sq. ft. oil macadam. Specifications obtainable from office of Board of Supervisors. Robt. Chandler, county surveyor.

GRAND CANYON NATIONAL PK., Ariz.—O. A. Lindberg, 448 N. American St., Stockton, Calif., at \$59,460.00 (on his lone bid) awarded contract by U. S. Bureau of Public Roads, to place a seal coat and bit. surface treatment over 35,819 miles on Route 2, the Bright Angel Point-Cape Royal Highway and Route 4, the Bright Angel Springs-North Entrance Highway.
 Bid published in issue of July 29.

LOS ANGELES, Cal.—Until 10 A. M., August 24, bids will be received by Board of Public Works to improve Laurel Canyon Road, bet. Lookout Mountain Road and Kirkwood Drive, Cash Contract, involving:
 (1) grading (178 cu. yds. excavation and 157 cu. yds. fill);
 (2) 8380 sq. ft. 8-in. concrete pave.;
 (3) 471 ft. heavy unplastered curb;
 (4) removal and resetting of existing ornamental lighting system complete in place;
 (5) 2 manholes to be remodeled.

PIERCE COUNTY, Wash.—M. I. Jonovich, Cle Elum, Wash., at \$11,724 awarded contract by U. S. Bureau of Public Roads to construct and improve East Side Highway Project 5-B Clearing in Mt. Rainier National Plk., 4.751 miles.

LANE COUNTY, Ore.—Until September 7, 10 A. M., bids will be received by W. H. Lynch, district engineer, U. S. Bureau of Public Roads, 316 New Post Office Bldg., Portland, Ore., for 9,083 mi. surfacing on the Willamette Highway, Project E21-C, D2, National Forest Road Project, in Cascade National Forest, Lane County, involving:
 (1) 21,900 cu. yds. unclass. excav.;

- (2) 12,300 cu. yds. subgrade reinforcement;
- (3) 9,333 mi. fine grading of subgrade and shoulders;
- (4) 20,000 tons crushed rock or crushed gravel bottom course;
- (5) 14,500 tons crushed rock or crushed gravel top course;
- (6) 1,350 tons crushed rock or crushed gravel supplemental;
- (7) 1,500 M gal. watering;
- (8) 100 operations or roller;
- (9) 3,400 tons supplemental crushed rock or crushed gravel Class A;
- (10) 2,000 tons Class B;
- (11) 3,400 tons Class C;
- (12) 1,050 tons Class D;
- (13) 5,000 cu. yds. binder;
- (14) 8,000 cu. yds. miles hinder haul;
- (15) 5,000 cu. yds. miles overhaul.

Plans obtainable from engineer on deposit of \$10, returnable, checks for same to be made payable to Federal Reserve Bank of Portland.

SANTA ANA, Orange Co., Cal.—All bids for furnishing of material for embankment on a portion of Bola Ave., east of Seal Beach, Orange County, involving 17,910 cu. yds. material, delivered in place, opened Aug. 16, were rejected by the County Supervisors Aug. 23. The work will probably be re-advertised but the new date has not been set. At the previous opening C. G. Payne Const. Co. was the low bidder at 33c a yard.

MONO COUNTY, Cal.—As reported in our issue of August 11, bids will be received August 30, 2 P. M., by J. W. Vickrey, acting district engineer, State Highway Commission, Bishop, for grading 2.4 miles between West Walker River Canyon and two miles south of Coleville. Project involves:
 (1) 11,000 cu. yds. rdwy. excav. without class;
 (2) 22,000 sta. yds. overhaul;
 (3) 11,200 cu. yds. imported borrow;
 (4) 350 cu. yds. struc. excavation;
 (5) 46 cu. yds. Class A Portland cement concrete (struc.);
 (6) 3450 lbs. bar reinf. steel (struc.);
 (7) 552 lin. ft. 18-in. corr. metal pipe
 (8) 38 lin. ft. 24-in. do;
 (9) 42 lin. ft. 30-in. do;
 (10) 125 sta. finishing roadway.

ALHAMBRA, Los Angeles Co., Cal.—Geo. H. Oswald, 366 E 58th Street, Los Angeles, awarded contract by city commission, at \$19,843.95 to improve Fremont Ave. from Alhambra Road to Hellman Ave., 10,537 lin. ft., involving:
 (1) 201,800 sq. ft. 6-in. asphalt concrete pavement (4-in. asphalt concrete base with 2-in. wearing surface).
 (2) 137,900 sq. ft. 2-in. asphalt concrete wearing surface.
 Otto N. Rugen is the city engineer. The bids were:
 Geo. H. Oswald (1) \$.077 (2) \$.0315 total \$19,843.95.
 Hall-Johnson Co., (1) \$.079 (2) \$.034 total \$20,591.30.
 Griffith Co., (1) \$.084 (2) \$.029 total \$20,808.30.
 Osborne Co., (1) \$.085 (2) \$.03 total \$21,247.50.
 Geo. R. Curtis Paving Co., (1) \$.088 (2) \$.028 total \$21,575.60.
 Los Angeles Paving Co., (1) \$.10 (2) \$.03 total \$24,267.00.
 Southwest Paving Co., (1) \$.093 (2) \$.041 total \$24,374.80.
 R. A. Wattson, (1) \$.092 (2) \$.047 total \$25,000.90.

TEHAMA COUNTY, Cal.—C. H. Sweetser, district engineer, U. S. Bureau of Public Roads, 461 Market St., San Francisco, has recommended rejection of bids received August 16 for

4,128 miles of grading Section C of Route 21, Deer Creek Meadows National Forest Highway, in Lassen National Forest in Tehama County. Meyer Rosenberg, 1755 San Bruno Avenue, San Francisco, submitted low bid at \$49,968. MacDonald & Kahn, San Francisco, second low at \$93,763; engineer's estimate, \$109,853. Complete list of unit and total bids published in issue of August 17.

TEHAMA COUNTY, Calif.—Heim Bros. Basalt Rock Co., Petaluma, at \$23,585 recommended for award by U. S. Bureau of Public Roads for 3,715 mi. of crushed rock base course, Section A of Route 79, the Morgan Summit-Morgan Springs National Forest. Complete bids published in issue of August 24.

SISKIYOU and Shasta Counties, Cal.—Ishell Const. Co., Carson City, Nevada, at \$165,910 under Alternate C recommended for award of contract by District Engineer, U. S. Bureau of Public Roads, San Francisco, for 21,391 miles of grading Sections D and E, Route 77, Mt. Shasta-Mt. Lassen National Forest Highway, Shasta National Forest. This project previously reported as being recommended for award to Meyer Rosenberg. Complete list of unit bids published in issue of August 20.

STANISLAUS COUNTY, Calif.—Until Sept. 6, 3 P. M., bids will be received by R. E. Pierce, district engineer, State Highway Commission, 502 State Office Building, Sacramento, to plane 7.9 miles of highway in Stanislaus County, bet. Stanislaus-Merced county line and Modesto. Specifications obtainable from engineer.

ARIZONA STATE—Until 2 P. M., August 31, bids will be received by the State Highway Commission, Phoenix, for construction of the Ashfork-Flagstaff Highway, T. A. 89-F. The work begins at end of pavement on Williams Ave., near First St., in the town of Williams and extends easterly approximately 2 1/4 miles, consists of the grading, draining and placing of subgrade stabilizer. Project involves:
 2800 cu. yds. roadway excavation;
 600 cu. yds. drainage excavation;
 400 cu. yds. structural excavation;
 9150 cu. yds. borrow excavation;
 43,200 sta. yds. earthwork overhaul;
 4260 cu. yds. subgrade stabilizer;
 34,930 cu. yds. mi. subgrade stabilizer, haul;
 200 cu. yds. concrete;
 12,000 lbs. reinforcing steel;
 36 lin. ft. 24-in. C. M. P.;
 156 lin. ft. 36-in. C. M. P.;
 180 lin. ft. part circle C. M. P.;
 4150 cu. yds. excavation railroad fill and other incidental items.
 Proposal guarantee in cash or certified check 5%. T. S. O'Connell, State engineer.

SAN FRANCISCO—Edwin G. Cahill, manager of the Public Utilities Commission, has instructed City Controller Leavy to draw a warrant for \$250,000 to be forwarded to Secretary of Interior Wilbur to finance construction of roads and trails in the vicinity of the Hetch Hetchy Project. The money is to be made available from the Hetch Hetchy bond issue recently sold and the work will be let under regular contracts through the U. S. Bureau of Public Roads. In addition to the money given directly to the Federal Government, the city will have to build roads and trails costing \$1,000,000 over a period of years.

SUNNYVALE, Santa Clara Co., Cal.—Meyer Rosenberg, 1755 San Bruno Ave., San Francisco, at \$963.50 awarded contract by 12th Naval District for the removal of trees at the Naval Air Station, Sunnyvale.

MARTINEZ, Contra Costa Co., Cal.—Until September 1, 11 A. M., new bids will be received by S. C. Wells, county clerk, to macadam pave 4000 feet of the Fish ranch road starting from a point one-half mile east of the east portal of the inter-county tunnel, involving 3000 tons of rock. Specifications obtainable from R. R. Arnold, county surveyor. Call for bids to be opened August 15, withdrawn by county supervisors.

NEVADA.—Following awards recommended to low bidders by U. S. Bureau of Public Roads, for highway construction as follows:

Douglas and Ormsby Counties.—Meyer Rosenberg, 1755 San Bruno Ave., San Francisco, at \$68,671, for 3,330 mi. highway grading and structures, and portions of Section A of Route 1, the Lake Tahoe National Forest Highway, Tahoe National Forest.

Washoe County, Nev.—Larsen Bros. P. O. Box 274, Galt, at \$9,839 for 0.999 mile grading Section D of Route 1, the Lake Tahoe National Forest Highway, Tahoe National Forest.

SAN JOSE, Santa Clara Co., Cal.—Until September 6, 11 A. M., bids will be received by Henry A. Pfister, county clerk, to improve Angew Road in Supervisor District No. 4, involving:

(1) 114,850 sq. ft. oil macadam.

Specifications obtainable from Robt. Chandler, County Surveyor, on payment of \$1.

SAN JOSE, Santa Clara Co., Cal.—Until September 6, 11 A. M., bids will be received by Henry A. Pfister, county clerk, to improve Middle Ave. in Supervisors District No. 1, involving:

(1) 208,600 sq. ft. oil macadam.

Specifications obtainable from Robt. Chandler, County Surveyor, on payment of \$1.

SAN JOSE, Santa Clara Co., Cal.—Until September 6, 11 A. M., bids will be received by Henry A. Pfister, county clerk, to improve San Jose-Alviso road in Supervisor District No. 3, involving:

(1) 113,000 sq. ft. asphalt concrete, 5-inch.

Specifications obtainable from Robt. Chandler, County Surveyor, on payment of \$1.

WHITE PINE COUNTY, Nev.—Until October 13, bids will be received by S. C. Durkee, state highway engineer, Carson City, to reconstruct approximately 21.6 miles of highway in White Pine County, involving grading and gravel surface, between Pancake Summit and Illipah. Specifications will be available about Sept. 26. Deposit of \$15 required for plans, of which \$10 is returnable. Certified check 5% required with bid.

MODESTO, Stanislaus Co., Cal.—City council has started condemnation proceedings to secure rights-of-way deemed necessary in connection with a \$250,000 project to reroute the Golden State Highway through Modesto. A 1500-foot strip of land is needed for an approach to a new bridge over the Tuolumne River, which is included in the State Highway Commission's plan for the rerouting.

ARIZONA STATE—Hodgman & McVicar, Winslow, Ariz., submitted low bid to State Highway Commission, Phoenix, August 24, at \$69,146.96 for highway, E-24-1st Reo., Unit "B," beginning 6.5 miles west of Flagstaff, extends westerly 6.5 miles toward Flagstaff, consists of grading, draining and placing of subgrade stabilizer. The principal items are:

ROADWAY
113 square clearing and grubbing;
1,900 cu. yds. drainage excavation;
1,800 cu. yds. drainage excavation;
250 cu. yds. slides and overbreakage;
550 cu. yds. structural excavation;
41,000 cu. yds. borrow excavation;
19,000 sta. yds. earthwork overhaul;
22,700 cu. yds. subgrade stabilizer;
175,300 cu. yds. mi. subgrade stabilizer haul;
140 cu. yds. class A concrete;
70 cu. yds. class B concrete;
11,500 lbs. reinforcing steel;
620 lin. ft. 24-in. C.M.P.;
72 lin. ft. 30-in. C.M.P.;
32 lin. ft. 36-in. C.M.P.;
36 lin. ft. 24-in. C.M. P. reset;
93 cu. yds. plain riprap;
1,000 lin. ft. cable road guard;
12,500 lin. ft. standard line fence.

ARIZONA STATE—Skeels & Gramann, 709 Consolidated Bank Bldg., Tucson, Ariz., submitted low bid to State Highway Commission, Phoenix, August 24, at \$61,699.57 for highway construction on Tucson-Nogales Highway, P. A. P. Nos. 25-A, 25-B, 75, E-36-B & E-36-G, Reo., beginning at end of oiled surfacing 2 3/4 miles south of Tucson, extends south 10 miles to the Santa Cruz County line, consists of placing subgrade stabilizer over portions, and the oil processing by the road mix method with shoulder material over the entire length. The principal items are:

ROADWAY
8,300 cu. yds. subgrade stabilizer;
16,100 cu. yd. mi. subgrade stabilizer haul;
206,350 sq. yds. prepare subgrade or road surfacing;
18,450 cu. yds. mineral aggregate;
33,700 cu. yd. mi. mineral aggregate haul;
313,739 gallons cutback asphaltic cement;
12,561 miles mixing, laying down and finish;
1,000 cu. yds. screenings for seal coat;
4,600 cu. yds. shoulder material;
8,800 cu. yds. mi. shoulder material haul;
335 M gallons water applied to roadway;

BRIDGES
320 cu. yds. mineral aggregate;
500 cu. yds. mineral aggregate haul;
5,400 sq. yds. prepare subgrade or road surfacing;
0.193 mi. mixing, laying down and finish;
36 cu. yds. screenings;
5 cu. yds. shoulder material;
3 cu. yd. mi. shoulder material haul;

NON-P. A.
125 cu. yds. special mineral aggregates for stockpile;
125 cu. yd. mi. haul special mineral aggregate to stockpile.

COCONINO COUNTY, Ariz.—Christenson Const. Co., Felt Building, Salt Lake City, Utah, at \$101,598.37 submitted low bid (bid received late) and were recommended for award by U. S. Bureau of Public Roads, San Francisco, for 7,807 miles of grading Section D of Route 28, the Fredonia-

Houserock Valley National Forest Highway, Kaibab National Forest, as follows:

(1) 43 acres clearing, \$100;
(2) 114,000 cu. yds. unclass. excavation, \$65;
(3) 660 cu. yds. unclass. excavation, structures, \$150;
(4) 25,900 cu. yds. unclass. excavation borrow, \$33;
(5) 168,000 sta. yds. overhaul, \$0.15;
(6) 7,807 miles finish earth graded road, \$125;
(7) 420 cu. yds. cement rubble masonry, \$12.50;
(8) 852 lin. ft. 18-in. 16-gauge corrugated metal pipe, \$1.70;
(9) 596 lin. ft. 24-in. 14-gauge do, \$2.50;
(10) 264 lin. ft. 30-in. 14-gauge do, \$4.25;
(11) 114 lin. ft. 36-in. 10-gauge do, \$7.50.

Low bid was previously reported as being submitted by W. W. Clyde, Springville, Utah, at \$105,918. Complete bids on this project were published in the issue of Aug. 24.

HANFORD, Kings Co., Cal.—County Surveyor Roy May instructed by supervisors to prepare plans to resurface 10 miles of road between Leemoore and Stratford. The cost is estimated at \$73,000 and will be financed from the \$95,000 gasoline tax money which has accumulated in the past few months.

TULARE COUNTY, Cal.—Until Sept. 7, 2 P. M., bids will be received by the State Highway Commission, Sacramento, to grade and surface with crushed gravel or stone 8.4 miles between Lemon Cove and Three Rivers, involving:

(1) 444 sta. clear and grub right of way;
(2) 209,000 cu. yds. rdwy. excavation without class.;
(3) 993,000 sta. yds. overhaul;
(4) 46,700 cu. yds. imported borrow;
(5) 11,870 cu. yds. struc. excav.;
(6) 19,000 tons crusher run base;
(7) 18,050 tons crushed gravel or stone (bitum. treated surf.);
(8) 500 bbls. light fuel oil;
(9) 950 tons cut-back asphalt (surf. and seal coat);
(10) 820 tons screenings (seal coat);
(11) 1,000 M. gals. water applied to subgrade;
(12) 2,000 cu. yds. Class A cem. conc. (struc.);
(13) 460 cu. yds. Class A cem. conc. (footing blocks);
(14) 208,500 lbs. bar reinforcing steel (struc.);
(15) 57,000 lbs. struc. steel;
(17) 833 lin. ft. 8-in. corr. metal pipe;
(18) 392 lin. ft. 12-in. do;
(19) 2,448 lin. ft. 18-in. do;
(16) 600 lbs. cast steel;
(20) 1,874 lin. ft. 24-in. do;
(21) 890 lb. ft. 30-in. do;
(22) 306 lb. ft. 36-in. do;
(23) 350 lb. ft. 42-in. do;
(24) 180 lin. ft. 8-in. perforated metal pipe underdrains;
(25) 160 lin. ft. 12-in. do;
(26) 52 concrete joints (pipe culverts);
(27) 17 miles new property fence;
(28) 5.5 miles remove existing property fences;
(29) 47 gates complete in place;
(30) 3,150 cu. yds. remove cem. conc. and rubble wall;

(31) 390 cu. yds. light riprap;
(32) 5,970 lin. ft. timber guard rail;
(33) 444 sta. finish rdwy.;
(34) 190 monuments complete in place.
State will furnish corrugated metal pipe and perforated metal pipe for underdrains.

SANTA CRUZ COUNTY, Cal.—Until September 7, 2 P. M., bids will be received by State Highway Commission, Sacramento, to grade 5.9 mi. between Inspiration Point and Scotts Valley, involving:

- (1) 1,277,000 cu. yds. rdwy. excav., unclass;
- (2) 4,896,890 sta. yds. overhaul;
- (3) 6200 M. gal. watering embank;
- (4) 19,475 cu. yds. struc. excav.;
- (5) 736 cu. yds. class A cem. conc. struc.;
- (6) 65,400 lbs. bar reinf. steel, struc.;
- (7) 1630 lin. ft. 8-in. corr. metal pipe;
- (8) 214 lin. ft. 12-in. do;
- (9) 8402 lin. ft. 18-in. do;
- (10) 1329 lin. ft. 24-in. do;
- (11) 230 lin. ft. 48-in. do;
- (12) 4094 lin. ft. 8-in. perf. metal pipe underdrain;
- (13) 7.9 mi. new property fence;
- (14) 81 gates complete in place;
- (15) 812 sta. finish roadway.

SACRAMENTO, Cal.—J. R. Reeves, Route 2, Box 100, Sacramento, at \$8,709.44 awarded contract on August 17 by County Supervisors to construct an asphalt macadam pavement on Lower Stockton Road.

REDWOOD CITY, San Mateo Co., Cal.—Until Sept. 6, 10 A. M., bids will be received by E. E. Hinman, county clerk, to pave a portion of the La Honda Road, about 1½ miles southerly from the Skyline Blvd. Junction, involving:

- (1) 55,000 cu. yds. grading and excav.;
- (2) 70,000 sta. yds. overhaul;
- (3) 3,600 cu. yds. broken stone base;
- (4) 144,500 sq. ft. 1-course asphalt macadam wearing surf. (alternate hot or cold oil);
- (5) 800 lin. ft. install 15-in. corr. metal pipe culvert;
- (6) 170 lin. ft. install 36-in. do;
- (7) 15 reinf. conc. L type culvert inlets;
- (8) 52 reinf. survey monuments.

Certified check 10% payable to the county required with bid. Specifications obtainable from Jas. S. James, county surveyor.

SAN FRANCISCO—Bureau of Engineering, Department of Public Works, John J. Casey, city engineer, completes specifications for artificial stone sidewalks in south half of Kirkham St. between 25th and 27th Aves., etc. Estimated cost, \$1,500.

LOS ANGELES, Cal.—Geo. R. Curtis Paving Co., 2440 E. 26th St., Vernon, awarded contract by Board of Public Works, at \$19,734 to improve Marion Way, bet. Monte Vista St. and Museum Drive, involving in the main:

- Grading complete, including removal of existing improvements;
- 86,492 sq. ft. 8-in. concrete paving;
- Asphalt concrete wearing surface;
- Integral curb; heavy curb; light curb;
- Sanitary sewer;
- Storm drain complete;
- Geo. R. Curtis Paving Co. awarded contract at \$9586 to improve Hoover St., bet. Wilshire Blvd. and Seventh St., involving in the main:
- Grading (5286 cu. yds. excavation);
- 448 tons asphalt conc. wearing surf.
- 1268 tons asphalt conc. base in place;
- Curb; storm drain and appurtenances, complete.

SEATTLE, Wash.—Florito Bros., 3950 W. Sixth St., N. W., Seattle, at \$35,604 submitted low bid to King County Supervisors to pave with state

standard concrete, 2 miles of Sand Point Way from E-97th St. to 125th St. and thence on 125th St. to connect with the Bothell Highway. County Engineer Thos. D. Hunt estimated cost at \$36,500.

CALIFORNIA.—Following awards recommended to low bidders by U. S. Bureau of Public Roads for highway construction as follows:

Calaveras County—To Harms Bros., Galt, at \$8,497 for 3.085 miles reconstructing Section B of Route 35, the Ebbetts Pass National Forest Highway, Stanislaus National Forest.

Modoc County—To Hemstreet and Bell, 11th and E Sts., Marysville, at \$109,827 for 28.077 miles placing crushed rock or crushed gravel base course on Section A of Route 11, the Lava Beds National Forest Highway, and on Sections A and B of Route 12, the Howard Gulch National Forest Highway, Modoc National Forest.

COCOONINO COUNTY, Arizona.—

Skousen Bros., Albuquerque, N. M., at \$196,683.90 (bidding on combination proposal) submitted low bid to U. S. Bureau of Public Roads, Phoenix, Ariz., for 15,448 miles grading of Sections B and C, Route 4, the Ashfork-Highstaff Angel National Forest Highway, Tusayan National Forest, Coconino County, Ariz., involving:

- (1) 120 acres clearing;
- (2) 119,000 cu. yds. unclass. excav.;
- (3) 2030 cu. yds. unclass. excav. for struc.;
- (4) 91,000 cu. yds. unclass. excav. for borrow;
- (5) 204,790 sta. yds. overhaul;
- (6) 78,800 cu. yds. subgrade stabilizer
- (7) 183,700 cu. yds. miles hauling subgrade stabilizer;
- (8) 893 cu. yds. concrete;
- (9) 63,100 lbs. reinf. steel;
- (10) 2286 ft. corr. metal pipe;
- (11) 92 cu. yds. hand laid riprap;
- (12) 2 cattle guards.

SAN BERNARDINO COUNTY, Cal.

—F. W. Teschke, 1500 N. Cedar Drive, Los Angeles, at \$18,400.06 awarded contract by State Highway Commission to improve 24.7 miles of highway between the Los Angeles County line and San Bernardino, and between San Bernardino and Anderson St. Shoulders to be treated with fuel oil, involving 11,018 bbls. of heavy fuel oil. Complete bids published in issue of August 19.

PACIFIC COAST—See "Government Work and Supplies." In this issue, Appropriations included in the Emergency Relief and Construction Act of 1932, providing \$10,000,000 for public works under the Navy Department.

COCOONINO COUNTY, Ariz.—Bids scheduled for opening August 25 by the U. S. Bureau of Public Roads, 802 Title and Trust Bldg., Phoenix, for 26,454 miles of placing subgrade reinforcement and crushed rock base course on Sections B and C of Route 10, the Pine-Winslow National Forest Highway, Coconino National Forest, will be opened on September 8. The project involves:

- (1) 27,500 cu. yds. sel. material, subgrade;
- (2) 13,500 cu. yds. sel. material, binder
- (3) 39,000 cu. yds. crushed gravel or rock base course;
- (4) 290,000 cu. yd. m. haul sel. material, binder; and crushed rock or crushed gravel for base course.

Specifications obtainable from above

office on deposit of \$10, returnable, certified checks payable to Regional Fiscal Agent, U. S. Forest Service.

STANISLAUS COUNTY, Calif.—As previously reported, bids will be received Sept. 6, 2 P. M., by R. E. Pierce, district engineer, State Highway engineer, State Highway Commission, 502 State Office Bldg., Sacramento, to plane 7.9 miles of existing asphalt concrete pavement bet. the Stanislaus-Merced County line and Modesto. Project involves 69,600 sq. yds. existing asphalt concrete pavement to be planned and smoothed.

SAN FRANCISCO—Until Aug. 31, 1:45 P. M., informal bids will be received by S. J. Hester, secretary, Department of Public Works, to haul and spread 1,100 cu. yds. of loam from Highland Avenue and Mission Street to Balboa High School. Loam to be spread six inches deep on athletic field. Specifications obtainable from secretary.

CHURCHILL COUNTY, Nev.—State Highway Commission cancels calls for bids scheduled for opening Aug. 24 to furnish, apply and mix asphaltic fuel oil with the roadway surface between Lahontan and Leeteville, 8 miles.

ELKO COUNTY, Nevada—As previously reported, until Sept. 7, 2 P. M., bids will be received by S. C. Durkee, State Highway Engineer, Heroes Memorial Bldg., Carson City, to furnish and apply cut-back asphalt and mix with crushed rock or crushed gravel surface over 24.33 mi. between Wells and East Foot of Bequops, Route 1, Section E2, E1 and F, involving:

- (1) 570,882 gals. cutback asph. apply to roadway surface;
- (2) 24.33 mi. mixing.

Specifications obtainable from above. Certified check 5% required with bid.

MISCELLANEOUS SUPPLIES AND MATERIALS

PHOENIX, Ariz.—The Kittle Mfg. Co., 648 Santa Fe Ave., Los Angeles, submitted low bid to State Highway Commission at \$14,890 for furnishing 116,455 pairs of automobile licenses and 327 motorcycle tags.

OAKLAND, Cal.—Until Sept. 16, 5:30 P. M., bids will be received by John H. Kimball, secretary, East Bay Municipal Utility District, 512 16th St., Oakland, to furnish:

- (1) 125,000 cu. ft. oxygen gas;
- (2) 75,000 cu. ft. dissolved acetylene gas.

Proposal 427. Specifications obtainable from above office.

OAKLAND, Calif.—American Bitumuls Co., 869 45th Ave., Oakland, at \$2520 awarded contract by East Bay Municipal Utility District to furnish the year's supply of emulsified asphalt until Sept. 1, 1933, involving approximately 100,000 gallons.

LOS ANGELES, Cal.—Until 11 a. m. September 14 bids will be received by Thomas Oughton, City Purchasing Agent, 107 City Hall, to furnish cable terminals, fittings, etc., for a period of one year ending September 7, 1933. Prices are to be f. o. b. warehouse of Dept. of Water & Power and carrier depots or f. o. b. factory with full freight allowed to Los Angeles. Specification No. 2877.

BUILDING NEWS

APARTMENTS

Plans Completed.
APARTMENTS Cost, \$500,000
SAN MATEO, San Mateo Co., Cal. El Cerrito and El Caminito Real.
 Six-story and basement steel frame and brick apartments (22 2 to 10-room apts.); tile and composition roof, steam heating system, hardwood floors, colored tile baths and kitchens, electric refrigeration elevators, etc.
 Owner—Jean de St. Cyr, El Cerrito, Hillsborough.
 Architect—Willis Lowe, 1056 Hubert Road, Oakland.
 Bids will be asked shortly.

Figures To Be Taken Next Week.
HOTEL & APTS. Cost, \$400,000
ALAMEDA COUNTY, Calif. Location withheld.
 Three-story steel frame and brick hotel and apartments (28 rooms, 7 2-room apts.); coffee shop, etc.)
 Owner—Withheld (corporation being formed).
 Architect—Leonard H. Ford, 1435 Harrison St., Oakland.

Segregated Bids Being Taken.
APARTMENTS Cost, \$250,000
SAN FRANCISCO, NW Second and Parnassus Aves.
 Five- and seven-story, basement and sub-basement steel frame and reinforced concrete apartments (63 1 to 4-room apts.); composition roof, two elevators, steam heating plant (gas fired boilers), electric refrigeration, hardwood floors, wall beds, colored tile baths and kitchens, etc.
 Owner—E. V. Ralsch.
 Architect—H. C. Baumann, 251 Kearny St., San Francisco.
 Mech. Engineer—C. H. Bazzile, % Architect.
 Structural Engineer—James Smith, 251 Kearny St., San Francisco.

Segregated bids are being received by the architect.

Plans Being Prepared.
APARTMENTS Cost, \$100,000
SAN FRANCISCO, Pacific Avenue.
 Six-story steel frame, concrete and brick apartments (70x127) two elevators, steam heating system, garbage incinerator, tile baths and kitchens, hardwood floors, electric refrigeration, etc.)
 Owner—Barene Realty Co., Monadnock Bldg.
 Architect—Chas. E. J. Rogers, Pelham Building.

GOVERNMENT WORK AND SUPPLIES

FORT CLAYTON, C. Z.—Winston Bros., Minneapolis, Minn., at \$559,870 awarded contract by the Quartermaster Department, Quarry Heights, for construction and completion of excavation of earth and rock roads, curbs and walks, water distribution and fire protection system, storm and sanitary sewer system, electric distribution and steel lighting system; 14 company officers' quarters, approximately \$313,500; 24 family non-commissioned officers quarters, approximately \$80,000; one battalion barracks, approx. \$357,500; widening of Gaillard St., lighting and moving Officers' Club and garage

for Second Field Artillery Post at Ft. Clayton.

EL RENO, Okla.—Plans and specifications for buildings and tunnels in Group No. 2 to be constructed at the U. S. Southwestern Reformatory, El Reno, bids for which are to be opened by the Department of Justice on August 25. Buildings included in the group are: four dormitories, each two stories in height, T-shaped, 228x33-ft. and 55x57 ft.; mess hall, one-story and part 2-story, 186x129-ft.; power house, 2-story and part 3-story, 157x124-ft.; staff apartment, 2-story, 120x37-ft.; superintendent's residence, 2-story, 41x46-ft.; and chief medical officer's residence, 2-story, 36x21-ft. All buildings will be concrete and brick structures with vitreous and glazed brick interiors and tile, composition and tile shingle roofs. Appropriation for the work is \$700,000. Plans were prepared by Architects Hawk and Parr, 1021 Hales Bldg., Oklahoma City.

LONGVIEW, Wash.—Until Sept. 9, bids will be received by Supervising Architect, Treasury Dept., Washington, D. C., to furnish and install lighting fixtures in postoffice at Longview. Specifications obtainable from above office.

To Ask Bids Shortly.
POST OFFICE Cost, \$159,000
VALLEJO, Solano Co., Cal. Main and Carolina Streets.
 One-story and basement Class A reinforced concrete and granite Post Office building.
 Owner—United States Government.
 Architect—Charles Dean, California State Life Bldg., Sacramento.
 Mech. Engineer—Robert L. St. John, 544 Market St., San Francisco.

COCO SOLO, C. Z.—Until September 21, 11 A. M., under Specification No. 6620 (with Addendum No. D), bids will be received by Bureau of Yards and Docks, Navy Department, Washington, D. C., for steel tanks, concrete ethylizing plant enclosure, motor operated pumps and fan, and piping and ethylizing systems at the Naval Fleet Air Base, Coco Solo. Plans obtainable from above office on deposit of \$15, returnable, checks for same to be made payable to the Chief of the Bureau of Yards and Docks.

Plans Being Prepared.
WARDS Cost, \$150,000
SAN FRANCISCO, Letterman General Hospital, Presidio.

Three-story reinforced concrete receiving wards (Nos. 19 and 61) tile roof, elevator, plumbing, nurses' call system, terrazzo floors, steam heating system from main plant, etc.

Owner—United States Government.
 Plans by Constructing Quartermaster, Fort Mason.

SAN RAFAEL, Marin Co., Calif.—Robert E. McKee Co., 108 W 6th St., Los Angeles (second lowest bidder) at \$678,600 awarded contract by Constructing Quartermaster, Hamilton Field (Marin Bombing Base) to erect structures in connection with that project, consisting of three-story and basement barracks building; concrete construction, tile roof, 100x145-ft.

Machine shop, concrete and structural steel, 111x200-ft.

Hangar, 111x200-ft., with operations office and parachute section as wings to hangar.

Warehouse, one-story, concrete and structural steel, 111x200-ft.

Radio building, one-story, masonry, tile roof, 18x34-ft.

One paint, oil and dope warehouse, masonry construction, one-story, 18x40-ft.

Eight sets of officers' quarters, 43 by 51 ft. each, 2-story and basement, masonry construction, tile roof.

Three double sets of non-commissioned officers' quarters, 35x58-ft., 2-story and basement, masonry, tile roof.
 The contract, previously awarded to J. D. Hannah of San Francisco, was declared in default due to the fact that Hannah failed to provide bond to guarantee faithful performance of the ceived on this project was published work. A complete list of the bids in issue of June 21.

Plans Being Figured—Bids Close September 21, 11 A. M.

QUARTERS Cost, \$—
SUNNYVALE, Santa Clara Co., Cal. Nine two-story and basement quarters for officers at Naval Air Station, Sunnyvale. (Spec. No. 6339). Each building will have concrete foundations, frame superstructure with stuccoed walls and tile roofing. The work includes cast stone, tiled toilets and bathrooms, miscellaneous metal work, all metal screens and plumbing, heating and electrical systems.

Owner—United States Government.
 Plans by Bureau of Yards and Docks,

SUNNYVALE, Santa Clara Co., Cal.—Until Sept. 28, 11 A. M., under Spec. No. 6352, bids will be received by Bureau of Yards and Docks, Navy Department, Washington, D. C., for refrigerating and ice making equipment, consisting of motor-driven compressors, condensers, liquid receiver, brine pumps, freezing tank, brine coolers brine agitator, can dump, ice crane, can filler, manual starting equipment, safety devices, wiring and complete piping systems; a natural draft cooling tower system with motor-driven circulating pumps, spray nozzles and piping; construction of cold storage rooms including insulation, doors, floors and equipment for handling and storing foods; also automatic electric refrigerators and bottle cooler and a brine-refrigerated display case; all at the Naval Air Station, Sunnyvale, Cal.

Plans obtainable from Commandant, 12th Naval District, 100 Harrison St., San Francisco, on deposit of \$10, returnable, checks for same to be made payable to Chief of Bureau of Yards and Docks.

Low Bidders.
FEDERAL BLDG. Cost, \$200,000
CHEYENNE, Wyoming.
 Class A Federal Building.
 Owner—United States Government.
 Plans by Veterans Bureau, Washington, D. C.

General Work
 Henry E. Ryan Co., 500 N. Dearborn St., Chicago, Ill., \$214,000.

Plumbing and Heating
 C. A. Hooper Co., Madison, Wis., \$129,360.

Refrigeration
 Pennsylvania Engineering Co., Philadelphia, \$11,220.

MARE ISLAND, Calif.—Chicago Bridge and Iron Works, Philadelphia, Pa., at \$3,988 awarded contract under Specification No. 6557, by Bureau of Yards and Docks, Navy Department, for 749,000-gal. steel tank for Mare Island Navy Yard. For complete list of bids received see "Government Work and Supplies" in this issue.

MARE ISLAND, Cal.—Babcock & Wilcox, Philadelphia, submitted low bid to Bureau of Yards and Docks, Navy Department, Aug. 16, at \$9580, for boilers for Mare Island; Schedule 3397. Other bids were: Foster Wheeler Corp., \$10,531; Worthington Pump & Machinery Co., \$971 (part).

SAN FRANCISCO — Bids for the construction of the U. S. Veterans' Diagnostic Center at Fort Miley will be asked within sixty days, according to word received by Congresswoman Florence P. Kahn. Brig-Gen. Frank T. Hines of the Veterans' Bureau advised that it is the purpose of the Bureau to have the project underway to relieve the unemployment situation. Plans for the structure are being completed by the Construction Division of the U. S. Veterans' Bureau, Arlington Bldg., Washington, D. C. The cost is estimated at \$1,500,000.

Bids Wanted—To Close October 5, 2 P. M.

POST OFFICE Cost, \$115,000
SILVER CITY, New Mexico.
Class A Post Office.
Owner—United States Government.
Plans by Supervising Architect, Washington, D. C.

SUNNYVALE, Santa Clara Co., Cal.—Hutchinson Co., 1450 Harrison St., Oakland, at \$11,215.11, bidding on relayer rails, awarded contract by Bureau of Yards and Docks, Navy Department, under Spec. No. 6935, to construct spur tracks at the Naval Air Station, Sunnyvale.

Preparing Working Drawings.
POST OFFICE Cost, \$200,000
VENTURA, Ventura Co., Cal. Santa Clara and Fir Streets.
One- and two-story and basement fireproof Post Office (146x116 ft.); facade brick exterior, terra cotta trim, stone base course, tile roof, metal windows, steam heating system, etc.
Owner—United States Government.
Architect—Harold E. Burkett, 455 E. Main St., Ventura.

Plans Being Figured—Bids Close Sept. 30, 2 P. M.
ADEN. BLDG. Cost, \$—
BOISE, Idaho
Veterans' Administration Bldg., one garage and attendants' quarters, including grading and drainage.
Owner—United States Government.
Plans by Construction Division, U. S. Veterans' Bureau, Arlington Bldg., Washington, D. C.

This work will include excavating, reinforced concrete construction, hollow tile, brick work, artificial stone, marble work, floor tile, compressed asphalt tile or linoleum floors, iron work, steel sash, steel shelving, built-up and slate roofing, metal lathing, plastering, carpentry, insect screens, painting, glazing, hardware, plumbing, heating and ventilating, electrical work, overhead garage doors, and connections to fire alarm, connections to outside sewer, water steam and electric distribution systems.

Bids will be opened Sept. 30, 2 P. M., by the Supervising Superintendent

of Construction, U. S. Veterans' Hospital, Palo Alto, Calif., from whom plans may be obtained.

PALO ALTO, Santa Clara Co., Cal.—Until Sept. 26, 2:30 P. M., bids will be received by Supervising Superintendent of Construction, U. S. Veterans' Hospital, Palo Alto, to erect steel water tank and tower at Palo Alto. Tank will have capacity of 100,000 gallons. Work will include the furnishing of all labor and performing all work required for the fabrication and erection of tank and tower, on existing footings, including piping, valves and appurtenances. Specifications obtainable from the Supervising Superintendent of Construction, Palo Alto.

MODESTO, Stanislaus Co., Calif.—Treasury Department, Office of the Supervising Architect, Washington, D. C., has completed working drawings and will call for bids about Sept. 1 for the new U. S. post office building to be erected at 12th and 1 Sts., Modesto. It will be a two-story, masonry and steel structure, with tile roof, steam heating system, hardwood and terra zazzo floors, etc. Appropriation for the building is \$195,000.

RENO, Nevada—Until September 13, 3 P. M., bids will be received by the Treasury Department, Office of the Supervising Architect, Washington, D. C., to erect the Reno Post Office. The original appropriation was for \$420,000 but this amount has been cut to \$370,060. Under the call for bids Landis & Young, P. O. Box 244, Georgetown, Texas, submitted the lowest figure at \$418,000. F. J. DeLongchamps, Gazette Bldg., Reno, architect.

SUNNYVALE, Santa Clara Co., Cal.—Hutchinson Co., 1450 Harrison St., Oakland, at (a) \$14,347 for new rails and (b) \$11,215 for relayer rails, submitted low bids to Bureau of Yards and Docks, Navy Department, Washington, D. C., August 24, to construct railroad spur tracks at the Naval Air Station, Sunnyvale. Three low bidders follow:
(a) new rails; (b) relayer rails.
Hutchinson Co., Oakland, (a) \$14,347; (b) \$11,215.
Shannahan Eros, Inc., San Leandro (a) \$16,750; (b) \$13,115.
Schuler & McDonald, Oakland, (a) \$15,973; (b) \$12,771.
Complete list of bids will be published shortly.

HOSPITALS

August 17, 1932
Plans Being Figured—Bids Close On September 15, 10 A. M.
HOSPITAL UNIT Cost, \$—
RENO, Washoe Co., Nevada. County Hospital Grounds.
Maternity wing adjoining present county hospital.
Owner — County of Washoe, G. W. Nottingham, Chairman of Board of Trustees of Washoe County Public Hospital.
Architect—F. J. DeLongchamps, Gazette Bldg., Reno.
Bids to be filed with Secretary, Mrs. Frank Humphrey, 15 United Nevada Bank Bldg., Reno. Certified check 5% payable to Board of Trustees required with bid. Plans obtainable from architect on deposit of \$10, returnable.

Plans Completed.
ADDITION Cost, \$80,000
SAN FRANCISCO. Potrero Ave. and 20th Street.

Addition to main heating plant (installation of boilers and construction of connecting tunnels to buildings).
Owner—City and County of San Francisco.
Plans by Bureau of Architecture (C. H. Sawyer, in charge).

HOTELS

Plans Being Completed.
HOTEL Cost, \$1,500,000
SAN MATEO, San Mateo Co., Cal. El Cerrito and El Camino Real (12 acres).
Class A steel frame and concrete hotel (rambling type), 250 rooms, roof garden, steam heating system, etc.
Owner—Jean de St. Cyr, El Cerrito, Hillsborough.
Architect—Willis Lowe, 1050 Hubert Road, Oakland.

POWER PLANTS

LOS ANGELES, Cal.—Specifications for two steam generating units to be installed in power house at General Hospital, 1100 Mission Rd., have been completed by County Mechanical Department. The specifications provide for the furnishing and installing of two 500-hp. water-tube boilers designed for battery setting, including the burners, breeching, stack, piping, foundations and all appurtenances, including the removal of two 250-hp. Stirling boilers.

SAN DIEGO, Cal.—Maj. W. H. Lanagan, United States District Engineer at Los Angeles, has announced that bids for widening the San Diego River dyke at Old Town and for dredging Area J in San Diego Harbor will be called in the near future. The sum of \$15,000 will be appropriated for the Old Town dyke and \$100,000 for the dredging of Area J. The latter comprises clearing of the north and south sides of the channel from Beacon No. 4 to the former position of Beacon No. 10, to provide a minimum width of 1400 ft. in the channel as far south as Beacon No. 5. Should National City and Chula Vista vote \$10,000 to match federal funds of \$20,000, work of removing a shoal area off the National City waterfront and dredging of a 200-ft. channel to a depth of 20 ft. will be undertaken at the same time as the work in Area J.

LOS ANGELES, Cal.—General Cable Corp. awarded contract by City Purchasing Agent, at \$56,175.53 to furnish 15,472 ft., 750,000 C.M., 3-conductor, 35,000-volt, lead-covered cable, f. o. b. cars bidder's designated factory with full freight allowed to 257 E. Third St. Specification No. 2850.

LOS ANGELES, Cal.—Until 11 a. m. September 14 bids will be received by Thomas Oughton, City Purchasing Agent, 107 City Hall, to furnish cable terminals, fittings, etc., for a period of one year ending September 7, 1933. Prices are to be f. o. b. warehouse of Dept. of Water & Power and carrier depots or f. o. b. factory with full freight allowed to Los Angeles. Specification No. 2877.

VERNON, Los Angeles Co., Cal.—Until Sept. 6, 8 P. M., bids will be received by city council to furnish and install insulating material and ground fault protection for 15,000-volt switch gear, in accordance with specifications obtainable from Howard S. McCurdy, city engineer. Certified check 10%. T. J. Furlong, city clerk.

LOS ANGELES, Calif.—Until 11 A. M., Sept. 6 (time extended from Aug. 23) bids will be received by the City Purchasing Agent, Thomas Oughton, 107 City Hall, for furnishing steam boiler equipment, Spec. No. 2826, as follows:

(1) Furnishing and erecting on purchaser's site at Wilmington, the first of two steam generating units and appurtenances of 1400 lbs. per sq. in. maximum pressure, 1350 lbs. normal working pressure. Alternative bids will be taken on equipment of 480 lbs. maximum pressure, 450 lbs. working pressure.

(2) Furnishing and erecting the second of two steam generating units, etc.

Specifications No. 2826 may be obtained from the office of Thos. Oughton, Purchasing Agent, 107 City Hall.

PUBLIC BUILDINGS, FIRE HOUSES AND JAILS

Planned.
CITY HALL Cost, \$4000
CLOVERDALE, Sonoma Co., Calif.
One-story frame city hall (to house offices of chief of police, justice court, jail, etc.)
Owner—City of Cloverdale.

Preliminary sketches are being prepared by Architect John I. Easterly, Healdsburg, and Cleve Vassar, Cloverdale.

OAKLAND, Alameda Co., Cal.—Until Sept. 15, 9 P. M., bids will be received by W. W. Campbell, City Clerk, for alterations to the steam heating system in the City Hall, Oakland.

RESIDENCES

Contract Awarded.
RESIDENCE Cost, \$25,000
NORTH BERKELEY, Alameda Co.
Two-story & basement frame, stucco and brick veneer residence (14 rooms, 5 baths); tile roof, low pressure steam heating system, colored tile baths and kitchen, hardwood floors, steel and wood sash, electric refrigeration, etc.
Owner—C. Henning.
Architect—William & Wastell, 374 17th St., Oakland.
Contractor—F. A. Kurtz, 364 41st St., Oakland.

Contract Awarded.
RESIDENCE Cost, \$25,000
WEST LOS ANGELES, Los Angeles Co., Cal. No. 609 E. Channel Road
Two-story and basement frame and stucco residence (11 rooms); 36x 132 ft.; two-story garage and servants' quarters, landscaping, etc.
Owner—Harold P. Cooper.
Architect—J. Thomas Payne, 1261 W. 55th St., Los Angeles.
Contractor—Rose & Rowell, 1505 4th St., Santa Monica.

Sub-Bids Being Taken.
RESIDENCE Cost, \$10,000
ATHERTON, San Mateo Co., Cal.
One-story and basement frame and brick veneer residence (8 rooms, 2 baths) shakes roof, gas hot air heating system, oak trim, colored tile baths & fixtures, stucco walls and ceilings, etc.
Owner—G. T. Olson, Lompoc.
Architect—Chas. Strothoff, 2274 15th St., San Francisco.
Contractor—J. M. Johnson, 176 Clinton Park, San Francisco.

Contract Awarded.
RESIDENCE Cost, \$25,000
WEST LOS ANGELES, Calif. 214 S Beverly Glen Blvd.
Two-story and basement frame and brick veneer residence (22x30-ft.; 12 rooms) wood shakes and sheet copper roof, dumbwaiter, metal fire doors, brick terrace, etc.
Owner—Jean Bello, 1353 Club View Drive.
Architect—Russell F. Buntz and C. B. Clyne, care owner.
Contractor—Russell F. Buntz, 308 Loring Ave., West Los Angeles.

Construction Postponed Indefinitely.
RESIDENCE Cost, \$30,000
HONOLULU, T. H.
One-story frame and stucco residence (12 rooms).
Owner—C. J. Henderson, Honolulu.
Architect—W. W. Wurster, 260 California St., San Francisco.

Plans Being Completed.
RESIDENCE Cost, \$15,000
Two-story and basement frame and brick veneer residence (9 rooms, 3 baths); shake roof, canvas walls and ceilings, colored tile baths and kitchen, warm air heating system, oil burner, oak floors, separate garage, barbecue pit, etc.; Colonial type.
Owner—Mr. and Mrs. John T. Jacobson, 5/8 Architect.
Architect—Chas. Strothoff, 2274 15th St., San Francisco.
Contractor—Selected, Withheld.

Segregated Bids Being Taken.
RESIDENCE Cost, \$15,000
SAN FRANCISCO, St. Francis Wood
Two-story and basement frame and stucco residence, separate garage (Colonial type); ten rooms and 4 baths, patent shingle roof, gas heating system, colored tile baths and kitchen, hardwood floors, electric refrigeration, painted wood finish, Colonial lighting fixtures & Colonial garden.
Owner—N. W. Ayer.
Architect—Harvey E. Harris, 815 Balboa St., San Francisco.
Bids are wanted on glazing, painting hardwood floors, roofing, plastering and concrete work.

Low Bidder.
RESIDENCE Cost, \$27,500
SAN RAFAEL, Marin Co., Cal.
Two-story and basement frame and brick veneer residence (12 rooms, 4 baths) tile roof, Spanish type, automatic oil furnace, hardwood floors, electric refrigeration, colored tile baths and kitchen, etc.
Owner—A. L. Stewart (San Rafael Military Academy), Fifth and Cottage Sts., San Rafael.
Architect—S. Helman, 57 Post Street, San Francisco.
Low Bidder—Jacks & Irvine, 74 New Montgomery St., San Francisco.
Complete list of bids will be published within a few days.

Taking Preliminary Estimates.
RESIDENCE Cost, \$25,000
NORTH BERKELEY, Alameda Co.
Two-story & basement frame, stucco and brick veneer residence (14 rooms, 5 baths); tile roof, low pressure steam heating system, colored tile baths and kitchen, hardwood floors, steel and wood sash, electric refrigeration, etc.
Owner—Withheld.
Architect—Williams & Wastell, 374 17th St., Oakland.

Plans Being Completed.
RESIDENCE Cost, \$15,000
Two-story and basement frame and white shakes residence (9 rooms, 4 baths) slate roof, gas heat, hardwood floors, etc.
Owner—E. H. Maggard, San Rafael.
Architect—Warren C. Perry, 260 California St., San Francisco.
Bids will be asked in about one week.

Contract Awarded.
RESIDENCE Cost, \$13,000
SANTA CRUZ, Santa Cruz Co., Cal.
Two-story and basement frame and stucco residence (7 rooms and 2 baths; tile roof).
Owner—Dr. Frederick Shenk, Medico Bldg., Santa Cruz.
Architect—Ryland, Esty & McPhetres, Alta Bldg., Santa Cruz.
Contractor—Wm. C. Friesen, 462 Bay St., Santa Cruz.

Being Done By Day's Work.
RESIDENCE Cost, \$25,000
ROSS, Marin Co., Cal. Kittle Estate.
Two-story and basement frame and stucco residence (11 rooms and 3 baths); Spanish type, tile roof, gas heating system, colored tile baths and kitchen, hardwood floors, electric refrigeration, etc.
Owner—Harvey E. Nelson, 208 Greenfield, San Anselmo.
Plans by Owner.

Contract Awarded.
RESIDENCE Cost, \$15,000
SAN FRANCISCO, N Union Street 25 E Marian Place.
Two-story and basement reinforced concrete, brick and wood frame residence (14 rooms, 4 baths) Colonial type; slate, tar and gravel roof, gas heating system, electric refrigeration, hardwood floors, colored tile baths and kitchen, etc.
Owner—M. Toriggino, 220 Montgomery Street.
Engineer—M. Toriggino, 220 Montgomery Street.
Contractor—Larsen and Larsen, 629 Bryant Street.

SCHOOLS

Plans Being Completed.
GYMNASIUM Cost, \$20,000
CORNING, Tehama Co., Cal.
One-story frame and stucco gymnasium (10,000 sq. ft.) composition roof, maple floors, wood movable bleachers.
Owner—Corning Union High School District.
Architect—Wm. Herbert, Rosenberg Bldg., Santa Rosa.
Bids will be asked in about 2 weeks.

Plans Being Prepared.
GYMNASIUM \$200,000 Available.
SAN DIEGO, San Diego Co., Cal.
Reinforced concrete gymnasium (locker rooms, etc.)
Owner—State of California.
Architect—George E. McDougall, State Architect, Public Works Bldg., Sacramento.

To Ask Bids About August 31.
GYMNASIUM Cost, \$20,000
CORNING, Tehama Co., Cal.
One-story frame and stucco gymnasium (10,000 sq. ft.) composition roof, maple floors, wood movable bleachers.
Owner—Corning Union High School District.
Architect—William Herbert, Rosenberg Bldg., Santa Rosa.

MATERIAL HANDLING & POWER TRANSMISSION DATA SHEET No. 4

Power Formulae for Chain Conveyors and Elevators

In the following instructions and calculations for figuring the pull on chains in conveyors and elevators, and in drives for them, as well as the torsional and bending strains for the shafting, the letters and characters used in the formulae have the definitions listed below:

- α = Angle of inclination of conveyor or elevator.
- B = Bending moment for head shafts in inch pounds.
- C = Additional pull to drag buckets through elevator boot.
- D = Diameter of chain roller.
- d = Diameter of chain pin.
- F = Coefficient of sliding friction between chain or wearing shoe and track. See table which follows, for values.
- F_1 = Coefficient of sliding friction between material conveyed, such as coal, sand, etc., and the conveyor trough. See table.
- RF = Coefficient of rolling friction. See table.
- J = Weight of moving parts of conveyor or elevator, such as chains, wheels, buckets, flights, etc., which are supported by the head shaft. See wheels 2 of illustration.
- J_1 = Weight of driving wheel, gear or pulley on head shaft, with such of the chain or belt as is supported by this "wheel 1," of illustration.
- L = Length of conveyor or elevator from head shaft to foot shaft, in feet.
- P = Load or resistance to turning, measured in pounds, at the pitch radius of head sprocket or sprockets, which must be balanced by pull of driving mechanism.
- P_1 = The equivalent pull necessary at pitch radius of the driving wheel, gear or pulley, on this head shaft.
- T = Torsional moment for head shafts in inch pounds.
- W = Weight of chain and flights, pans, or buckets, per foot.
- W_1 = Weight of material, such as coal, sand, etc., per foot of conveyor or elevator.

Coefficients of Friction F, F_1 and RF

Sliding Friction

- F = .33 for metal on metal.
- F_1 = .59 for Bituminous coal on metal.
- = .33 for Anthracite coal on metal.
- = .355 for coke on metal.
- = .53 for moist ashes on metal.
- = .60 for dry sand on metal.
- = .585 for lime stone on metal.
- = .325 for shelled corn on metal.

Rolling Friction

$$RF = X \times \frac{d}{D}$$

- When X = .5 for iron pin in cored roller, not oiled.
- = .33 for iron pin in cored roller, greased.
- = .25 for steel pin in bored roller, greased.
- = .20 for steel pin in bored roller, well oiled.

The equations for horizontal conveyors are simple, and need no further explanation. The following example illustrates the procedure to determine turning effort or pull, for an inclined apron conveyor.

Example—Determine the turning effort for an apron conveyor 164' 0" centers, having an inclination of 23°. The weight of the carrier empty is 92 pounds per foot, and the weight of material handled is 200 pounds per foot. The chains have 6" diameter enclosed-oiling rollers, turning on 1½" bushings. Then L = 164, α = 23°, Sin 23° = .39, Cos 23° = .92, W = 92, W_1 = 200,

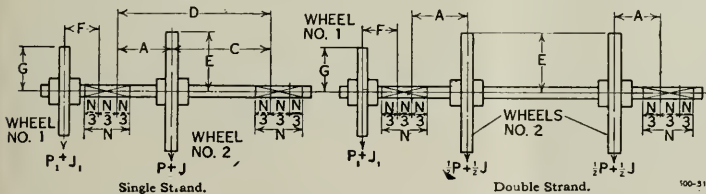
$$RF = .20 \times \frac{1.5}{6} = .05.$$

The turning effort necessary to operate conveyor, figured from the equation given for roller chain conveyor which carries the material (formula "dd"), is

$$P = 164(92 + 200)(.05 \times .92 + .39) + (92 \times 164)(.05 \times .92 + .39)$$

$$P = 47888 \times .436 - 15088 \times .344$$

$$P = 20879 - 5190 = 15,689 = \text{The torsional effort or pull acting at the radius of the sprocket wheels.}$$



Turning Efforts

Vertical Elevators

(a) $P = (W_1 \times L) + C$

Horizontal Scraper Conveyors

With chains and material sliding

(b) $P = (2 \times W \times L \times F) + (W_1 \times L \times F_1)$

Horizontal Scraper Conveyors

With roller chains supporting flights, and material sliding

(c) $P = (2 \times W \times L \times RF) + (W_1 \times L \times F_1)$

Horizontal Conveyors

Which carry the material

(d) $P = (2 \times W + W_1)(L \times RF)$

Inclined Scraper Conveyors

With chains and material sliding

(bb) $P = (W \times L)(F \times \text{Cos } \alpha + \text{Sin } \alpha) + (W_1 \times L)(F_1 \times \text{Cos } \alpha + \text{Sin } \alpha) + (W \times L)(F \times \text{Cos } \alpha - \text{Sin } \alpha)$

Inclined Scraper Conveyors

With roller chains supporting flights, and material sliding

(cc) $P = (W \times L)(RF \times \text{Cos } \alpha + \text{Sin } \alpha) + (W_1 \times L)(F_1 \times \text{Cos } \alpha + \text{Sin } \alpha) + (W \times L)(RF \times \text{Cos } \alpha - \text{Sin } \alpha)$

Inclined Conveyors

Which carry the material

(dd) $P = L(W + W_1)(RF \times \text{Cos } \alpha + \text{Sin } \alpha) + (W \times L)(RF \times \text{Cos } \alpha - \text{Sin } \alpha)$

Horse Power

To the turning effort just given, 10 per cent should be added for the friction of the head and foot shafts, and 15 per cent for each pair of gear reductions, for the gross turning effort. Provision should also be made for excessive starting loads.

The necessary horse power can be computed from the equation:

$$\text{Horse Power} = \frac{\text{Gross turning effort} \times \text{speed in feet per min.}}{33,000}$$

Chain Stresses

In the case of vertical elevators with single chain, the stress in chain equals the turning effort P plus the weight of one run. For double strand chains the stress in each chain equals one-half of this.

In the case of horizontal conveyors the chain stress equals the turning effort or pull only, in a single strand conveyor; and one-half this amount for each chain in a double strand conveyor.

For inclined conveyors the chain stress at head equals the pull due to weight of the carrying run, plus the pull due to weight of material on the conveyor, provided the incline of the conveyor is sufficient to cause the return run to move down the incline by gravity. If the incline is insufficient, and the foot wheels have to pull the return run of conveyor down the incline, this pull must be added to the above forces.

In the case of the example given, the total chain stress at head equals 20,879 pounds, while the torsional pull amounts to 15,689 pounds.

MEMBERS OF THE ASSOCIATED GENERAL CONTRACTORS

PACIFIC COAST AND INTERMOUNTAIN TERRITORY

CALIFORNIA STATE BRANCH

1318 Pershing Square Bldg.—TRinity 9418—Los Angeles

O. C. STRUTHERS, President

E. L. KIER, Vice-President

GEORGE HERZ, Secretary

MELVILLE DOZIER, JR., Manager

NORTHERN CALIFORNIA CHAPTER

206 Sansome St.—GARfield 7107—San Francisco, Calif.

C. W. Wood, President

Geo. G. Pollock, Vice-President

Floyd O. Booe, Secretary-Manager

| | | |
|---|---|--------|
| Atkinson, Lynn S. (HPR)..... | 1316-17 Edwards & Wilder Bldg., L. A., Tr. | 7451 |
| Atkinson, Cuv F., Co., Inc. (BHPR)..... | 601 Russ Bldg., S. F., Sut. | 3629 |
| Ball, N. M. (HP)..... | 1889 Yosemite Rd., Berkeley, AS | 6722 |
| Basalt Rock Co., Inc. (HP)..... | 900 8th St., Napa, Napa | 105 |
| Bechtel Co., W. A. (BHPR)..... | 155 Sansome St., S. F., Ca. | 0780 |
| Bevanda, M. J. (HP)..... | 319 Elks Bldg., Stockton | 7470 |
| Bishop, E. B. (HP)..... | 900 Forum Bldg., Sacramento, Capitol | 2456 |
| Bodenhamer Const. Co. (HPR)..... | Box 643, 354 Hobart St., Oakland, Clencourt | 5022 |
| Calif. Const. Co. (BHPR)..... | 715 Standard Oil Bldg., S. F., Do. | 4820 |
| Casson, Jack A. (HP)..... | Hayward, Calif., Hayward | 5400 |
| Clark & Henery Const. Co. (HP)..... | 664 Market St., S. F., DO. | 2903 |
| Colley, W. C. (HPR)..... | 35 Northampton Ave., Berkeley, Ash. | 1323 |
| Conner, J. L. (HP)..... | P. O. Box No. 86, Monterey | 1137-M |
| Connolly, T. E. (BHPR)..... | 461 Market St., S. F., Kearny | 6408 |
| Conyers, R. A. (HPR)..... | 1043 38th St., Oakland, Olym. | 9391 |
| Currie James (HPR)..... | 1100 Peninsula Ave., Burlingame, Burl. | 3497 |
| Delin, C. M. (HPR)..... | 206 Sansome St., San Francisco, Gar. | 7107 |
| Dodge Bros., Inc. (HP)..... | Fallon, Nevada, Main | 1761 |
| Drumann, A. D. (HP)..... | 2857 Hannah St., Oakland, Hgate | 900 |
| Eaton & Smith (HPR)..... | 715 Ocean Ave., San Francisco, De. | 6700 |
| Fairbanks, A. J. & J. L., Inc. (HPR)..... | Linden Ave., So. S. F. | 436 |
| Fay Improvement Co., The (HPR)..... | Phelan Bldg., S. F., KE. | 4044 |
| Fitzmaurice, H. (HP)..... | 2857 Hannah St., Oakland, Hgate | 900 |
| Force Const. Co. (HP)..... | 70 Bellevue, Piedmont, Calif., HU. | 9349 |
| Franks Contrctg. Co. (RPW)..... | 260 California St., S. F., DOug. | 6684 |
| Frederickson Bros. (BHP)..... | First Natl. Bank Bldg., Stockton | 5974 |
| Frederickson & Watson Const. (BHP)..... | 873 81st Ave., Oakland, SW. | 1264 |
| French, George J., Jr. (HP)..... | P. O. Box No. 675, Stockton | 6676 |
| Gerwick, Ben C., Inc. (HP)..... | 112 Market St., S. F., SU. | 8454 |
| Granite Construction Co. (BHPR)..... | Watsonville, California | 9088 |
| Hanrahan Co. (HP)..... | Hobart Bldg., San Francisco, CA. | 1639 |
| Harney, Charles L. (HP)..... | 74 New Montgomery St., S. F., CA. | 1711 |
| Hauser, W. H. (HPR)..... | 3129 E. 7th St., Oakland, Fruitvale | 6790 |
| Heafey-Moore Co. (HP)..... | 344 High St., Oakland, AN. | 0466 |
| Hemstreet & Bell (HP)..... | "C" Street, Marysville | 433 |
| Heple, Earl W. (BHPR)..... | 494 Delmas Ave., San Jose, Calif. | |
| Hodgman & MacVicar (HP)..... | 714 Plymouth, Pasadena, Tr. | 1563 |
| Holland, J. P., Inc. (HPR)..... | 1834 McKinnon Ave., S. F., MI. | 5400 |
| Iscell Const. Co. (HP)..... | Carson City, Nev., Ph. 1754 (Also Fresno) | |
| Jenkins, M. A. (HP)..... | 3560 Y St., Sacramento Capital | 472 |
| Jones & King (HPR)..... | Hayward, Calif., Hay. | 74 |
| Kaiser Paving Co. (BHPR)..... | Latham square Bldg., Oakl., HI. | 2614 |
| Knapp, J. F. (HPR)..... | Financial Center Bldg., Oakl., G. | 1620 |
| Larsen Bros. (HP)..... |Galt, Calif. | |
| Lee, U. B. (HP)..... | 10059 Carpenter St., San Leandro, Sweet. | 1717 |
| Le Toureux, R. C. (HPR)..... | 122 Moss Ave., Stockton | 471 |
| Lord & Bishop (HPR)..... | Navy Bldg., Sacramento, Main | 3981 |
| Lovelace, Nate (HP)..... | 3433 "N" St., Sacramento, Capital | 1990 |
| Malcom, C. T. (HPR)..... | Walnut Creek, Calif., W. C. | 277 |
| McDonald, D. (HPR)..... | 204 23rd St., Sacramento, Cap. | 1806 |
| McGillivray Const. Co. (HPR)..... | 206 Sansome St., S. F., DA. | 2170 |
| McMillan, W. K. (HP)..... | 2088 Howard St., San Francisco, MA. | 3876 |
| Mercer-Fraser Co. (BHPR)..... |Eureka, Eureka | 808 |
| Nevada Rock & Sand Co. (HPR)..... | Fallon, Nevada, Phone 1851 | |
| Nevada Rock & Sand Co. (HP)..... |Reno, Nevada, Reno | 5291 |
| Nightbert, Fred W. (HP)..... | No. 10 "H" St., Bakersfield | 4178 |
| Pacific Pavements Co., Ltd. (HP)..... | 85 Barstow St., S. F., HE. | |
| Pacific States Construction Co. (HP)..... | Call Bldg., S. F., DO. | 0879 |
| Phillips, John, Co. (HP)..... | 582 Market St., San Francisco, CA. | 4711 |
| Pollock, Geo. Co. (HPR)..... | P. O. Box 903, Sacramento, Main | 1457 |
| Rohl, H. W., Co. (HPR)..... | 4351 Alhambra Ave., Los Angeles, CH. | 6141 |
| Six Companies, Inc. (BHPR)..... | Financial Center Bldg., S. F., Gar. | 3842 |
| Stevens-Helmerts, Inc. (BHPR)..... | 206 Sansome St., S. F., DA. | 5235 |
| Stevens & Grohman Co. (HPR)..... | P. O. Box 576, Roseville, Calif. | |
| Tedford, J. N. (HP)..... | Fallon, Nevada, Main | 461 |
| Teichert, A., & Son, Inc. (HP)..... | 1846 37th St., Sacramento, Main | 6586 |
| Tieslau Bros. (HP)..... | 2819 Grove St., Berkeley, BE. | 7635 |
| Tucker, H. V., Co. (HP)..... | 300 Vermont St., S. F., MA. | 8513 |
| Ulrich Const. Co., Geo. J. (HPR)..... |Modesto, Modesto | 921 |
| Von der Hellen & Pierson (BHP)..... |Castaic, Calif. | |
| Ward Engineering Co. (HP)..... | 315 Montgomery St., S. F., DOug. | 8743 |
| Wood, C. W. (HP)..... | P. O. Box 1435, Stockton | 3743 |
| Young, Clarence (HP)..... | 5250 Broadway Ter., Oakland, LO. | 3743 |
| Young & Son Co., Ltd. (HP)..... | 599 Colusa Ave., Berkeley, Berk | 5551 |

Associate Members

| | | |
|---|--|------|
| American Bitumuls Co. (Bitumuls)..... | 200 Bush St., S. F., CA. | 6653 |
| Anderson Bros. Supply Co. (Commissary)..... | Boulder City, Nev. | 4800 |
| Andrews, T. T., Co. (C. P. A.)..... | 1650 Russ Bldg., S. F., GA. | 7712 |
| Associated Oil Co. (Asso. Prod.)..... | 79 N. Monty St., S. F., KE. | 4800 |
| Austin Western Road Machinery Co. (Road Machinery)..... | ..... |  |
| Autocar Sales & Service Co. (Autocar Trucks)..... | 435 Brannan St., San Francisco, DO. | 2183 |
| Bacon, Edward R., Co. (Road Machinery)..... | 326 Howard, San Francisco, SU. | 1730 |
| ..... | Folsom and 17th Sts., San Francisco, HE. | 3700 |
| Blake Bros. Co. (Crushed Rock)..... | Balboa Bldg., S. F., KE. | 5320 |
| Calaveras Cement Co. (Cement)..... | 315 Montgomery, San Francisco, DO. | 4224 |
| California Corrugated Culvert Co. (Corrugated Pipe)..... | ..... |  |
| ..... | 5th & Parker, West Berkeley, BE. | 5420 |
| Cement Gun Construction Co. (Gunite)..... | 35 Second St., San Francisco, SU. | 8306 |
| Contractors' Ins. Agency (Insurance)..... | 206 Sansome, S. F., SU. | 3400 |
| Cowell Lime & Cement Co. (Cement)..... | 2 Market St., S. F., GA. | 4870 |
| Garfield & Co. (Equipment)..... | Hearst Bldg., San Francisco, SU. | 1036 |
| Geiger Iron Works (Equip.)..... | P. O. Box 423, Stockton, Stock | |
| Granite Rock Co. (Crushed Rock)..... |Watsonville, Wat. | 988 |
| Harneschfeger Sales Corp. (Equip.)..... | 82 Beale St., S. F., DO. | 2313 |
| Harrin, Rickard & McCone Co. (Equip.)..... | 1600 Bryant St., San Francisco, UN. | 3740 |
| Link-Belt Co. (Equip.)..... | 400 Paul Ave., San Francisco, DE. | 6400 |
| Marion Steam Shovel Co. (Power Shovels)..... | 111 Howard St., San Francisco, KE. | 7493 |
| Modern Vehicle Co. (Mfrs. Steel Bodies)..... | ..... |  |
| ..... | 437 4th St., San Francisco, CA. | 1402 |
| Murray & Ready (Labor Agency)..... | 784 Howard St., S. F., SU. | 1205 |
| Northwest Engineering Co. (Shovels)..... | 73 Main St., S. F., SU. | 7053 |
| Pacific Coast aggregates..... | 700 Wells Fargo Bldg., S. F., SU. | 8940 |
| Pacific Coast Engineering Co. (Structural Steel)..... | ..... |  |
| ..... | Foot of W. 14th St., Oakland, HI. | 1322 |
| Pacific H. B. A. Steel Co., Inc. (Drill Steel)..... | 40 Brannan St., San Francisco, CA. | 6683 |
| Pacific Portland Cement Co. (Golden Gate)..... | ..... |  |
| ..... | Hunter-Dulin Bldg., San Francisco, CA. | 5100 |
| Pland-Evans (Commissary)..... | Merchants' Ex. Bldg., S. F., GA. | 4923 |
| Robinson Tractor Co. (Caterpillar Tractors)..... | ..... |  |
| ..... | 1705-09 E. 12th St., Oakland, FR. | 2485 |
| Roebling's, Jno. A., Sons Co. (Wire Rope)..... | 1175 Howard St., San Francisco, CA. | 6490 |
| ..... | 646 Folsom, San Francisco, GA. | 6490 |
| Santa Cruz Portland Cement Co. (Santa Cruz)..... | ..... |  |
| ..... | Crocker Bldg., San Francisco, GA. | 3307 |
| Shell Oil Co. (Shell Products)..... | 100 Bush St., S. F., EX. | 5400 |
| Soule Steel Co. (Reinforcing Steel)..... | 1750 Army St., S. F., VA. | 4141 |
| Spears-Wells Machinery Co. (Equip.)..... | 1832 9th St., Oak., HO. | 4100 |
| Standard Oil Co. of Calif. (Standard Products)..... | ..... |  |
| ..... | Standard Oil Bldg., San Francisco, SU. | 7190 |
| Traffic Service Bureau (Freight Audits)..... | 214 Calif. St., Washington | 2786 |
| Union Oil Co. of Calif. (Union Prod.) Mills Bldg., S. F., SU. | ..... | 1400 |
| United Commercial Co., Inc. (Equip.)..... | 234 Steuart St., S. F., DO. | 0430 |
| Western Pipe & Steel Co. (Steel Pipe)..... | 444 Market, S. F., GA. | 6788 |

SOUTHERN CALIFORNIA CHAPTER

1318 Pershing Square Bldg.—TRinity 9418
Los Angeles, Calif.

C. C. FitzGerald, President

Melville Dozier, Jr., Manager

LYNN S. ATKINSON, First Vice-President (Engineering Div.)

WM. A. SIMPSON, Second Vice-President (Building Div.)

The address of the firm is the same city in which is located the Chapter office unless otherwise shown in membership list.

Building Contractors

| | | |
|---------------------------------|------------------------------------|-------|
| Atkinson, J. F. | 1102 Story Bldg., Vandeike | 7783 |
| Baruch Corp., Herbert M. | 1015 Lincoln Bldg., TRinity | 5473 |
| Bradley Constr. Co., K. R. | 1833 West Fico, WASHINGTON | 2786 |
| Burgin, W. Jay, | Long Beach, L. B. | 81103 |
| Byerts & Dunn, | 7908 Santa Monica Blvd., Crestview | 9602 |
| Clinton Construction Co., | 1103 Spring Arcade Bldg., Madison | 2597 |
| Crowell, Wm. C. | 495 S. Bdwy., Pasadena, WAKEFIELD | 6692 |
| Crowe Co., Wm. | 2104 E. 15th St., WESTMORE | 5708 |
| DeCamp-Hudson Co., Ltd. | 1277 W. 24th St., WESTMORE | 3382 |
| Dixon, L. E., Co. | 609 So. Grand Ave., TRinity | 4925 |
| Escherich Bros. | 234 W. 37th Place, ADAMS | 6294 |

Class of Construction: (B) Building; (H) Highway; (P) Public Works; (R) Road.

ALAMEDA COUNTY CHAPTER

354 Hobart St., Rm. 410—Glencourt 7400—Oakland, Calif.

S. G. Johnson, President H. J. Christensen, Treasurer
Geo. J. Maurer, Vice-President W. E. Hague, Manager

| | | |
|--------------------------------|---------------------------------|------|
| Brennan, J. P. (B)..... | 2820 Regent, Berkeley, BE. | 0346 |
| Christensen, H. J. (B)..... | 1924 Broadway, Oakland, LA. | 7164 |
| DeVelbiss, C. Dudley (B)..... | 369 Pine St., S. F., CA. | 3225 |
| Dyer Construction (B)..... | 337 17th St., Oakland, GL. | 3203 |
| Furlong, Thos. H. L. (B)..... | 460 Jerome Ave., Piedmont, HU. | 0620 |
| Jacobs & Pattiani (BP)..... | 337 17th St., Oakland, GL. | 3203 |
| Johnson, S. C. (B)..... | 4652 Dolores Ave., Oakland, FR. | 6600 |
| Keating, W. C. (B)..... | 925 Forum Bldg., Sacramento | |
| Lecture, E. T. (B)..... | 87 Ross Circle, Oakland, OL. | 0389 |
| Littlefield, R. W. (B)..... | 337 17th St., Oakland, HI. | 0994 |
| Lyons, W. E. (B)..... | 354 Hobart St., Oakland, HO. | 5325 |
| Maurer, George J. Co. (B)..... | 50 York Drive, Oakland, HU. | 3457 |
| Nordstrom, David H. (B)..... | 354 Hobart St., Oakland, GL. | 7400 |
| Pedgrift, James H. (B)..... | 4106 Broadway, Oakland, HU. | 1300 |
| Petersen, George (B)..... | 1841 Bancroft, San Leandro, TR. | 2043 |
| Petersen, James B. (B)..... | 4021 Agua Vista, Oakland, FR. | 9887 |
| Schultz, Herbert (B)..... | 811 Mendocino, Berkeley, AS. | 2360 |
| Sullivan & Sullivan (B)..... | 2653 Best Ave., Oakland, AN. | 4724 |
| Thornally, W. G. (B)..... | 354 Hobart St., Oakland, GL. | 8476 |
| Westlund, Fred J. (B)..... | 354 Hobart St., Oakland, GL. | 7400 |

Bridges, Foundations

| | | |
|-------------------------------|---------------------------------|-------|
| Ledbetter Co., W. M. | Box 1264, Arcade St., CApitol | 13415 |
| Ogber Brothers..... | 707 San Fernando Bldg., Angelus | 8759 |
| Raymond Concrete Pile Co..... | 1008 Washington Bldg., VAndike | 6536 |

Highways, Paving, Grading

| | | |
|---------------------------------|--|--------|
| Basich Bros..... | Torrance, Gardena | 446 |
| Bock, Geo. S..... | 1007 S. Harvard, EMpire | 7614 |
| Donovan & Sons, J. G..... | 4031 Goodwin Ave., OLYmpic | 0423 |
| Ferry, Peter L..... | San Fernando Rd. and Bdwy., Glendale, OL | 0164 |
| Fleming Construction Co..... | Pomona | |
| Griffith Company..... | L. A. Railway Bldg., WEstmore | 9343 |
| Hall-Johnson Co..... | P. O. Box 387, Alambra, Eliot | 1855 |
| Herz & Co., Geo..... | 310 Platte Bldg., San Bernardino, S. B. | 241-42 |
| Heuser, Chas. U..... | 316 Allen Ave., Glendale, DOUGlas | 3965 |
| Hudson, Chas. H..... | 408 Rives-Strong Bldg., VAndike | 3374 |
| Jahn & Bressler..... | 701 Lane Mortgage Bldg., TRinity | 8674 |
| Lang Transportation Co..... | 5501 Santa Fe Ave., JEFFerson | 3104 |
| Lewis Construction Co..... | 300 S. Juanita St., Washington | 1407 |
| Packard & Tanner..... | 905 W. Latham St., Phoenix, ARiz. | |
| Pearson & Dickerson..... | 4485 Cypress, Riverside, | 1600 |
| Ross, M. S..... | 4011 Goodwin Ave., CApitol | 7603 |
| Wells & Bressler..... | P. O. Box 596, Santa Ana, | 227 |
| Willis, C. G., & Sons, Inc..... | 2119 E. 25th St., LAfayette | 9826 |

Pipe Lines, Water Works

| | | |
|--------------------------------|-----------------------------------|------|
| American Concrete Pipe Co..... | P. O. Box 1428, Arcade Sta., JE. | 4211 |
| Haverty Co., Thos..... | 316 E. 8th St., VAndike | 1171 |
| United Concrete Pipe Co..... | Box 1, Station H, L. A., TWInoaks | 9196 |

Subways, Conduits

| | | |
|----------------------------|-----------------------|--|
| Delta Construction Co..... | P. O. Box 79, Compton | |
|----------------------------|-----------------------|--|

General Engineering

| | | |
|------------------------------------|-------------------------------------|------|
| Atkinson, Lynn S..... | 609 S. Grand, TRinity | 7451 |
| Bartmus, Peter..... | Hollywood Riviera, Redondo, Redondo | 6404 |
| Bent Bros., Inc..... | 418 S. Pecan S., Angelus | 7510 |
| Campbell-Reichert Co..... | 4000 Whiteside Ave., ANGelus | 9598 |
| Cox, R. L..... | 1100 Westminster, ALHambra | 1699 |
| EmSCO Const. Cutting Corp..... | 1517 Santa Fe Ave., VAndike | 7168 |
| Fitz-Gerald Eng. & Constr. Co..... | 216 Rowan Bldg., TRinity | 5088 |
| Foley, D. A., Construc. Co..... | 716 Grant Bldg., TUCKer | 7814 |
| Kemper Const. Co., Ltd..... | 3701 Overland, Los Angeles | |
| Macco Construction Co..... | Hynes, JEFFerson | 1148 |
| Merritt-Chapman-Scott Corp..... | P. O. Box 507, San Pedro, | 2880 |
| Mittry Bros. Construction Co..... | 722 Detwiler Bldg., VAndike | 6210 |
| Morrison-Knudsen Co..... | 411 West Fifth St., MUTual | 7684 |
| Robinson-Roberts Co..... | 706 Rives-Strong Bldg., TRinity | 2889 |
| Spicer, C. A..... | 818 Financial Center Bldg., TUCKer | 9570 |
| Standard Dredging Co..... | 325 Central Bldg., TRinity | 3253 |
| Watson, R. A..... | 1026 N. McCadden Pl., GRANite | 4121 |

Affiliates

| | | |
|----------------------------------|---------------------------------------|-------|
| Brashears & Co., C..... | 501 Security Bldg., TRinity | 5091 |
| Consolidated Rock Prod. Co..... | 656 S. Los Angeles St., TRinity | 6241 |
| Gilmore Oil Co..... | 2423 E. 28th St., JEFFerson | 1211 |
| Graham Brothers..... | 1215 W. 7th St., Long Beach, L. B. | 65251 |
| Hartford Accident & Ind. Co..... | 548 S. Spring St., MADison | 1471 |
| L. A. Brick Co..... | 1078 Mission Road, ANGelus | 5684 |
| Sun Lumber Co..... | Crescent Drive, Beverly Hills, OXFord | 6191 |
| Union Oil Co..... | Union Oil Bldg., TUCKer | 7211 |

Associate Members

| | | |
|------------------------------------|-------------------------------------|------|
| Calaveras Cement Co..... | 315 Montgomery St., San Francisco | |
| Cowell, Henry, Lime & Cemt. Co., | 81 Franklin St., Oakland, HI. | 3398 |
| East Bay Glass Co..... | 621 Sixth St., Oakland | |
| Lannom Bros. Mfg. Co..... | Fifth and Magnolia Sts., Oakland | |
| Maxwell Hardware Co..... | 1320 Washington St., Oakland | |
| Melrose Building Materials Co..... | 3591 Tidewater Ave., Oakland | |
| Oakland Planning Mill..... | Second and Washington Sts., Oakland | |
| Pacific Portland Cement Co., | 111 Sutter, San Francisco, CA. | 4100 |
| Santa Cruz Portland Cement Co..... | 354 Hobart St., Oakland | |
| Sunset Lumber Co..... | 400 High St., Oakland | |
| Tilden Lumber Co..... | Foot of University Ave., Berkeley | |

SAN DIEGO CHAPTER

Spreckels Theater Bldg.—Main 4289—San Diego, Calif.

George R. Dalry, President M. A. Mathias, Manager
M. H. Golden, Vice-President

| | | |
|------------------------------------|---------------------------------------|--------|
| Carroll, B. G..... | 4396 Maryland St., Hillcrest | 5274-M |
| Daley Corporation (HP)..... | 4430 Boundary St., Randolph | 1136 |
| Dennis Const. Co., V. R. (HP)..... | Box 183, Sta. A, Hillcrest | 8293 |
| Ford, E. Paul (HP)..... | Box 201, E. San Diego, Randolph | 5101 |
| Golden, M. H. (B)..... | 404 California Bank Bldg., Franklin | 7983 |
| Grove, Cecil B..... | 4316 Island Ave., Franklin | 7474 |
| Hazard Const. Co., R. E. (HP)..... | 2508 Kettner Blvd., Franklin | 6315 |
| Jarboe Constr. Co. (B)..... | 208 Spreckels Theatre Bldg., Franklin | 3792 |
| Kier Const. Co., W. E. (B)..... | First National Bank Bldg., Main | 2427 |
| Larsen, B. O. (B)..... | 1340 E. St., Main | 4752 |
| Miracle Constr. Co. (HP)..... | Box 601, E. San Diego, Main | 2295 |
| Penick & Sons, T. B. (HP)..... | 3075 L. St., Main | 4582 |

PACIFIC NORTHWEST BRANCH

4134 Arcade Building, Seattle, Wash.

JAS. MURDOCK, President H. V. BOGERT, Rec. Secretary
J. C. COMPTON, Vice-President

J. B. WARRACK, Treasurer
P. L. CROOKS, Vice-Pres. and Secretary

PORTLAND CHAPTER

Multnomah Hotel—Atwater 7883—Portland, Ore.

Paul L. Crooks, President Philip Hart, 2nd Vice-President
Ross B. Hammond, 1st Vice-President J. A. Lyons, Treasurer
G. B. Herington, Executive Secretary

| | | |
|-------------------------------------|-----------------------|------|
| Baker Construction Co. (B)..... | Security Bldg., Atw. | 9211 |
| Christensen, Fred, Inc. (BHP)..... | 187 E. 34th St., Ea. | 8934 |
| Cochrane Construction Co. (HP)..... | 65th & Ainsworth, Tr. | 5944 |

| | | |
|--|---------------------------------|------|
| Compton, J. C. (HP)..... | McMinnville, Ore., McM. | 106 |
| Crooks, P. L., Inc. (HPR)..... | Henry Bldg., Atw. | 7767 |
| Dann, J. J. (PHR)..... | 300 Henry Bldg., Atw. | 5837 |
| Edlefsen-Weygandt Co. (HP)..... | Foot of Jefferson, Atwater | 4090 |
| Endicott, Wm..... | Corvallis, Oregon | |
| Gates, E. L. (HPR)..... | Eugene, Oregon | |
| Gilpin Construction Co. (HPR)..... | Henry Bldg., Atw. | 6220 |
| Greenwood, A. C. (HPR)..... | 500 N. Front St., Br. | 3030 |
| Guthrie & Co., A., Inc. (BPHR)..... | 552 Sherlock Bldg., Atw. | 8316 |
| Hammond, Ross B. (B)..... | 1312 Public Service Bldg., Atw. | 2159 |
| Hauser Bros. Construction Co. (HPR)..... | Multnomah Hotel, Atw. | 7441 |

Class of Construction: (B) BUILDING; (H) HIGHWAY; (P) PUBLIC WORKS; (R) RAILROAD.

| | | |
|--------------------------------|---|------|
| Hoffman, L. H. (BP) | Public Service Bldg., Atw. | 3181 |
| Jacobsen-Jensen Co. (PH) | 407 Stanton, Gar. | 3313 |
| Johnson Contract Co. (HPR) | 414 Exchange Bldg., Atw. | 0678 |
| Johnson-Gardner Co. (HPR) | 414 Exchange Bldg., Atw. | 0678 |
| Kern & Kibbe (HPR) | 290 E. Salmon St., Ea. | 4116 |
| Kerman, F. J. (H) | Porter Bldg., At. | 2055 |
| La Pointe Const. Co. | 1291 Cumberland Rd., Be. | 6000 |
| Lindstrom & Feigenson (BPHR) | 1991 Halsey St., Ta. | 9226 |
| Lyons, J. A. (BPHR) | 1001 Halsey St., Tr. | 2841 |
| Milne Constr. Co. | 1853 E. Broadway, Tab. | 7277 |
| Morrison & Knudsen (BPHR) | 319 Broadway, Boise, Idaho | |
| Morgan, T. M. (H) | 5410 Wilshire Blvd., Los Angeles | |
| Newport Construction Co. (PHR) | 317 Exchange Bldg., Atw. | 5900 |
| Pacific Bridge Co. (BPHR) | Ft. of E. Salmon St., Ea. | 2164 |
| Parker & Danfield (BP) | 984 E. 17th St., Sel. | 6182 |
| Parker-Schram Co. (PHR) | Couch Bldg., Atw. | 4375 |
| Peck, E. C., & Co. (PH) | Aberdeen, Wash. | |
| Peck, W. H. Co. (PHR) | 319 Broadway, Boise, Idaho | |
| Quckett, W. H. Co. (PHR) | Box 1109, Klamath Falls, Ore. | |
| Rebman, J. (PH) | 343 Vancouver Ave., Tr. | 7825 |
| Robertson, Hay & Wallace (B) | 605 Weatherly Bldg., Ea. | 3613 |
| *Saxton & Looney | Corvallis, Ore. | |
| Seed, John S. (B) | 201 Worcester Bldg., Atw. | 6444 |
| | Honorary Member and Director of Chapter | |
| Shea & Co., J. F. (PHR) | 211 Henry Bldg., Atw. | 2435 |
| Sullivan & Doyle (PHR) | Ft. of Curry St., Atw. | 5297 |
| | Box 104, Portland, Ore. | |
| United Contracting Co. (BPHR) | 309-10 Stock Ex. Bldg., Atw. | 5296 |
| von der Hellen & Pierson (HR) | Naches, Wash. | |
| White, Ernest & Co. (B) | Twin Falls, Idaho | |
| Wren & Greenough (PHR) | 1037 Com. Bldg., At. | 9882 |
| Wright Const. Co. (BPH) | Aberdeen, Wash. | |
| Young, I. L. (BPH) | 524 Henry Bldg., At. | 0297 |

Associate Members Portland Chapter

| | | |
|-------------------------------------|------------------------------|------|
| Balzer Machinery Co. | 275 Pine St., Atw. | 9391 |
| Beall Pipe & Tank Co. | 85 Columbia Blvd., Wa. | 3171 |
| Clyde Equipment Co. | 555 Thurman St., Br. | 5561 |
| Collins Concrete Pipe Co. | 410 River St., Wa. | 7670 |
| Feenaghty Machinery Co. | 309 E. Yamhill, Ea. | 2187 |
| Grand Sheet Metal Works. | 60 E. Third N., Ea. | 2181 |
| Latture, J. L. Equip. Co. | 312-314 E. Madison St., Ea. | 8166 |
| Loggers & Contractors Machy. Co. | 345 E. Madison St., Ea. | 4128 |
| Metropolitan Casualty Ins. Co., The | Wilcox Bldg., Atw. | 7521 |
| National Hospital Assn. | 400 Mohawk Bldg., Atw. | 5291 |
| Oregon Portland Cement | 321 E. Madison, Ea. | 3116 |
| Phoenix Iron Works. | 360 Hawthorne, Ea. | 0029 |
| Pomeroy, J. H., & Co. | Box 48, Seattle, Wash. | |
| Pure Iron Culvert & Mfg. Co. | 763 Gladstone, Sel. | 2275 |
| Santa Cruz Portland Cement | 45 Fourth St., Atw. | 9848 |
| Standard Oil Co. | Pacific Bldg., Bea. | 4161 |
| Swigert, Hart & Yett. | Ft. of E. Salmon St., Lan. | 1125 |
| Union Oil Co. of California | Yeon Bldg., Atw. | 9521 |
| Wallace Bridge & Structural Steel | P. O. Box 48, Seattle, Wash. | |
| Shell Oil Co. | Commerce Bldg., At. | 7321 |

SPOKANE CHAPTER

West 515 First Avenue—Main 6822—Spokane

Max J. Kuney, President I. G. Anderson, Vice-President
 Nick Norman, Vice-President Dan Hannah, Secy.-Treas.

| | |
|-------------------------------|----------------------------|
| Alloway & Georg (B) | Hutton Bldg. |
| Auld & Shinn (B) | 1121 Indiana |
| Burnette, C. A. (H) | 1118 Ide Ave. |
| Byers, W. A. (H) | W. 1204 Mansfield |
| Clifton & Applegate (HPR) | Hutton Bldg. |
| Collins, J. H. & Co. (H) | Colville, Wash. |
| Colonial Building Co. (BH) | Hutton Bldg. |
| Crick, James (H) | Realty Bldg. |
| Degerstrom, N. A. (HPR) | Peyton Bldg. |
| Edwards, J. E. (H) | S. 1423 Adams |
| Geist, W. L. (H) | W. 444 23rd Ave. |
| Hansen Construction Co. | Opportunity |
| Harding, Geo. (H) | Walla Walla, Wash. |
| Hargrave Construction Co. (H) | W. 418 Twentieth |
| Hewett, F. R. (H) | W. 420 Twenty-second |
| Joslin & McAllister (H) | East 3038 Trent Ave. |
| Kuney, Max J. (H) | Hutton Bldg. |
| Larson Bros. (B) | Hyde Bldg. |
| Long, Oliver J. (H) | W. 1924 Mansfield |
| Lyon & Price (H) | W. 503 Fourteenth |
| March Construction Co. | W. 1002 Riverside, Spokane |

| | |
|----------------------------------|------------------------|
| Martin, F. E. (B) | Galax Hotel |
| McLellan, A. (B) | E. 932 Ermina |
| Medby, M. C. (B) | S. 3614 Arthur |
| Meyers, W. G. | S. 2217 Tekoa St. |
| Morin, S. C. (B) | S. 309 Bernard |
| Norman, Nick (B) | 231 Waverly Place |
| Ornyberg, Carl (H) | Realty Bldg. |
| Oribo, Sam (H) | E. 3104 Boone |
| Payne, Mrs. C. M. | N. 2602 Hamilton St. |
| Power, C. A. (H) | S. 1703 Grand |
| Siems, Spokane Co. (BPHR) | Realty Bldg. |
| Standard Asphalt Paving Co. (HP) | Chronicle Bldg. |
| Sullivan, D. A., & Co. | 415 Sprague Ave. |
| Teretling, J. A., & Sons (HP) | 511 Sound Ave. |
| Tobin, James, & Son (H) | West 1715 Pacific Ave. |
| Triangle Construction Co. (H) | W. 1220 Ide |
| True-House Construction Co. (B) | No. 121 Browne |
| Wheeler & England (HP) | Coeur d'Alene, Idaho |
| Young, Peter J. (B) | S. 11 Cedar St. |

Associate Members

| | |
|---|----------------------------------|
| Beall Pipe & Tank Corp. | West 615 Main Ave. |
| Brandt Bros. | W. 14 Main Ave. |
| Coeur d'Alene Hardware & Foundry | Wallace, Idaho |
| Commercial Importing Co. | 617 Western Ave., Seattle, Wash. |
| Consolidated Supply Co. | W. 1300 Ide Ave. |
| Construction Equipment Co. | 1118 Ide Ave. |
| Feenaghty Machinery Co. | N. 715 Division St. |
| W. P. Fuller & Co. | N. 229 Post St. |
| General Machinery Co. | E. 3501 Riverside |
| Gladling-McBean & Co. | 524 Old National Bldg. |
| Haweys Fuel Co. | N. 740 Division St. |
| Hofius-Ferris Equipment Co. | W. 728 Mallon |
| Marshall Wells Co. | S. 157 Howard |
| Jones & Dillingham Co. | W. 715 First Ave. |
| Jones & Mitchell | Hutton Bldg. |
| Long Lake Lumber Co. | N. 348 Wall St. |
| W. S. McCrea & Co. | 212 Symons Bldg. |
| J. E. McGovern Co. | 550 Peyton Bldg. |
| Nott-Atwater Co. | S. 157 Monroe St. |
| Oriental Importing Tea & Coffee Co. | W. 917 First |
| Spokane Concrete Pipe Co. | N. 2627 Dakota |
| Spokane Culvert & Tank Co. | N. End Division Street Bridge |
| Spokane Paper & Stationery Co. | S. 152 Jefferson |
| Standard Oil Co. of Calif. | Old National Bldg. |
| Union Oil Co. | 611 Chronicle Bldg. |
| Washington Brick, Lime & Sewer Pipe Co. | S. 151 Washington |
| Washington Machinery & Supply Co. | W. 9 Cataldo |

MOUNTAIN PACIFIC CHAPTER

(Strictly a Public Works Chapter, practically every member carrying on highway, public works and railroad construction)

Washington Hotel—Seattle, Wash.

John W. Rumsey, President Lee Johnson, Secretary, Treasurer
 John M. Clifton, Vice-President James D. Brown, Manager

| | |
|-----------------------------------|---|
| Allen & Goven | Olympia, Wash. |
| Barnard Curtiss Co. | Ellensburg, Wash. |
| Clifton, Applegate & Toole | Hutton Bldg., Spokane, Ma. |
| Columbia Power & Investment Co. | Stevenson, Wash. |
| Coyle Construction Co. | 901 Westlake N., Seattle, Gar. |
| N. A. Degerstrom | 444 Peyton Bldg., Spokane |
| Dorsey & Wilder, Inc. | 2006 State St., Bellingham, Wash. |
| Fuel Oil Service | Olympia, Wash. |
| Goodfellow Bros. | Wenatchee, Wash. |
| Grays Harbor Const. | Hoquiam, Wash. Hoq. 303 |
| Hargrave Construction Co. | W. 418, 20th Ave., Spokane |
| Hendricks & Co. | Chehalis, Wash. |
| F. R. Hewitt | 420 W. 22nd, Spokane, Riv. |
| Johnson, Homer G. | Perkins Hotel, Portland |
| Joslin & McAllister | Spokane, Wash. |
| Lee H. Johnson | 920 N. Tacoma Ave., Tacoma, Ma. |
| Lidyal, Wiley | Securities Bldg., Seattle |
| Lyon & Price | 503 W. 14th, Spokane, Riv. |
| Norris Bros. | Burlington, Wash. |
| Chas. A. Powers | S. 1703 Grand, Spokane, Riv. |
| Puget Sound Bridge & Dredging Co. | Seattle, El. 7300 |
| Puget Sound Construction Co. | Colman Bldg., Seattle, El. 7311 |
| Fred C. Redmon | 206 S. 4th Ave., Yakima, 9133 |
| Rumsey & Co. | Lumber Exchange Bldg., Seattle, Ma. 8751 |
| Standard Asphalt Co. | Chronicle Bldg., Spokane, Wash., Ma. 1689 |
| von der Hellen & Pierson | Enumclaw, Wash. |
| Winston Bros. | 4580 Colorado Ave., Seattle, Clen. 2268 |

PACIFIC

25c
per Copy

SKILL - INTEGRITY



RESPONSIBILITY

CONSTRUCTOR

CONSOLIDATED WITH

Building and Engineering News

IN THIS ISSUE



LAW OF MECHANICS' LIENS, ITS HISTORY,
DEVELOPMENT AND ANALYSIS, INCLUD-
ING PROPOSED UNIFORM LAW

(In Two Parts—Part II)

By Leo H. Shapiro and Virgil G. Skinner,
Attorneys at Law

RIGID RULES SET FOR CONSTRUCTION
LOANS FROM R. F. C.

INTERPRETATION OF SPECIFICATIONS
URGED BY NORTHERN CALI-
FORNIA CHAPTER

EMERGENCY RELIEF AND CONSTRUCTION
ACT EXPLAINED TO A.G.C. MEMBERS

UNIT BID SUMMARY—CONSTRUCTION NEWS



Daily Construction Report Service

offering the best for less

CONTRACTORS—EQUIPMENT DEALERS—
MATERIALMEN — Pacific Constructor Daily
News Service, published in connection with the official A.G.C. magazine, offers complete and up-to-the-minute information on all types of Engineering Construction in California and the major projects in the Western States.

It is compiled by the most complete staff ever assembled on a service of its kind on the Pacific Coast, and assures its users of only authentic and reliable reports.

If you have not yet received a copy of this service, send for a few days' samples (no charge), and be convinced that it is the most complete Engineering Report Service in the West.

Subscription price is \$5.00 per month, or \$50.00 a year when paid in advance, which includes semi-monthly issues of magazine.

FREE TO ADVERTISERS

PUBLISHED BY
STARK-RATH PUB. CO.

PACIFIC
— HALL OF FORTITUDE —
CONSTRUCTOR

547 MISSION STREET
SAN FRANCISCO

DAILY NEWS SERVICE

PACIFIC CONSTRUCTOR

With which is Consolidated Building and Engineering News

Official Publication of the Associated General Contractors of America
for the Eleven Pacific Coast States

J. P. FARRELL, *Editor*

S. P. McCASLAND, *Assoc. Editor, Am. Soc. C. E.*

VOL. 15

SAN FRANCISCO, CALIF., SEPTEMBER 15, 1932

No. 17

Editorial Comment

The State cement plant at Rapid City, South Dakota, was operated at a loss of \$25,605 during the first six months of 1932.

More evidence of the high price of government in business.

* * *

While directors of the Golden Gate Bridge and Highway District are working out financial details with bond buyers here at home, in an effort to secure \$35,000,000 to finance construction of the Golden Gate Bridge, Chas. H. Purcell, chief engineer for the San Francisco-Oakland Bay Bridge is in Washington conferring with the Reconstruction Finance Corporation with a view to securing a loan of \$75,000,000 to finance construction of the bay bridge connecting San Francisco with Alameda County.

For the benefit of those who doubt early construction in connection with the San Francisco-Oakland Bay Bridge, we refer them to the Engineering Construction Section in this issue, wherein are listed the quantities of materials involved in the construction.

Final plans have been completed. Everything is ready for the contractors. We simply await the backing of Uncle Sam to the extent of \$75,000,000.

Purchase a pair of goggles now. Dust will soon be flying in connection with this project.

* * *

Grand Rapids has taken advantage of Michigan's reputation for swift justice to make its streets safe for pedestrians.

Prompt enforcement of traffic laws, together with a vigorous educational campaign, enabled the city to establish a record of no traffic fatalities in six months.

The city led the nation during the period beginning February 1, 1931, in the war against traffic deaths waged by the National Safety Council.

Traffic is controlled by a Municipal Traffic Commission, which has revealed the physical conditions of streets in his fight to prevent accidents.

The council conducted a continuous educational program in homes, on the streets, and in industrial institutions. All city agencies co-operated in the program.

As a result, no child of school age has been killed in traffic in Grand Rapids since November, 1930. The number of accidents decreased 562 during the first six months of this year, as compared with the corresponding period last year.

* * *

A series of attacks have been made in various cities and towns against the use of the name of the California State Automobile Association on units of the road sign system.

Facts regarding the investment of the Association in the road sign system and the civic character of the work have been either misrepresented or ignored by those responsible for the attacks in question.

While to the Automobile Association these attacks may seem serious, they will have little or no consideration on the part of the motor public.

More than half a million dollars have been expended by the California State Automobile Association since 1923 on the road sign system of Northern and Central California. This statement, attested by a prominent firm of certified public accountants, is set forth in an open letter by D. E. Watkins, secretary and general manager of the Automobile Association, to city and county officials. The total expense of road signing work for the period from October 1, 1923, to January 1, 1932, was \$802,720.45. Of this sum the Automobile Association received \$253,013.19 in refunds from State, county and municipal governments, leaving \$549,707.26 as the net cost to the motorists' organization. The latter sum, it is pointed out, represents more than two dollars of Association funds to every dollar of contributed funds. During the period prior to 1923, the ratio of cost borne by the Association is declared to have been even greater.

Withdrawal of the Automobile Association from the road signing activities it has carried on for many years could have but one result—CHAOS.

That is not too strong a word, because it is exactly what would happen.

Carry on, C. S. A. C. We are with you.

* * *

Architect and Engineer, the magazine of architectural authority on the Pacific Coast, in the August issue editorially urges regulation in the letting of building contracts on the part of the Federal government.

The publication says:

"Recent Pacific Coast Federal building awards to Eastern contractors have raised the question: Why not regulate these awards according to locality? in other words, permit only contractors within a certain radius of the city where the building is to be built to figure the plans. A California building could be bid on only by contractors in this State, Oregon, Washington and Nevada. Why award contracts for Pacific Coast buildings to some obscure firm doing business in the Middle West or New England States? It's getting to be too common a thing—this letting work to Eastern concerns, as attested by the recent contracts on the Sacramento post office building, the Merced post office building and the Reno Federal building. In Long View, Washington, a contract for a new post office building there has just been awarded to a St. Louis firm. Meanwhile there are several hundred Pacific Coast contracting firms with men idle and equipment becoming obsolete."

Undoubtedly a fair proposal in the minds of the local construction interests but unfair to each and every member of the industry outside this district. Such a regulation, we are confident, would be held unconstitutional.

Limit Stakes and Levels

By THE EDITOR

A 30-hour week in all State and municipal departments and on all construction work carried out by the State and municipalities of Maryland was advocated recently by the Baltimore Federation of Labor.

* * *

Milwaukee will be able to provide work for 8000 jobless on ten-day shifts out of the funds donated by city employees. The donation of 10 per cent of salaries by municipal employees has created a fund of \$800,000 for relief work.

* * *

The State Board of Registration for Civil Engineers will hold examinations at Los Angeles October 13, 14 and 15, and in San Francisco October 20, 21 and 22 for registration of civil and structural engineers, it is announced by Pecos Callahan, assistant secretary of the board.

* * *

Timothy A. Reardon, State Labor Commissioner, has issued figures indicating that employment in manufacturing industries for the first seven months of the year was 40 per cent below that of the comparable period in 1929 and that payrolls were 45 per cent below.

* * *

Highway contractors will be required to pay not less than 20c per hour for common labor on work done in Virginia under the Federal highway loan provisions, according to Governor Pollard. This scale has already been attacked in certain sections, resulting in promises of a 25-cent minimum in some counties.

* * *

William Green, president of the American Federation of Labor, declares that while unemployment stopped increasing in August, it had now reached the peak figure of 11,400,000, and the only way the situation could be met was to "shorten work hours, create jobs, and get men back to work." The Federation president predicted 13,000,000 may be out of work by winter.

* * *

Charles H. Randall, president of the Los Angeles City Council, has presented to the council a resolution asking that it adopt a policy of specifying in proceedings for street improvements under special assessment districts types of pavement that do not require the payment of royalties. He also asks that bids on competitive types be asked for all cash as well as special assessment jobs. Councilman Randall's intention is to provide for bids on competitive types of pavement pending enactment of legislation to amend the improvement laws.

We have just as capable contractors here on the Pacific Coast as are operating in the "Middle West or New England States," and, under the present bidding conditions, there is nothing to prevent them from going into those districts on a competitive basis and taking a few contracts if they can meet the competition.

So with the Eastern contractor. He figures work out here on the coast, and like every other contractor, must meet the conditions. He sharpens his pencil with the result that he gets the job. It is simply a case where the fellow in the district in which the job is located just didn't sharpen his pencil enough.

BITUMINOUS PAVEMENT BOOKLET—"Pre Cote Bitumen and Aggregate" is the title of a booklet recently published by the Pre Cote Corp., Indianapolis, Ind., describing Pre Cote processes, equipment and materials for constructing bituminous pavements. The cold laid mix known as "Pre Cote" is a coarse graded aggregate asphaltic concrete. The book contains a discussion of bituminous paving materials and gives illustrations of the uses of the Pre Cote asphaltic emulsion.

TRANSITE PIPE—Johns Manville, New York City, is manufacturing pipe made of Transite, a material composed of asbestos fiber and portland cement combined under pressure. The pipe is manufactured in seven classes of varying pressure requirements, ranging up to pressures equivalent to 500 ft. of water. The pipe material is highly resistant to external and internal corrosion, tuberculation, electrolysis and the reaction of many chemicals. It weighs 125 lb. per cubic foot.

CAST IRON PAVING BLOCKS—A cast iron plate for paving concrete roadways is being introduced by the Ippen Steel Manufacturing Co. of Hradec Kralove, Czechoslovakia. The manufacturer claims that the plate will not crack under the heaviest load and that the special alloy used in its manufacture practically eliminates wear. The metal is also non-corroding. The plate is about 1/4-in. thick and is anchored deeply into the concrete. The surface can be given any pattern desired. Plates come either 15 in. square or triangular.

SELF-PRIMING CENTRIFUGAL PUMP—The Chain Belt Co., Milwaukee, announces a new 2 1/2-inch self-priming centrifugal pump. The new unit is of the recirculating type and is automatic in action after the recirculating system has been filled. The manufacturer states that factory tests show that the pump meets the A. G. C. 2 1/2-inch pump rating of 12,000 gals. per hour on a 10-ft. suction lift and also meets the maximum lift rating of 25 ft. The new unit weighs 305 lbs., is 28 in. high and 36 in. wide. It is claimed that the self-priming system allows the pump to pick up its prime on a 15-ft. suction lift in less than one minute. The impeller is of the open-trash type with two blades. Power is supplied by a compact air-cooled engine. Pump and engine are mounted together on a wheelbarrow frame.

PIPE-THREADING MACHINE—A new motor-driven portable pipe-threading machine has been placed on the market by the Oster Manufacturing Co., 2067 East 61st Place, Cleveland, Ohio. The manufacturer's designation of the machine is No. 512 Tom Thumb. The regular pipe capacity includes all sizes from 1/2 to 2-in., with an extra capacity down to 1/4 in.

NEW POWER UNITS—The Hercules Motors Corp., Canton, Ohio, announces its IX series of heavy-duty four-cylinder power units have the same over all dimensions and are interchangeable in connection with any assembly, the only difference being in the bore of the engines and the parts affected thereby. The three models develop 27.5, 39.5 and 46.5 hp., respectively, at 3200 r. p. m.

BIG EQUIPMENT ORDER—Austin-Western Road Machinery Co., Chicago, Ill., announces that it was recently awarded an order of 56 10-ton Autocrat rollers and 69 No. 101 graders by the Pennsylvania state highway department. These machines will be used to improve a 20,000 mile primary system of township highways that are now under state control. According to the manufacturer, this is the largest single order on record for big unit road machinery.

Rigid Rules Set For Construction Loans From R. F. C.

REQUIREMENTS to be met by applicants for loans from the Reconstruction Finance Corporation under the provisions of the Emergency Relief and Construction Act of 1932 are contained in circular No. 3 of the Reconstruction Finance Corporation just issued. The requirements set forth in the circular apply to all applications for loans for self-liquidating projects. They have been prepared with the advice of the board of engineers recently appointed to aid the R. F. C. directors in passing upon applications for loans for self-liquidating projects.

TYPE OF APPLICATION

No application will be considered by the R.F.C. unless (a) the project is shown to be "self-liquidating," (b) the proposed loan is shown to be fully and adequately secured, and (c) complete information is supplied as to all phases of the project.

The Corporation is authorized under the relief act to make loans to States, municipalities, and political subdivisions of States, public agencies of States, of municipalities and of political subdivisions of States, public corporations, boards and commissions, and public municipal instrumentalities of one or more States. It may also make loans to regulated housing corporations for privately-owned projects devoted to public use, loans for privately-owned projects devoted to public use, loans for protection and development of forests, and loans for publicly-owned bridges supported in part by taxation.

LOANS TO HOUSING CORPORATIONS

On the subject of loans to housing corporations the circular points out that no loan can be made unless the applicant corporation is regulated by law as to rents, charges, capital structure, rate of return and area and methods of operation. Hence, prospective borrowers must be able to show that such laws exist in the place where the project is to be erected. The New York State housing law is cited for the benefit of those who must obtain legislation before making application for a loan.

Under privately-owned projects devoted to public use, the board lists the construction, replacement or improvement of bridges, tunnels, docks, viaducts, water works, canals and markets.

Generally, loans made by the R.F.C. must be made for periods not exceeding ten years, but loans to States, municipalities, etc., may be made for longer periods in the judgment of the directors, and the directors may purchase the bonds of publicly-owned bridge corporations irrespective of the date of maturity of such bonds.

Citing the definition of self-liquidating projects given in the relief act, the circular states, "This provision of the act clearly imposes the requirement that in order to be eligible for a loan, the project must be one which will produce sufficient revenue to make it self-supporting and to return its construction cost within a reasonable period. Taxation is expressly excluded as a source of revenue for such purposes." The circular states further that in case of doubt as to whether the revenues of a project may not be derived from taxation (for example, where such revenues are derived from assessments imposed substantially in proportion to the use of the facilities afforded by the project), it is suggested that applicants before preparing any formal application furnish the Reconstruction Finance Corporation proof that such revenues do not constitute taxation.

SECURITY OF LOANS

The circular states that the relief act expressly requires that all loans made by the corporation shall be fully and adequately secured, that in addition to stating the amount of the loan requested the applicant should specifically state what additional cash or property will be invested in the enterprise and what security, if any, will be given therefor. No loans will be made upon foreign securities.

The labor requirements of the relief act as to the maximum 30-hour week, preference for ex-service men and elimination of convict labor, are cited in the circular.

FORM OF APPLICATION

The manner in which applications are to be made is outlined in great detail in the R.F.C. circular. Applications must include a summarized statement of the total cost of the project, including cost of construction, land, right-of-way and other costs. The amount of the loan applied for must be stated as well as the time of repayment. Applicant also must give the nature and sources of revenue and the time that will elapse after funds are made available before (a) work can be commenced, (b) project will be completed, (c) project will become fully self-supporting, and (d) construction costs will be fully returned from net revenues. Detail statements also are required as to all items of cost, fees, interest charges, insurance and taxes.

An estimate of the average number of men directly employed at 30 hours per week and the cost of construction materials for each quarterly period during construction is required.

The applicant is required to make a statement as to all objections that are known to have been made in respect to the project together with the names and addresses of objectors.

FINANCING

A full statement of plans for financing a project, including all additional future financing necessary or contemplated, is required, as is a statement as to proposed terms of the loan applied for, type of obligation offered, interest rate, sinking fund provision, etc. The applicant also is required to make a full statement as to prior efforts to finance all or a substantial part of the project through sources other than the R.F.C., together with names of parties thereto and terms offered.

SOURCES OF REVENUE

The nature and source of expected revenues must be given, together with a schedule of proposed charges and a statement as to whether requisite approval for the charges has been received. Existing and prospective enterprises with which the project might compete, together with a schedule of their charges, must be included.

SUPPORTING DATA

The supporting data must be given in detail to show estimated gross revenues, operating and administrative expenses, depreciation and taxes, estimated net income, net profit for each year and sinking fund and principal requirements. Private corporations are required to submit financial statements for a number of years back and public bodies are required to produce certified statements as to assessed valuation of taxable and real property, basis of assessment, amount of taxes levied, rate and amount uncollected for the last three fiscal years.

FINANCIAL RELATIONS

Complete information as to the applicant's credit relations with banks and other financial institutions and the financial history of any similar project if undertaken by it is required. Legal opinion as to the applicant's right to undertake the project and as to the validity of the securities offered must be included. All constitutional provisions, statutes, and so forth, which bear on the project, must be cited in full.

ENGINEERS AND ARCHITECTS

Applicants for loans are required to give the name of the architects and engineers who prepared the plans for their applications or who acted as consultants.

Six copies of applications must be submitted and three of them must be accompanied by copies of all supporting data, including plans, detailed estimates of cost and legal opinions.

HIGHWAY DEPARTMENTS SET RATES FOR WORK UNDER FEDERAL RELIEF

Failure of representatives of the Bureau of Public Roads and of the State Highway Department of Colorado to agree on the minimum wage to be paid to common labor on Federal-aid work in that state has resulted in an appeal to the bureau's headquarters in Washington for a ruling, according to Engineering News-Record, New York. The engineering representative of the Bureau of Public Roads has set 50 cents an hour as the minimum to be paid while the highway department maintains that with the shorter hours required under the Emergency Relief and Construction Act this is not a living wage and that the minimum should be set at 60 cents.

On the point in question the relief act, in providing \$120,000,000 for additional highway work, states that "all contracts involving an expenditure of money under the act shall contain provision establishing minimum rates of wages, to be pre-determined by the state highway department, contractors shall pay the skilled and unskilled labor, and such minimum rates shall be stated in the invitation for bids and shall be included in proposals or bids for the work."

In Louisiana the highway commission in calling for bids opened on September 7 for 35.6 miles of highway set a minimum wage scale of 20 cents per hour for a 30-hour week. In Ohio the rate for unskilled labor has been set at from 35 to 50 cents per hour for a 30-hour week and for skilled labor, including operators of concrete mixing machines and superintendents, up to 50 per cent more than the rate paid unskilled labor. Notification to the bidders in Ohio reads: "Teams, trucks and hand power—power grading equipment not permitted." This latter provision is in line with the regulation put out by the Bureau of Public Roads recently.

The State Highway Department in Virginia has set a minimum hourly rate of 20 cents for unskilled labor. This is an increase of 5 cents over the rate which has been paid in recent months.

The Maryland State Roads Commission has set minimum wage scales for skilled and unskilled laborers employed by contractors on state roads work. It also set 10 hours as a maximum working day on all road work. Unskilled labor on the Eastern Shore and on the Western Shore south of Annapolis will receive a minimum of 25 cents an hour. In other parts of the state the minimum will be 35 cents. The difference was made because of the difference in the cost of living in the various parts of Maryland. Truck and tractor drivers and teamsters will receive 25 per cent more than the minimum wage and other skilled workers 50 per cent more.

HAND LABOR INEFFICIENT AND COSTLY, SAYS OREGON ROAD CHIEF

"OREGON has spent \$1,500,000 this year for hand labor relief employment by force account," says Leslie M. Scott, chairman of the Oregon state highway commission. "One-half that sum would have done the same work on a competitive contract basis. But the present usable value of the work done is much less; probably not more than 10 per cent of the sum expended. Relief employment by force account, spread widely over the state on many projects, as was done last winter and spring, is deplorably wasteful of public funds; consumes careful economies made in other directions; causes work to be done where it is not needed for practicable highway purposes, or will not be used by the state highway system for many years.

"The efficiency of such work ranged from 30 to 70 per cent and averaged 50 per cent or less, and most of the work was placed where not at present usable, just to satisfy local demands for home employment.

"For these two reasons, construction efficiency and highway utility, the state highway commission in the new program, which will expend \$3,000,000 federal funds, is reverting to the contract plan and concentration of work at needed places on main highways. The federal regulations require that plan, and the Oregon highway commission could not do otherwise, even if it wished, because all the funds to be expended are federal, and all the highways improved will be those of the federal aid system. The state has no funds of its own for such work this year, and may have none next year."

The state highway department will abandon force account hand labor and revert to the contract plan in its new program.

Further, counties in which federal aid projects will be constructed cannot hope to confine employment on these projects to residents of such counties alone. Chairman Scott in his statement made direct answer to Clackamas county, which had asked that only Clackamas residents be given work on federal aid projects between Portland and Oregon City.

In abandoning force account hand labor, Mr. Scott said, the highway department is following not only the requirements of the federal bureau of roads, but also the lessons of experience in this and other states. He cited a letter of August 16, addressed by Thomas H. MacDonald, chief of the federal bureau in Washington, D. C., to Senator McNary, in which it was stated that hand labor by force account on seven of ten federal-aid projects in Oregon "resulted in a cost more than double the amount the same work was estimated to cost," the totals being \$419,883.36 (cost) and \$206,622.90 (estimated). In common excavation on one project, which was partly done by force account hand labor and later finished by contract, the costs per cubic yard were 50.7 cents (hand labor), 20 cents (contract), 30 cents (estimated). "I feel that you will agree with me," Mr. Scott quoted the letter, "that there is no reasonable economy in the use of road funds for work undertaken on this basis."

"The federal bureau of roads and Reconstruction Finance Corporation, in abandoning the charity or dole plan of relief employment in dealings with the state highway department, hold that that department is not a poor relief agency and will not be supplied with federal funds as such; that the legal and proper agency of relief is the county; and that highway work paid for with federal construction funds shall be done through contractors, who shall have full power to hire and fire," Mr. Scott continued. "In special cases, where work is approved for force account conditions, the federal participation must be limited to estimated unit prices."

The Law of Mechanics' Liens, Its History, Development and Analysis, Including Proposed Uniform Law

(Published in Two Parts—Part II)

By LEO H. SHAPIRO and VIRGIL G. SKINNER, Attorneys-at-Law

In order to have a more comprehensive idea of what the proposed Uniform Mechanic's Lien Law will tend to do in connection with protection for the property-owner, it is well to analyze the same.

The contemplated Uniform Mechanic's Lien Law contains 39 sections. We shall endeavor, in a brief and concise statement, to diagnose the elements entering into each section.

Section 1 defines all of the elements which enter into the Mechanic's Lien Law carrying such definitions of the words "contract," "contractor," "contract price," "direct contract," "extras," "furnish materials," "improve," "improvement," "laborer," "lienor," "materialmen," "owner," "perform," "real property," "site of the improvement," "sub-contractor," "visible commencement of operations." All of these elements are taken into consideration in the formation of the law and they are closely defined so as to enable those who read the law to understand just what is meant in the application of such words.

Section 2 is entitled "Liens on Real Property" and sets forth that upon compliance with the provisions of the act a contractor, materialman and laborer has a lien on real property improved for any money that is owing to any of said parties for labor or services performed or materials furnished in accordance with his contract and with the direct contract.

This section also is subject to certain limitations, insures a lien to architects, landscape architects or engineers. The section further provides that all of the aggregate amount of lien allowed under the act for performing labor or services or furnishing material covered by any certain direct contract shall not exceed the amount of the contract price fixed by the said direct contract.

Section 3. "Attaching Date and Extent of Liens." This section limits and fixes the time of effectiveness of the lien, which is fixed from the time of the visible commencement of operations and the lien shall extend to and only to the owner's right, title and interest existing at the time of the visible commencement of operations or thereafter acquired in the real property. It further provides that if the improvement is made at the behest of the lessee, by reason of a contract with the lessor, the lien shall extend to the interest of such lessor. It further provides that if any of the real property subject to such lien be removed, such removal shall not affect the right of the lienors in respect to either the remaining real property or the part so removed.

Section 4 is entitled "Notice to Owner by Lienors and Statement Under Oath Given by Contractor." This section has numerous subdivisions, the first of which provides that any person, except one contracting directly with the owner and excepting a laborer by whomsoever employed, whether he be a lienor or prospective lienor, may, before beginning or within 30 days after beginning, but not later than the day of completing his labor or services or his furnishing materials, give to the owner a written notice of intention to claim a lien, designated as a "notice."

The section then sets forth what the notice is to con-

tain and sets forth the form which is held to be sufficient if followed. The section further provides that anyone giving such notice as described herein within the time as limited may amend or supplement such notice with a further notice or notices, but no such further notice shall affect the result of anything done by the owner in reliance upon a previous notice given by such lienor.

The section further states that the contractor, upon the completion of the work, shall give the owner a statement, under oath, setting forth that all lienors have been paid, or if that is not the fact, the amount paid and the balance due; and that the contractor shall have no lien or right of action against the owner for labor or services unless he gives such statement under oath.

Subdivision 4 of said section gives a laborer the right to perfect his lien for the full amount due without giving any notice under said section.

Subdivision 5 of the section holds that if the real property is held in joint or common ownership, the giving to one of the owners of such notice or of a statement under oath shall be deemed the giving of such notice or statement to all.

Section 5 is entitled "Payment by Owner. When Properly Made." This section is divided into numerous subdivisions. Subdivision 2 thereof gives the owner the right to pay laborers in full or in part where services are covered by direct contract.

Subdivision 2 gives the owner the right to pay a balance, after payments properly made on direct contract, to lienors who have complied with the law.

Subdivision 4 gives the owner the right to pay lienors from time to time and laborers must be paid in full before others.

Subdivision 5 is similar to Subdivision 4 and Subdivision 6 thereof holds that the owner must give a contractor 10 days' written notice of intention to make payments as herein provided, setting forth the amount to be paid. If the contractor makes no written objection to such payment, he is deemed to consent thereto. The contractor has a right to have copy of notice of claim of lien upon which owner proposes to make payment. If owner does not follow procedure as fixed by law, contractor may recover all loss and shall have a lien for any loss sustained by him.

Subdivision 7 provides that if the owner follows the procedure as outlined by the law, any money paid by the owner directly to a lienor shall be treated in the accounts of the parties concerned in the same way as if it had been paid by the owner to the contractor and paid by the contractor directly, if there be no intervening sub-contractor, or through any intervening sub-contractor or sub-contractors to such lienor.

Subdivision 8 holds that the owner can pay the contractor on direct contract, provided sufficient money remains upon the contract price after "properly paid" deductions; that is to say, to pay laborers in full, including those to be afterwards employed, and all sums of money then due to lienors or to become thereafter due covered by notice then given or thereafter given, provided such

monies are paid for services and materials furnished under contract. Proof of payment to the contractor shall be prima facie evidence of good faith. Liens may waived and waivers of the same obtained by the contractor shall entitle him to receive money to be paid to said lienor.

Subdivisions 9 and 10 provide for the determination of money paid in advance before due under the terms of contract and before labor and materials are furnished. Such money, in determining whether or not it was properly paid, shall be treated in the same way as if it were paid at the time when such labor, services or materials shall have been performed or furnished and such money would have been payable under the terms of the contract had it not been previously paid.

Subdivision 11 provides that the owner, subject to Subdivisions 5 and 9, shall pay no money on the direct contract after the final payment shall become due by the terms of the contract unless the contractor has given the owner a statement under oath as required by sub-section 3 of Section 4.

Subdivision 12 provides that if the owner in the direct contract, in reliance upon statement under oath and in bona fide belief in the truth of such statement and in the absence of notice from lienors and other information, such money paid shall be held to be properly paid; provided, however, that this subdivision does not affect the liens of laborers.

Subdivision 13 holds that any money paid by the owner upon direct contract, causing no detriment to certain lienors, shall have been deemed to have been properly paid as to such lienor.

Subdivision 14 holds that no contractor shall have the right to require the owner to pay any money to him under direct contract if such money cannot properly be paid by owner to the contractor in accordance with the preceding sub-sections.

Section 6 is entitled "Allowance of Liens by Court Within Prescribed Limitation of Aggregate Amount." This section holds that in determining amounts for which liens under the direct contract shall be allowed within the aggregate amount fixed in accordance with Sections 2, 4 and 5 of the act, the court shall allow liens in the following classes and in the following order:

1. Liens of all laborers.
2. Liens of all lienors who shall have given the owner notices in compliance with the requirements of sub-section 1 of Section 4.
3. Liens of all other lienors except the contractor.
4. Lien of the contractor.

The section further provides that should the aggregate amount for which liens under any direct contract may be allowed be less than the total amount of lien under such contract, in all classes herein mentioned, all liens within any single class shall be allowed for their full amount before any liens shall be allowed within any subsequent class. Should the amount applicable to the lien of any single class be insufficient to permit all liens within that class to be allowed for their full amounts, each lien shall be allowed at its pro rata proportion.

The section further provides for a distinction as to the allowance of amounts, giving rights in accordance to the class and in the manner herein set forth.

Section 7 is entitled "Filing by Contractor of a Bond Conditioned to Pay All Liens." This section sets forth that if a bond is filed by the contractor it eliminates Sections 4 and 5 of the act and the limitations upon the amount of recovery by lienors established under Section 2 of this act shall not be applicable to the lien of the lienor other than the contractor claiming under such contract; provided, however, that if said bond for any reason should prove to be insufficient, then the real property shall, to

the extent of such insufficiency, be subject to the lien of lienors other than the contractor without regard to the limitations upon the rights of such lienors established by Section 2 as modified by Sections 4 and 5 of the act.

The section further provides that said bond shall be approved by the court having jurisdiction of the lien and further sets forth the form of bond. Subdivision 3 of the section holds that the owner, before a substantial completion of the improvement covered by this contract, may deposit said bond with the clerk of the county in whose office the claim of lien may be filed. He shall attach to said bond a copy of the contract, which is made a part of it, and the section further provides instructions for the clerk as to the recording of same.

Subdivision 4 of the section provides that the contractor, and his surety or sureties, shall be joined as additional defendants in any action to enforce the lien, and if the contractor or his surety or sureties shall allege there is still unpaid and owing by the owner to the contractor any part of the contract price, the court shall determine the amount.

The section further provides that upon a recovery in any such action the court shall stay all proceedings for the sale of the real property pending the issuance and return of an execution against the surety and principal on such bond.

Subdivision 6 of the section provides that no change or alteration of the work or modification of any such contract between the owner and the contractor shall release or exonerate any surety upon any bond given under the section, except that the surety may hold the owner for such alteration or modification if they suffer any injury; and further provides that any change, alteration or modification which operates to increase the contract price by 20 per cent or more, shall, unless consented to by the surety or sureties by written consent deposited with the clerk of the county, be deemed to be, pro tanto, a new contract and the original bond filed under the section shall not apply or be answerable for liens.

Section 8 is entitled, "Misapplication of Funds Shall Constitute—" (Note: This is intended to constitute a crime). This section holds that an owner who procures a loan which he represents shall be used for improvements, after paying certain charges therefor, and which loan is to be secured by a mortgage or otherwise upon real property, and shall use the balance for any purpose other than to pay for labor, services and materials used for this specific improvement, and while any amount for which he may be, or become, liable for such labor, services and materials remains unpaid, shall be guilty of a crime.

Subdivision 3 holds the same as to architects, engineers, contractors and subcontractors.

The section also determines what constitutes the net proceeds of a loan and allows certain charges to be made necessarily incurred to the making of a loan and the amount necessary to satisfy prior incumbrances.

Section 9 is entitled, "Furnishing False Statement Shall Constitute a Crime." This section provides that any person who with intent to defraud furnishes an owner a statement under oath as provided by Subsection 3 of Section 4 of the act, knowing such statement or any part thereof that is material to any purpose for which said statement is furnished is false, or who knowingly and falsely omits or states the name of any unpaid lienor, or the amount due or to become due such lienor, shall be guilty of a crime and shall be punished by suitable punishment.

Section 10 is entitled "Application of Money to Materials Account." This section provides that an owner, contractor or subcontractor making payments to one with whom he has a running account and with whom he has

more than one contract, or to whom he is otherwise indebted, shall designate the contract under which payments are made and must do so under penalty to pay all damages sustained. It further provides that upon payment made to a subcontractor or materialman, such party shall demand of the person a designation of the account and the items of account to which said items shall apply. The section further provides that in any case where claim of lien is made for materials furnished by subcontractors or materialmen, it shall be a defense to such claim to prove that a payment made by the owner to the contractor for such materials has been paid over to such subcontractor or materialman.

Section 11 is entitled "Repossession of Materials not Used." This section gives a right to repossess materials where the job is abandoned or said materials remain over after completion of the job upon non-payment for the same. If so repossessed, there is no right of lien and no rights accrue against persons secondarily liable. The right of repossession is not affected by sale, incumbrance or attachment, or transfer from the site of improvement, except as against the purchaser or incumbrancer in good faith. If the materials are partly paid for, the right is granted on the refund of the part of the purchase price as paid.

Section 12 is entitled "Liens for Improving Land in which the Contracting Party has No Interest." This section provides that no lien shall attach to land in which the contracting party has no interest as an owner, but if the improvement can be removed practicably, a lien shall attach to the improvement and the court shall order the same sold in the enforcement of the lien, the purchase price therefor to be paid into court and a reasonable time to be allowed the purchaser to remove, provided the owner of the land shall be entitled to demand that the land be restored to its former condition and the costs therefor to be paid out of the funds received from the sale, the balance of said funds to be paid to the lienors.

Section 13 is entitled "Liens for Improving Real Property under Contract with Husband or Wife on Property on the Other or on Both." This section provides that a contract made with a husband or wife living together and where the property is owned by one or both, the husband or wife who makes the contract shall be deemed to be the agent of the other unless written objection is given by the other to the contractor.

Section 14 is entitled "Insurance Proceeds Liable for Demands." This section provides that insurance proceeds resulting from fire to improved property upon which lienors have liens or right to lien, shall be subject to such liens, such proceeds paid to owner or contractor shall be

held in trust by them to carry out the terms of this section.

Section 15 is entitled "Contents of Claims or Liens." This section provides for a form of lien setting out in simple and plain language what the claim of lien must contain. The said claim of lien shall state, if the lienor is an individual, his name and address, place of business; if a partnership, the names of the partners, business address; if a corporation its name and principal place of business, and the name of the person with whom the lienor contracted or by whom he was employed, the labor or services performed and materials furnished and the contract price thereof, the real property subject to the lien, with a sufficient description for its identification; the name of the owner of real property and the interest which the owner has in the property, the time when the last item of labor or services was performed or the materials furnished; the claim shall be verified and any omissions or errors therein shall not affect the interest of the lienor.

Section 16 is entitled "Single Claim of Lien is Sufficient." This section provides, where the amount demanded is for labor or services performed or materials furnished for more than one improvement on a single lot, parcel or tract of land, or for a single improvement on contiguous or adjoining lots or parcels of land, or for more than one improvement on separate lots or parcels of land, one claim of lien covering the entire demand against said property shall be sufficient. If two or more lots or parcels or tracts of land are improved under the same contract and the improvements are not to be operated as a single plant, a lienor shall in claiming a lien apportion his contract price between the several lots, parcels or tracts of land and improvements thereon upon which he has performed labor or services or for which he has furnished materials and shall file a separate claim of lien for the amount demanded against each lot, parcel or tract of lands and the improvements thereon.

Section 17 is entitled "Filing of Claim of Lien." This section provides that a lien may be filed at any time but not later than three months after the final performance of labor and the furnishing of materials dating from the last item of labor or services performed or materials furnished and the claim shall be recorded in the recorder's office. The section further provides for the recording and the method to carry out the section. The validity of the lien is not to be affected by the insolvency, bankruptcy or death of the owner before the claim of lien is filed.

Section 18 is entitled "Amendment of Claim of Lien." This section allows the amendment of any lien which has heretofore been filed, provided that such claim of lien and amendments are filed in good faith and such amend-

BUILDING BOOM AHEAD!!

BILLIONS OF GOVERNMENT MONEY POURED INTO CONSTRUCTION!!

Builders, Architects, Contractors . . . Financially Sound and Responsible

WANTED AS PARTNERS

in construction company owning patented STEEL SPEED FORM CONSTRUCTION SYSTEM to build FIRE-PROOF, SOUND-PROOF, EARTHQUAKE-PROOF and TERMITE-PROOF houses, dams, bridges, etc., for about the same price as frame and stucco, and eliminating costly waste of wooden form work and expensive labor. Licenses for exclusive use in certain districts considered.

AMERICAN PACIFIC COMPANY

395 NINTH STREET

SAN FRANCISCO, CALIF.

ment is not shown to be prejudicial to another interested person. Any amendment of the claim shall be filed in the same manner as is provided for the filing of the original claim of lien.

Section 19 is entitled "Service of Copies of Claims of Lien and Amendments, and of Assignments." This section provides for the service of copies of liens and amendments thereto or assignments of liens, and fixes the time as to when they shall be served, as follows: Upon a natural person within ten days after the instrument is filed, actual service is either deemed to be by delivering a copy to him personally or by depositing it in the mail, registered and with postage prepaid, addressed to him at his usual place of business. Substituted service is to be deemed such by delivering the copy to his agent or to his attorney, or by affixing it conspicuously on the real property. If on a corporation, within ten days after the instrument is filed, actual service is deemed either by delivering a copy to any officer of the company or by depositing in the mail; statutory service is to be deemed by serving it in such manner as is provided by the law for the service of legal process, and substituted service may be made by affixing the copy conspicuously on the real property.

Section 20 is entitled "Service of Copy of Claim of Lien." This section provides that after a claim of lien is filed it shall be served upon the owner as provided for in Section 19. Failure so to do shall render lien void to the extent that such failure shall prejudice the rights of the owner. The section further provides that such service shall have the same effect as the giving of a notice to the owner by the lienor in accordance with the provisions of subdivision of Section 4.

Section 21 is entitled "Priority of Liens." This section provides that liens provided by this act shall have priority over a conveyance, mortgage, building loan contract, attachment, judgment, or other encumbrance or demand against such real property which was not recorded, docketed or filed at the time of the visible commencement of operations. It further provides that a lien provided by this act except those of laborers shall, subject to the provisions of sections 4, 5 and 6 of this act, be on a parity and shall be entered pro rata. All liens of laborers shall be on a parity with one another and shall have preference over all other liens under this act.

Section 22, "Duration of Liens." This section provides that the lien continues for one year after filing, unless within that time an action to enforce the lien is commenced in a court of competent jurisdiction and notice of pendency of action is given.

Section 23 is entitled "Assignment of Lien." This section provides that after the claim of lien has been filed as prescribed in the act, the lien may be assigned by a written instrument signed and acknowledged by the lienor, at any time before the discharge thereof. The assignment shall contain the name and place of residence of the assignor and assignee, the amount of the lien and the date of filing the claim of lien, and shall be filed for record in the office where the original claim of lien is filed. After assignment of claim is filed copy shall be served in the same manner as provided by Section 19 upon the owner.

Section 24 is entitled "Discharge of Lien." This section provides that a lien may be discharged by entering notice

of satisfaction upon the record; by the certificate of the lienor, by failure to begin an action to enforce his lien, by an order of court of competent jurisdiction; by filing in the office of the clerk of the county where the real property is situated a transcript of the judgment finally determining said lien is payable in favor of the owner.

Section 25 is entitled "Transfer of Lien to Security Substituted for Real Property." This section provides that the lien may be transferred from real property to other security by either of the following methods:

1. By depositing with the clerk of the court in whose office the claim of lien is filed, at any time before action is commenced, a sum of money plus the interest to cover the lien. Upon making such payment, the clerk shall forthwith enter upon the Mechanics' Lien Docket an order for transfer, using the words "transferred to deposit," and such lien shall thenceforth, until satisfied, dismissed or discharged, be secured by such deposit. Upon determination of the matter such money shall be paid to such lienor.

2. By the owner or the contractor, either before or after the beginning of the action, executing a bond for the benefit of the lienor whose lien is sought to be transferred. The bond shall be conditioned for the payment of any judgment or decree which may be rendered for the satisfaction of the lien. The clerk of the county shall file such bond in the proper docket and the sureties thereon shall justify within 5 days.

Section 26 is entitled "Copy of Contract and Statement of Account may be Demanded." This section provides that a copy of the contract of a contractor or subcontractor and statement of amount due or to become due shall be furnished upon demand to lienor contracting with or employed by the other party to contract. If same is refused or the statement given is false, the lienor may proceed if he is not paid to judgment and execution against the person primarily liable for the debt, and in the event the execution is returned unsatisfied the owner or contractor refusing such copy shall be liable and in the case of the owner the lien of such lienor shall be enforced against the real property. The section further provides that the owner shall have a right to demand a written statement under oath from the lienor showing the amount due. Failure of the lienor to deliver said written statement within ten days after demand shall be cause for the deprivation of his lien, and in the event the statement is false he shall lose his lien.

Section 27 is entitled "Waiver of Liens." This section provides that the acceptance by the lienor of an unsecured note or notes expressly agreed as such, shall constitute a waiver of his lien, provided, however, the mere acceptance of such unsecured note without some written consent or waiver shall in no way waive his lien. The section further provides that no laborer shall have a right to waive his lien.

Section 28 is entitled "Redemption." This section provides that right of redemption shall exist in favor of any person or persons whose interest is sold in the same manner as provided for the redemption of real property from sales under mortgages.

(Continued on Page 18)

Contractors Machinery Exchange

Rentals a Specialty

1135 - 57th Avenue

OAKLAND, CALIF.

FRUITVALE 0715

CO-OPERATIVE CONSTRUCTION CREDIT

CONSTRUCTION INDUSTRIES' CREDIT BUREAU

(A non-profit, membership owned and operated association affiliated with the National Association of Credit Men)

333 MONTGOMERY STREET, SAN FRANCISCO

F. H. Eichler, Chairman

A. J. McGarry, Mgr.

Address to the Associated General Contractors
By Frank H. Eichler, Chairman of the Construction Industries Credit Bureau.

A PRIME concern, if not a source of considerable agitation among you gentlemen of the Construction Field, is the apparent lack of ability on your part to obtain your fair share of jobs on which you have bid or to obtain a fair profit for your work.

Undoubtedly many theories have been advanced explaining this condition. The depression, perhaps is a very prominent one, but have you ever stopped to consider that there might be another and more subtle reason?

A number of Credit Executives of the Material Dealers have given



F. H. EICHLER

serious thought to this very question and together have evolved a theory by applying what I like to call common sense—just every day logic. I am going to give your our reasoning step by step so that you may judge for yourselves.

We claim that one, and a major cause, of the failure of legitimate contractors to obtain their just and fair share of existing business is *Bankruptcies*—failure among general and sub-contractors.

It may interest you to know that, "During the past two years in the San Francisco Bay area alone there were 299 petitions in bankruptcy filed by general and sub-contractors with liabilities of over seven and one-half million dollars and assets of only about two and one-half million, or the startling loss to creditors of the building industry of nearly five million dollars."

Now, the next point of reasoning naturally is—what causes these failures? The answer, gentlemen, you will find in delinquent accounts receivable of material dealers. That is the incubator—that is the point from which most failures arise.

The next step in the reasoning is, what causes delinquency? Our answer—Indiscriminate Extension of Credit.

it. There, gentlemen, is the bottom of the pit from which emit all these other evils.

Is it not at this point a fair conclusion to say—eliminate credit abuse and you eliminate that unfair competition which is literally taking jobs right from under your nose?

Aggressive credit men are aware of this situation and are fighting to overcome it. There is but one sound way of eliminating credit abuse and that is—the substitution of sound credit practices where haphazard or no credit control now exists—the extension of credit only where credit is due. The insistence upon adequate capital to finance a job to completion, adequate ability to do the work and sufficient character to perform as agreed—those, gentlemen, are elements of sound credit granting.

To achieve this remedy, elimination of credit abuses, two things are absolutely essential:

1st—It requires the whole-hearted, collective adoption and application of sound credit practices by material dealers as a group.

The "each for himself" policy must be stamped out—on the other hand—No individual material house can hope to cure the evil alone.

2nd—A Credit Bureau—To make available the machinery for adequate credit investigation—To provide machinery for enforcing sound credit practices—To form and operate credit groups.

It will immediately be apparent to you that to be successful in this undertaking, this Credit Bureau must be of the highest caliber and thoroughly detached from the business interests of any dealer or contractor.

You can rejoice that the pioneering days for such a bureau are over. Through the efforts of these material credit men, such a bureau has been fostered, established and put into operation right here in your city. Its name—the Construction Industries' Credit Bureau. It is a Department of The Credit Managers Association of Northern and Central California. This Association has a local membership of nearly 1000 members and has been in operation since 1897. It is a local unit of the National Association of Credit Men, with a nation-wide membership of nearly 35,000 firms.

President Hoover has said of this institution, "The work that the National Association of Credit Men are doing in the promulgation of standardized credit practices, with consistent savings of potential losses amounting to millions of dollars yearly is a genuine conservation of natural resources."

Briefly, the purpose of our Credit Bureau is to weld the construction industry into a unit to abolish credit abuses, substituting sound credit principles, where inadequate.

(Continued on Page 13)

Phone TRinity 0241 for —

Rock-Sand-Gravel-Plaster
Cement-Mixed Mortar-Stucco
Lath-Lime Putty-Reinforcing Steel

**Consolidated Rock
Products Co.**

656 S. Los Angeles St.

Los Angeles, Calif.

PACIFIC CONSTRUCTOR

J. P. FARRELL, Editor S. P. McCASLAND, Assoc. Editor
 Am. Soc. C. E.
 Consolidated with
BUILDING AND ENGINEERING NEWS
 H. BAILY BRUNS, Advertising Manager
 Publication Office: 545-547 Mission St., San Francisco
 Telephones: CArfield 8744-8745

PACIFIC CONSTRUCTOR is the official publication of the Associated General Contractors of America for the eleven Pacific Coast states, issued on the first and fifteenth of each month. Printed and published by the Stark-Rath Printing and Publishing Co., 545-547 Mission Street, San Francisco. Subscription Price: \$5.00 per year, payable in advance. Single copies, 25c.

O. C. STRUTHERS IS APPOINTED ZONE VICE-PRESIDENT OF A. G. C.

On the recommendation of the Southern California Chapter, Mr. O. C. Struthers, district manager of the Raymond Concrete Pile Co., and president of the California branch of the Associated General Contractors, has been appointed zone vice-president of the Associated General Contractors of America, to fill out the unexpired term of Mr. C. E. Bressler, resigned.

STATE BUILDERS' EXCHANGE MEET CALLED FOR STOCKTON

Uniform wage scales vs. prevailing wage scales, vocational training and legislation affecting the construction industry are among topics to be discussed at the annual meeting of the California State Builders' Exchange, Ltd., to be held in Stockton, Friday and Saturday, September 30 and October 1, it is announced by Frederic W. Sanford, executive secretary of the state organization.

Headquarters will be maintained at the Clark Hotel and special accommodations will be provided for convention delegates and their friends.

Election of officers will be a feature of this session and a spirited contest looms between candidates from the northern, central and southern sections of the state.

Among the more important matters to come before the meeting, Sanford announces, the following subjects of vital interest to the construction industry will prompt considerable discussion on the part of the delegates:

1. Excessive Compensation Insurance Rates.
2. How the Building Industry May Get Benefit from the Home Loan Bank Law.
3. Uniform Wage Scale vs. Prevailing Wage Law Scale.

4. Proposed Amendments to Strengthen the Contractors' License Law.
5. The Initiative Measure Relating to Trust Deeds and Mortgages.
6. Repeal of Restrictive Labor Laws.
7. Report Concerning Proposed Amendments to the Mechanics' Lien Law.
8. Perfecting Accident Prevention.
9. Government Bureaucracy vs. Private Initiative."
10. Vocational Training.
11. Excessive Taxation.

Speakers prominent in the construction business will discuss the Builders' Exchange's part in reviving construction in California through available funds afforded by the Emergency Relief and Construction Act of 1932.

How to build a bigger and better Builders' Exchange in every community will be another subject to be handled by capable speakers whose names have not yet been announced.

MISSOURI SETS WAGE RATES UNDER EMERGENCY RELIEF ACT

Wage rates and hours of work on highway contracts in Missouri for all work under the provisions of the Emergency Relief and Construction Act have been set by T. H. Cutler, chief engineer of the Missouri State Highway Department. A minimum wage of 35c an hour for unskilled and 50c for skilled labor is to be paid. The maximum week of 30 hours, as required by the act, is specified.

Considerable hand labor is required to be substituted for machine labor under the act. In Missouri it is estimated that this change will increase the number of men on highway construction and maintenance from 9000 to 21,000.

Cypress Lawn Memorial Park

COLMA, SAN MATEO CO., CALIFORNIA
 Executive Office—995 Market St., San Francisco



VIEW OF NEW MEMORIAL COLUMBARIUM
 (Largest and most beautiful Columbarium ever erected)

WE HAVE FACILITIES FOR:
 Earth Interment Cremation
 Mausoleum Entombment Columbarium Inurnment

Cypress Lawn is adequately protected by a
PERPETUAL CARE FUND.

"VISIT CYPRESS LAWN MEMORIAL PARK"

SUCONEM Super Concrete Emulsions

Limited

-for Better Concrete 3710 S. ALAMEDA ST., Los Angeles
 District Offices
 46th Ave. and 308 Stock Ex. Bldg., 216 Walker Bldg.,
 Clement St. Portland, Ore. Seattle, Wash.
 Oakland, Calif.

Pacific Clay Products

General Offices: 650 Chamber of Commerce Bldg.,
 1151 SOUTH BROADWAY
 Los Angeles, Calif.

CO-OPERATIVE CONSTRUCTION CREDIT

(Continued from Page 11)

quate credit practices now exist.

I believe you will agree with me in the statement that the credit fraternity is doing its work—

It has financed this bureau entirely.

It has set up the machinery in this bureau through which material dealers may know who are paying their bills and who are not.

Whether a particular job is properly financed.

In short, all the information necessary to make an intelligent credit decision, is supplied by this bureau.

At the present time well over one hundred dealers in San Francisco have signified their willingness to adopt and use sound credit principles by becoming members of the bureau.

There is one outstanding fact, however, which we cannot overlook, that is—group credit control can be effective only when the maximum of concerns, selling certain buyers, are combined in the group. In other words, to put an effective, definite, and lasting stop to credit abuses, this bureau should have as its members all material dealers doing business within the territory served by you gentlemen. The sooner the bureau membership reaches this point, the sooner your under-financed, irresponsible competition will disappear.

If you agree with the contention I have made that one of the causes of your lack of sufficient number of jobs at a profit today is directly traceable to bankruptcies and bankruptcies in turn directly traceable to credit abuses, then it would seem to me it should take no persuasion on my part to induce you to help the credit fraternity clean up a situation which has conclusively been shown to effect the profitable operation of your business.

You, gentlemen, can be a material factor in this work and what is asked of you is comparatively simple—just support the Construction Industries' Credit Bureau—
not financially—nor passively, but actively!!!

Your officers have interested themselves in this problem. The officers of the Credit Association were particularly appreciative of the co-operation and assistance of your Secretary, Mr. Floyd O. Booe. The way your institution officers are getting behind this movement is a source of gratification and encouragement to us of the credit fraternity.

We invite and solicit a continuation of their help but they, as well as we, realize fully, that if this movement to build a sound credit structure for the credit industry—to remove the artificial props from under the irresponsible and unqualified contractor, is to succeed, it must be with the full and active support of the contractors themselves.

There is no argument that we can possibly advance to those material dealers outside the fold, which could more quickly bring them to active participation in sound credit practices, than the argument or plea of the legitimate, prompt-paying contractor to his source of supply.

I trust that you will give this serious thought and decide to help us help you.

Frank H. Eichler, *Chairman,*
Construction Industries' Credit Bureau.

LOSSES TO CONTRACTORS UNDER
THE EMERGENCY CONSTRUCTION ACT
CONTRIBUTIONS TO A GOOD CAUSE

Under the Emergency Relief and Construction Act of 1932, contractors are expected to undertake contracts as a part of their public duties and not primarily for personal profit. They must bid with the expectation that the money will be distributed as widely as possible to relieve unemployment and in accordance with the directions of the Federal and State officials. If the contractor bids too low his loss will be a contribution to a good cause.

Such are the views of Guy LeRoy Stevick, vice-president of the Fidelity and Deposit Company of Maryland, who, in a letter to representatives of his organization in the Pacific Coast District, further says:

"Specifications under Emergency Federal Aid work are intentionally made broad and indefinite so as to allow a wide discretion to the officials to effectuate the benevolent purposes of the Act.

"Under the foregoing conditions a surety bond is more definitely a financial guaranty than it has heretofore been and must be underwritten not in the light of the ability of the contractor to do effective work, or to use the most efficient equipment, or to do the work as cheaply as possible, but must be underwritten as a guaranty that the contractor can afford to contribute any loss which may arise under the beneficent purposes of this Act. It is quite as important to underwrite the superintendent or inspector as it is to underwrite the contractor. If the officials having charge of the work are not fair, it will be just too bad. If the contractor is inclined to cut corners and not strictly observe the rules and regulations of the Bureau, that will be just too bad also,—for punishment will be visited quickly and effectively.

"The Fidelity and Deposit Company has no ambition to guarantee public donations. We must therefore examine carefully every specification and all physical factors of the work, and the manner of construction, and insist on a clear declaration of purpose by the officials having charge of the work with respect to any uncertain feature of the work. We want the advice of our engineer as to each contract. We are unwilling to authorize bonds on any contract for Emergency work without submission of the contract and specifications to our engineer and ample time for investigation and without a full disclosure of the methods and cost of construction. We are reluctant to write these bonds at all, but very definitely we can only write them with the highest degree of care.

"When submitting any application state specifically what agreement if any exists with respect to the use of equipment, trucks, loading and spreading facilities, and selection of labor both skilled and unskilled, number of days, hours and shifts during which the labor will be employed. Failure to give this information will cause further correspondence and delay in underwriting."

WANTED—B. B. Bros. or Alloy Steel & Metals Co.
5-ton hand hoist. In good condition and cheap for cash. Address R. Bean, Clipper Mills, Calif.

FOR SALE...

110 Horsepower Diesel Engine
at a Bargain

United Commercial Co., Inc.

234 Steuart Street

San Francisco

SMITH BROS. TRUCK CO.

"TRANSPORTATION SPECIALISTS"

Portable Crane Service—Rigging

1704 E. 16th St.

Los Angeles

Westmore 3271

Interpretation of Specifications Urged by Northern Calif. Chapter

THE State of Nevada, through its highway department, has taken the first definite step in relieving the contractor of the burden of interpreting the "special provisions" clause contained in the specifications under the Emergency Relief and Construction Act of 1932.

The Nevada State Highway Department has adopted a policy of setting forth specifically the hand labor requirements and other special conditions that will be required on each specific project. These provisions are to be initiated by the District Engineer and approved by the headquarters office, and when the specifications go out to the bidder he will know exactly what he is required to do.

The action of the Nevada State Highway Department shows a willingness on the part of that body not to penalize the contractor for a situation that is not entirely clear and which after the beginning of the work may lead to endless controversy.

Herewith are published two communications forwarded by Floyd O. Booe, secretary-manager, Northern California Chapter, Associated General Contractors, one to Dr. L. I. Hewes, regional director of the U. S. Bureau of Public Roads, and another to C. H. Purcell, state highway engineer, seeking their co-operation in providing a complete specification for each job as regards "special provisions":

Dr. L. I. Hewes,
Deputy Chief Engineer,
U. S. Bureau of Public Roads,
441 Market Street,
San Francisco, Calif.

My dear Dr. Hewes:

Since the beginning of September 2, at which you so kindly gave us a lengthy explanation of the hand labor requirements of the Federal aid emergency program, a special committee of our Association has been devoting much attention to the methods that might be used to clear up the situation.

We have reached the conclusion that the only way in which the contractor can be fully informed as to what he is expected to do under the emergency program is for the Bureau of Public Roads and each State to clearly set forth in the specifications exactly what will be required, instead of attempting to cover the situation in more or less of a general way by means of special provisions of a blanket nature which were originally promulgated by your bureau.

We have written a letter to the California Highway Department, copy of which is enclosed for your information, making this recommendation, and the matter has similarly been taken up with the State Highway Department of Nevada.

We have not yet received a reply from the California Department, but the State of Nevada has made an attempt to definitely set forth their requirements in the specifications on projects which are now pending and on which bids will be opened on September 21 and September 28.

We realize that it would entail some additional work to write the special provisions to specifically apply on each project; but on the other hand, the engineers are in much better position to determine in advance what they will require than is the contractor who attempts to formulate a bid based on interpretations which may be given him by several different engineers. Once the provisions are included and are clearly set forth, the successful bidder can have no objection to carrying out the requirements, because he is assumed to have taken them into account in preparing his bid, and there will be less reason for the contractor to attempt to work on the sympathy of the engineer on the job to permit evasions or a lessening of the restrictions.

I think this condition is quite well emphasized in connection with a bridge project near Bakersfield on which the State is receiving bids on Wednesday of this week. This is a structure of considerable size, estimated to cost, I believe, around \$300,000, and in the specifications there are included the general blanket provisions sent out by your bureau. Every prospective bidder on this job has been trying to find out how he will be required to handle certain of the operations in connection with this structure, such, for example, as the handling of the concrete from the mixer into the forms, and I am advised today by a number of the contractors that they have not received a satisfactory interpretation of some of these provisions from any source, either State or the bureau. This is bound to cause a great deal of uncertainty in regard to the performance of this particular job, and will doubtless lead to considerable controversy once the job gets under way.

The representatives of the State say that they intend to be as liberal as possible in their interpretation of the requirements, but on the other hand suppose that the representative of your bureau refuse to permit a liberal interpretation and require the full letter of every section of the provisions be lived up to. Undoubtedly the size of this project and its importance warrants the time and effort of the District Engineer, the State and such assistants as he designates to make a careful study and analysis of this particular project with reference to these emergency requirements, which would permit a clear and definite outline of the manner in which the work should be carried out with respect to the hand labor feature.

We earnestly recommend to you, therefore, that your bureau immediately adopt to the greatest extent possible a policy of careful analysis of each particular project and the preparation of special provisions which will fit the conditions which will arise on that particular piece of work. If you will do this, you will find an immediate favorable response from the contractors and an earnest effort on their part to carry out what you intend to secure by these special provisions, namely, the maximum of employment consistent with quality of work and reasonable economy of construction.

We trust that your recommendation will receive your approval and that such a policy can be adopted at once.

Yours very truly,
FLOYD O. BOOE,
Secretary-Manager.

Mr. C. H. Purcell,
State Highway Engineer,
Sacramento, Calif.

Dear Mr. Purcell:

You will remember that on Friday, September 2, a special meeting was held by this Chapter for the purpose of listening to a discussion by representatives of your department and of the U. S. Bureau of Public Roads, and the State of Nevada, in reference to the hand labor requirements under the Federal aid emergency program. This meeting was sponsored by this Chapter, and to it were invited not only member contractors, but all other contractors bidding on State highway and bureau work, and in addition there were present a large number of representatives of surety companies and the various material and machinery groups.

The discussion which took place during this meeting clearly demonstrated the general view that the blanket provisions sent out by Washington through the Bureau of Public Roads and adopted in toto by the various State Highway Departments are of such a general character that great difficulty is going to be experienced by both the contractor and the engineers in connection with the interpretation of same on specific projects.

A special highway committee of this Chapter has given much attention to this matter, and has made a very thorough investigation of this situation, and we have come to the conclusion that the incorporation of such general provisions in the specifications on all future work will lead to unending difficulties unless more clearly interpreted.

This same question was taken up in a conference of a number of contractors operating in Nevada with the highway officials of that State, and the same conclusion was reached. Consequently, the State of Nevada, through its Highway Department, has now adopted a policy of setting forth specifically the hand labor requirements and other special conditions that will be required on each specific project. These provisions are to be initiated by the District Engineer and approved by the headquarters office, and when the specifications go out to the bidder he will know exactly what he is required to do.

The more we investigate the matter the more firmly we are convinced that this is the only safe and logical manner in which this can be handled, and we recommend to your department, therefore, that, effective immediately, the special provisions regarding emergency construction requirements which are to be included in your program be specifically set forth in the special provisions for each project. It seems to us that the District Engineer can make very definite recommendations in regard to such things as hours of labor, employment conditions, availability of teams and hand labor and the method of performing those features of the work which are adapted to the hand labor restrictions. To us it would appear that it would be no great task for the special provisions to be expanded to include these definite requirements, and the bidder would then be in the position of knowing exactly what provisions he is to figure for these additional restrictions and every bidder would be on an exactly comparable basis. In other words, the bidder would not be in his present position of attempting to secure an interpretation of the intent of the department in advance of making his bid, and with every bidder receiving a somewhat different interpretation from the various engineers concerned.

We recognize that your department is anxious to proceed with these projects as quickly as possible and that calls are actually out for several of such projects, but we can see no great difficulty in the way of your department immediately sending out supplemental special provisions on these specifications that are already distributed, and the carrying out of our suggestion on those that are still in process.

There is every reason for your department to handle this important matter in this way because we feel that it is not your desire that the Federal authorities should penalize the contractor for a situation that is not entirely clear and which after the beginning of the work may lead to endless controversy. On the other hand, no bidder can take exception to whatever method the Federal authorities in the provisions provided they are clear and definite, and it is certain that the enforcement of any such special provisions will be much easier for the engineers and inspectors after the beginning of the actual construction work.

We submit this to you as the unanimous recommendation of every contractor whom we have been able to contact in regard to this matter, and we trust that it may have your immediate approval.

Please advise us at once in regard to same.
Thanking you, we are,
Yours very truly,
FLOYD O. BOOE,
Secretary-Manager.

Emergency Relief and Construction Act Explained To A. G. C. Members

EMERGENCY BILL A GODSEND TO STATE OF NEVADA, SAYS DURKEE

By S. C. Durkee, Nevada State Highway Engineer *

We have been handed an emergency appropriation with strict regulations for the relief of the unemployed. This appropriation has come as a godsend to the State



S. C. DURKEE

of Nevada for the simple reason that our program, including up to the first of next July, will have been completed about the middle of November and we would not have any further road construction until the first of July when our new appropriation, we hope, will be made available. In fact, that appropriation has not as yet passed Congress, but we have strong hopes that it will.

As far as the highway engineers are concerned, the State Highway Engineers in the several

states must see to it that the contractors do just exactly what the Government tells them that they must do. The engineers are the go-betweens and will perhaps take the brunt of any serious problems that may arise. It is not the intent of any Highway Department of the States to place the contractor in a position wherein he may possibly lose considerable money through his low bidding. I feel that the contractor should take this very, very seriously indeed. The Government is going to be very strict in seeing that these new rules and specifications are carried out to the letter. It will be up to the Highway Departments of the States to co-operate with the Government and see that the contractor lives up to the contracts he signs.

This is an emergency appropriation for the relief of the unemployed. The Government has felt that to pass this emergency appropriation would be much better than doling out, as some of the European countries have done, and are doing at the present time; to get some return for the dollar given rather than to give it out in the bread-line with no return.

It is going to be up to the contractor to see that he also will receive a little of this dollar that is being expended on labor. In other words, the contractors must take this thing seriously and, before placing a bid for the construction of a project, take into consideration that the cost is go-

ing to be considerably more than with the use of modern equipment.

We must also consider that the equipment men are going to be left out of the fold. Perhaps the people that are working in the manufacturing of this equipment will be laid off. We do not know. This is for an emergency only. It is not a backward step in regard to construction. It is marking time to the day when conditions throughout the United States will become normal and we can hope to continue on in our program with our work as we have been doing in the last five or six years.

I have endeavored to study these new regulations and specifications to see if there were any possible way by which we could side-step some of them. The contractors in bidding on these projects must bear in mind it is not the State Highway Department that they must fight in order to obtain a little favor here and there, but that the Highway Departments themselves are going to be held under strict bond by the Federal Government—and—the Federal Government is going to see that the Highway Departments carry out to the "t" the regulations which will appear in the contracts let in the immediate future.

THE Emergency Relief and Construction Act of 1932 was discussed at a meeting held September 2 in the Engineers' Club, San Francisco, under the auspices of Northern California Chapter, Associated General Contractors, with Clyde W. Wood, Chapter President, presiding.

The principal speaker of the evening was Dr. L. I. Hewes, regional director of the U. S. Bureau of Public Roads. He was followed by C. H. Sweetser, district engineer, U. S. Bureau of Public Roads, San Francisco; G. T. McCoy, Administrative Assistant to C. H. Purcell, state highway engineer; C. S. Pope, construction engineer of the state highway commission and S. C. Durkee, state highway engineer of Nevada.

Other speakers included Guy LeRoy Stevick, vice-president of the Fidelity and Deposit Company of Maryland, who told how the surety companies view the Emergency Program and Louis Ferrari of the Bank of America, who gave the banker's viewpoint on construction.

D. V. Nickolson, a member of the Highway Defense Committee, in a brief talk warned members of the construction fraternity on the contemplated raid on gasoline tax funds in California.

In opening the meeting President Wood cited the fact that the Emergency Relief and Construction Act of 1932 provides relief for everybody but the contractor. He declared, under the hand labor regulations demanded in the Act, that it was an economic crime to ask to go back 20, 30 or 40 years in our methods of doing work.

"Personally I differ a whole lot with the emergency specifications," President Wood declared. "I think if there is any body of people that need any great relief it is the taxpayer and in order to give them their just share we should see to it that they get as near one hundred cents on their dollar as it is possible for them to get. I think we should be spending our money efficiently and economically by building all the roads we can with the moneys appropriated, which means that we will not put all of our labor on the job, but that we would be able to put it back into the factories, the mills, the mines and

* Extracts from address of S. C. Durkee at meeting held in the Engineers' Club, San Francisco, September 2, 1932, under the auspices of Northern California Chapter, A. G. C.

places where men are trained to work and are happy to work there."

What The Act Provides

Dr. Hewes, in opening his talk, described the purposes of the Emergency Relief and Construction Act which provides a loan of \$120,000,000 to the states, apportioned on the regular formula basis. The amount of this loan to the eleven Western states is \$23,117,886. There is also a balance of about \$10,000,000 for regular Federal Aid yet unobligated. California's share of this \$20,000,000 is \$4,667,188.

Minimum Wage For Unskilled Labor

"Minimum wages of unskilled labor have already been generally fixed at 50 cents per hour," Dr. Hewes declared. "Out here in the West there are two or three exceptions—Utah 48 cents and, I think, New Mexico, due to her peculiar conditions, wants 35 cents.

"But," continued Dr. Hewes, "do you realize that labor dropped down to 7½ cents an hour in Virginia, at ten hours? Do you further realize that 50 cents an hour out here will be the highest unskilled wage paid in any comparable section of the country? The Bureau of Public Roads, in some of those southeastern states, will approve as low as 20 cents."

With reference to board, Dr. Hewes said, the Bureau has set a maximum of 35 cents a meal and a request that meals be pro-rated. That is, if a man is away at the end of the week that he should not be charged for a full day if he just merely eats breakfast.

Rates for Skilled Labor

"The minimum rates for skilled labor will vary considerably," said Dr. Hewes. "In some states a minimum of 60 cents per hour for skilled labor is all that is stipulated, and such stipulation will be approved. If the states prefer to list several classes of skilled labor at varying rates, that method is permitted. The contract will limit employment to not exceed 30-hours in any one week. If states prefer to stipulate that no individual shall work in excess of five days per week, such stipulation will be approved. No exceptions can be made to the 30-hour week in respect to auxiliary work on equipment or similar overtime work. By a supplementary memorandum August 17, where work is so remote that camps are indispensable, the District Engineer, upon a showing of the facts that it is impracticable to apply the 30-hour week may, prior to advertisement, approve a maximum of not more than six days per week of the legal hours fixed by the corresponding state, and in the absence of such fixed hours, 8 hours will apply. This stipulation is to be sparingly used, and unless the establishment of a camp and more than 30-hours work per week is provided in the contract, the mere establishment of a camp will not constitute sufficient evidence to remove the 30-hour week requirement."

30-Hour Week Requirement

The exception to the 30-hour week requirement, Dr. Hewes pointed out, in executive, administrative and supervisory positions includes superintendents, timekeepers, bookkeepers, clerical employees and others in a position of trust or responsibility, and also employees considered to be in supervisory positions such as master mechanics, foremen or any employees whose principal duties are to direct the work of others.

"It is not expected in general that work will shut down Saturday, but that on the contrary sufficient men will be on call so that work may be continued," said Dr. Hewes. "That is, if you have to have 50 men on the job all the time and you want to work 60 you will have to have 60 on call."

Emergency contracts will be required to provide that no fee of any kind shall be charged or accepted by the con-

tractor or his agents from employees, nor shall there be fees for tools, except for breakage or damage. Furthermore, there shall be no restriction on the employee as to where he shall lodge, board or trade. Transportation of employees shall be at standard rates.

All the above provisions with respect to labor, wages and hours are to apply with equal force whether work is by piece work, station work or sub-contract.

To Insure Maximum Employment

"Provisions to secure hand labor in preference to machine labor are mandatory in part and optional with the states in part," Dr. Hewes said. "Where they are optional with the states, for our own work, which will amount to eighteen or twenty million dollars, they will be largely mandatory on us.

"These provisions are intended to 'provide the maximum employment of local labor consistent with reasonable economy of construction.' State provisions to this end will be passed upon by the Bureau engineers. No stipulations limiting contracts to residents of the state, or the use of material within a state, will be approved.

"The instructions list required special provisions for all work which are the maximum which will be approved. That is, we will not tolerate a more stringent elimination of machine work than is provided in the instructions.

"Variations will be approved only if their application to special cases still provides maximum employment of local labor consistent with reasonable economy of construction. These special provisions ordinarily prevent machine work on clearing and grubbing, but allow explosives for stumps and use of tractors in heavy timber clearing.

"These instructions are mandatory with respect to the use of hand labor for slopes in cuts and fills, including the spreading of the fill where there is little or no rock. They do not prevent the use of power graders on turnpike sections. They permit also the finishing of earth road by power operated graders. For all grading work incidental to paving and including subgrading and shoulders, no machine work is permissible, except that a planer may be drawn behind the mixer for Portland cement concrete construction.

"In the matter of piping and underdrains, with the exception of the use of explosives where necessary, hand or team work is required throughout, including the unloading of pipe, except that block and tackle or other hand or team power equipment for unloading is permitted.

Hand Labor On Structures

"For culverts, masonry structures and small bridges up to 50-foot span, except for the use of necessary explosives and power pumps for unwatering and man or team power hoists, hand work or teams are required throughout, although reinforcing steel may be hauled in trucks and, by the supplementary instructions of August 17, aggregates from open top cars may be unloaded by power equipment. It was not contemplated first even to unload aggregates for these smaller jobs with power. I do not think we would require hand mixing for bridges running a 30, 40 or 50-foot span, but we would require hand mixing for the head walls.

"For bituminous macadam surface courses, all sweeping and brooming are to be done by hand methods and no power spreading devices shall be used in initial spreading of surfacing material except that material may be dumped from a moving vehicle. The next stage of the spreading is to be by hand, but later blading for finish may be used.

"For bituminous concrete surface courses or asphalt concrete, sweeping of under courses shall be by hand methods but finishing machines in construction are allowed.

"For similar Portland cement concrete pavements

tandem mixers will not be permitted, and earth or straw, within the last four hours curing is mandatory where suitable roadside earth or straw can be obtained and shall be placed and removed by hand methods.

"Roadside production of crushed stone and gravel, which means production from temporary pits or quarries and does not apply to bona fide commercial quarries, is conditioned as follows: Where the crusher is approximately the same elevation as the floor of the quarry, crushed size stone is to be transported to the crusher by hand or team methods and shall be loaded by hand. Where it is predetermined to be feasible, team power or hand labor will be used in gravel pits for transporting material to screening plants or loading plants, and stripping similarly done by hand labor or teams?"

What Is Commercial Plant?

Recently Dr. Hewes pointed out he was asked to rule on what a commercial plant was. It does not mean, he declared, some old abandoned plant that is suddenly resurrected into full commercial activity for a few weeks. That is a roadside plant in most cases. The difference is, he declared, that these stipulations do not apply to those large manufacturing plants for the production of aggregate. There will be some border-line cases there, he said.

On large bridges hand painting of steel is required, although cleaning may be done by sand blasting and as far as practical all other work shall be done by hand.

All the above provisions are to be required. In addition certain optional provisions which may be requested by the State Highway Department and which in general will be required by the Bureau on Forest and Park work are standard. These partially optional provisions in the above sense apply to especially selected projects.

Optional Types of Special Provisions

"Grading on especially selected jobs well adapted for teams and hand labor and which will generally include jobs where quantities are not in excess of 12,000 cubic yards to the mile, shall have all earth material excavated by hand or team labor methods, although trucks may be used for hauling and power equipment and explosives may be used in rock. We have tentatively said where two-way classifications or unclassified specifications obtain, earth material may be construed to extend to common excavation and be subject to those hand and team methods on special selected jobs in advance, and in several, where the yardage runs 12,000 or less.

"On specially selected projects where teams are available and where it is desirable to provide team employment and where grades and road conditions permit, team hauling of all surfacing materials for distances up to two miles may be required. This requirement does not mean that there shall be any shift in transit from teams to trucks, or vice versa, where the hauling exceeds two miles. It does not mean that where part of the surfacing can be done within two miles, such type of hauling, where teams are available, may be required by the States and will be required by the Bureau, except within National Parks where concentrated team hauling will not be permitted.

"In connection with the team haul clause the cry went out: Teams are available now, but they will not be in haying time, that is, they might be available when we let the contract, but not throughout its duration.

"We figured if we let the contractor bid on teams and then later on go to trucks, he is getting a price for the material in place on the basis of a team haul and he is doing it with trucks and, of course, we are losing money. He is making a little money—and we couldn't have that, so we have whipped the devil around the stump and you will see some specifications provide that we will mix the teams in with the Ford trucks.

Funds Provided in Act

"The Emergency Relief and Construction Act, under Title III, 'Public Works' also provides additional emergency road funds as follows: \$120,000,000 up to here and then for the National Forests, \$5,000,000; for the National Parks and approaches, \$3,000,000; and for roads through unappropriated public lands, \$2,000,000, besides \$1,000,000 for Indian Reservation roads. Work in the National Parks and Forests will be done by the Bureau of Public Roads under regulations exactly paralleling those applicable to the work done by the States under the \$120,000,000, and which make Forest and Park projects emergency relief construction projects and then the stipulations above mentioned are mandatory by the Government and not optional. Federal Lands Highway projects may be done either by the State or the Bureau as administrative arrangements may determine. They will accordingly be subject to the corresponding stipulations above mentioned. By act of the Secretary July 29, regulations for Forest Highways were amended by the new Regulation 8, which declares all Forest Highway contracts involving the use of emergency construction Forest Highway funds under the above item of \$5,000,000 to be emergency construction Forest Highway projects. This regulation has the effect of subjecting all balances of the regular Forest Highway fund of \$9,500,000 to all the above stipulations which thus become mandatory for approximately \$14,000,000 worth of work now in process of going to contract. Similarly all new Park contracts are declared to be emergency construction relief projects when let subsequent to August 9th. The corresponding amount involved is about \$3,900,000.

"Summarizing the available funds to which emergency provisions will apply, for the eleven Western States, we have the following tabulation:

| | |
|---|--------------|
| Second emergency loan | \$23,117,886 |
| Unobligated Federal aid balances | 10,153,000 |
| Regular Forest Highway appropriation | 8,662,170 |
| Emergency Construction Relief Fund..... | 4,687,030 |
| Federal Lands Highways | 1,870,071 |
| National Park funds, including emergency.. | 3,900,000 |
| Co-operative funds for Forest Highways..... | 689,447 |
| | <hr/> |
| | \$53,079,604 |

"We have blithely blanketed into this co-operative funds. I suppose the answer will be to the co-operator, 'Your dollar is not being used for charity. You are getting your full dollar's worth of work. All charity is coming out of the Government funds.' I do not know any other answer. We have not had any kicks. This law did not say anything about the co-operative fund, you will observe.

Emergency and Direct Appropriations

"There is one important difference between the emergency loan to the States on one hand and the direct appropriation for Government work on the other hand. All the emergency loan projects have to be completed July 1, 1933, that is, no work done with an emergency dollar after July 1st, whereas our jobs merely have to be under contract by that date. Consequently the Forest and Park funds and co-operative funds combined therewith, which total approximately \$18,000,000 must be under contract before next July 1st, but the contracts need not be completed at that time. With respect to the emergency loan to the States, the emergency dollar quits July 1st but the contract goes on—contracts which run beyond July 1st, 1933, must be completed with other than emergency funds but the emergency provisions as listed above will continue to apply to all such contracts regardless of how their completion is financed.

"The intent of this Act beginning with its title, which

is preceded by the following language:

"To relieve destitution, to broaden the lending powers of the Reconstruction Finance Corporation, and to create employment by providing for and expediting a public works program."

is so clear in respect to employment relief that there remains no question that the emphasis on the administration of the funds involved is to be upon the emergency features of employment rather than upon the cost of the product. For this reason, it is imperative that all contractors understand that the emergency relief provisions written into the special provisions for all road contracts will be thoroughly and diligently enforced. It is hoped that the regulations, instructions and special provisions will provide a workable basis of action during the next ten months under the combined efforts of the administrative authorities of the State and Government on the one hand, and the contractors on the other. It is recognized that a difficult position has been created for the prospective bidders under this set-up. It is my duty to emphasize with all the force that I can command that bidders under this program must become familiar with all the conditions surrounding the job. Indications are from the bids already coming in, that contractors have not sufficiently taken into account the radically changed basis of price fixing resulting from the emergency stipulations. Bidding for some months has been on a slowly declining price level and there is little or no evidence that the contractors have yet changed their habits of bidding to correspond with changed conditions.

"It should be said specifically that there are no saving clauses provided for the protection of the contractor in all this legislation or in the regulations or instructions. It is hoped that this opportunity will serve as a protective step for all those who propose to bid under this program and set-up. It is hoped that no contractor will fail to make a profit, but all contractors should beware not only of the changed conditions in the employment of labor and the use of equipment, but also of the possibility of changing prices which may occur during the life of their contracts. These statements are practically the only protection that can be given to a contractor under this trying schedule for the coming year.

"I suppose, if I had been trained for the ministry or some of the higher walks of life, I could make an eloquent plea to you in respect to the opportunity which you contractors have here to serve in this emergency. I do not know but what that it is the best way for you to approach it. It may be that the time has come when the question of how much you can make out of a contract is not only secondary but perhaps tertiary. Perhaps this is the occasion when you should consider whether you are not obligated, by virtue of your position in the line of fire here, to help save the situation from getting any worse.

"We have tried to draw these stipulations up under the law. We have tried to be fair; we have tried to put in some hard work where it would be the least damaging; we have tried to keep as much of the machinery on the job as we dared to.

"The roadbuilding game owes an immense debt to the manufacturers and the designers of road construction machinery. I do not know how we could have produced the mileage that we have, of the standard that we have required, without the reduction in cost brought about by the mass production because of the equipment.

"I do not think that we should say this is a step backward, but perhaps rather that we are marking time while the emergency is on. We are getting in a position to resume our march on perhaps even a better basis. But right now we are faced with an emergency because men are hungry."

THE LAW OF MECHANICS' LIENS

(Continued from Page 10)

Section 29 is entitled "Materials Not Attachable for Debts of Purchaser." This section provides that whenever materials have been furnished to improve real property and payment therefor has not been made, such materials shall not be subject to attachment, execution or other legal process to enforce any debt due by the purchaser of such materials, except for debt due for the purchase price thereof, so long as in good faith the same are about to be applied to improve the real property; and further provides that if the owner has made payment for materials furnished and material men have not received payment therefor, such materials shall not be subject to attachment, execution or other legal process to enforce the debt due for the purchase price thereof.

Section 30 is entitled "Judgment in Case of Failure to Establish Liens; Award of Personal Judgments by Court; Deficiency Judgments." This section provides that if the lienor shall fail for any reason to establish a lien in the full amount due him, he may, in addition to the lien decreed in his favor, recover any judgment in such action for such sums in excess of the lien as are due him or which he might recover in an action on a contract against any party to the action from whom such sums are due him. The section provides for such deficiency judgment as may be rendered where there is not sufficient proceeds arising from the sale of the real property under such decree of sale.

Section 31 is entitled "Act Governs Liens on Future Contracts Only." This section provides that the act shall apply to such liens only as arise under direct contract under which visible commencement of operations take place.

Section 32 is entitled "Enforcement of Liens." This section provides that the lien provided by the act may be enforced against the real property specified in the claim of lien and which is subject thereto and against any person liable for the debt upon which the lien is founded.

Section 33 is entitled "Action at Law Not Barred." This section provides that nothing in the act shall be construed to prevent any lienor under any contract from maintaining an action thereon at law in like manner as if he had no lien for the security of his debt and the bringing of such action shall not prejudice his rights under this act.

Section 34 is entitled "Construction of Act." This section provides that the act is to be construed liberally.

Section 35 is entitled "Short Title." This section provides that the act may be cited as the "Uniform Mechanics' Lien Act."

Section 36 provides that if any portion of the act is held unconstitutional, such decision shall not affect the validity of the remaining portions of the act.

Section 37 is entitled "Interpretation." This section provides that the act shall be so interpreted and construed as to effectuate its general purpose to make uniform the law of those States which enact it.

Section 38 is entitled "Inconsistent Laws Repealed." This section provides that all acts or parts of acts inconsistent with this act are repealed.

Section 39 is entitled "Effective Date" and merely fixes the effective date.

* * *

Let us now compare the provisions of the Code law covering Mechanics' Liens of California with the provisions of the Uniform Act.

Section 1 of the Uniform Act is devoted in its entirety to the definitions which are essential to the proper understanding of the act. These definitions are scattered throughout the Code sections, for instance, "owner" is defined in Section 1184. "Work of improvement" is de-

fined in Section 1187, while the remaining definitions are found in Section 1183. In this section the Uniform Act is definite and clear as to its meaning and the program of defining all the terms used in an act at the beginning is by far the clearest method of writing any law.

Section 2 of the Uniform Act is the same in its meaning and scope as the first portion of Section 1183 of our Code.

Section 3, subdivision 1 of the Uniform Act provides that liens take effect from the visible commencement of the work. This section has its counterpart in Section 1186 of the Code, which provides that the lien takes effect and is prior to any claims, liens or encumbrances not recorded at the time of such commencement.

Subsection 2 limits the lien to the owner's right and this is directly contrary to the provisions of Section 1192 of our Code, which makes the property responsible regardless of the owner unless the owner causes the notice of nonresponsibility to be given as provided in that section.

Section 4 is almost an exact counterpart of Section 1184 in that it provides for the giving of the notice to withhold, except that Section 1184 is only effective in the case of public work.

Section 5 of the act is weakly attempted to be covered by the provisions of 1184-a, 1184-b, 1184-c and 1184-d, but there is no method provided under any of our Code sections which is definite or certain, with the exception of public works. There is no provision in our law permitting the owner to pay lien claimants and the operation of the notice to withhold only permits the owner to withhold any balance coming due under the contract until after the litigation for the collection of the lien has been determined.

The provisions of Sections 4 and 5 of the Uniform Law, with the exception of the fact that they provide a preferred claim for labor, are not necessarily in violation of our Constitution, but in so far as they attempt to create this preference they are unconstitutional.

Section 6 of the Uniform Lien Law is entirely unconstitutional in its effect as its principal purpose is to provide the priorities of claims.

Section 7 of the Uniform Law provides for the furnishing of a bond by the contractor, conditioned upon his payment of all claims against the work, and provides that if this bond be filed by the owner, there shall be no limitation of the right of claim of the lienors against the contractor but that the total liens against the property shall not exceed the balance due upon the contract price. It provides, however, that the owner is bound to see that the bond is sufficient and, if the bond shall prove to be insufficient, then he shall be bound by the terms of the act as it defines proper payments.

The counterpart of this as to private contract is covered in Section 1183 of our Code, and, under this section, if the owner procures a bond from the contractor in the amount of fifty per cent of the contract price, the lien upon his property shall be limited to the balance due under the contract "where it would be equitable so to do." As has been pointed out, just what this clause means is uncertain, but if it means the lien shall be limited to the balance due under the contract unless the bond shall be insufficient, it conforms exactly to the provisions of Section 7 of the Uniform Act.

Section 1184-d also contains provision for the giving of a bond and this is the bond given by the contractor to secure the release of money or bonds withheld by the public official as a result of being served with a notice to withhold.

Section 8 of the Uniform Act has no counterpart whatever in our California Code Law.

Section 9 of the Uniform Act has its counterpart in the

provisions of Section 1202, and, under both of these sections, the giving of a false statement shall cause a forfeiture of the lien.

Section 1184-c also contains the provision that any person making a false claim shall be deprived of his lien.

Section 10 of the Uniform Act provides for the application of payments by material men or other creditors of the contractor. This is a clear, definite statement of the law and the particular condition is one that is covered very indefinitely under our California law.

Section 11, granting the right of repossession of materials not fully paid for, is not permitted by any of the provisions of the California law.

Section 12 is an exact opposite of the provisions of our law as covered by the language of Section 1192 and contains the same theory which existed prior to the adoption of our Codes, and particularly that theory which provided for a lien upon improvements upon land separate from the land, providing for the sale of the improvement apart from the land and the removal of such improvements by the purchaser.

Section 13 is contrary to the provisions of the California law and particularly to the provisions of Section 167 of the Civil Code, which provides that the community property,—that is, the property acquired jointly by husband and wife during marriage—is not liable upon any contract made by the wife unless secured by a pledge or mortgage of the property executed by the husband, but is apparently similar to the provision requiring the giving of notice of non-responsibility.

Section 14 also contains a new thought by making the proceeds of insurance upon the property liable for the claims of lienors in the event of its destruction.

Section 15 has its counterpart in the provisions of Section 1187 of our Code, except that it is much more explicit in its details and includes within itself the form which shall be used.

Section 16 is almost the same as Section 1188 of our Code and Section 17 is the same as the provisions of Section 1189. The provisions of Section 17 of the Uniform Act do not conform, however, to the California procedure as our law provides for the filing with the county recorder of all such notices and claims.

Section 18 providing for amendment is not included in our code, but the provisions of Section 1203 cover the same matter, as they require that the claim of lien must be sufficient only to apprise the owner of the general nature and extent of the lien and shall not be invalidated by any errors or omissions not fraudulent.

Section 19 is similar to the provisions of Sections 1184 and 1184-a, but by the provisions of Sections 1184 and 1184-a the service is made applicable only to public work; that is, the service of the notice becomes effective to collect money only in the case of public work.

Section 20 provides for the service of a copy of the recorded claim of lien on the owner. This is not required under our law.

Section 21, as to priority of liens, is practically the same as Section 1186 of the code, except that the Uniform Act is very explicit and clear through its use of the phrase "visible commencement of operations."

Section 22 provides for a continuance of the life of such lien for one year, as against the 90-day limitation fixed by California law.

Our California Code, Section 1190, permits the continuance of such a lien for a period only of 90 days, unless an agreement for credit is made, and under such an agreement the life of the lien can be extended for not to exceed one year from the date of completion of the work. Under our law as it now stands, the agreement for such credit must be filed and recorded subsequent to the time of filing

of the original lien.

Section 23 of the Uniform Act provides for the assignment of a lien. This has no counterpart under our code provisions covering mechanics' liens, but under our general law any account or debt is assignable.

Section 24 provides for the discharge of liens and there is no provision of our law covering such a discharge of lien except the provisions of Section 1190, which provides that the liens are automatically discharged if action thereon is not commenced within the time specified and that any judgment against the lienor operates as a satisfaction. There is, of course, under general law the right to acknowledge and record a satisfaction of lien, the same as a satisfaction of a judgment, mortgage or other debt.

Section 25 transfers the lien to the balance due on the purchase price under the conditions which have been set forth in the preceding analysis of that section. That section has no real counterpart under our law, but our code does provide that under the provisions of Section 1184 and following, and the provisions of Section 1193, the owner may withhold and deposit any balance due in court.

Section 26 of the Uniform Act provides for the furnishing of a copy of the contract and statement of account by the owner or contractor to any lienor upon demand and provides that if the owner or contractor refuses to furnish such statement the lienor may proceed to judgment and execution against the person primarily liable for the debt, and in the event that the owner is responsible for such failure to furnish the copy, he is made liable for the amount of the bill. There is no similar provision under our law nor any required under the theory of our law.

The second sub-section of Section 27 of the Uniform Lien Law contains matter which is similar to the provisions of Section 1184 by providing that if any claimant refuses to render a verified statement on demand of the owner he shall forfeit his lien.

Section 27 is similar to Section 1201 of our code and permits any individual to waive a right of lien.

Section 28, as to the right of redemption, is the same as that granted under our law by general terms.

Section 29, prohibiting an attachment against materials, is the same as Section 1196.

Section 30 is the same as Section 1197 in that it permits a personal action on the contract by any person as against his debtor regardless of whether or not he has perfected a lien.

Section 33 of the Uniform Act is to the same effect.

The remaining sections of the act are merely general in their nature and are not necessary to an understanding of its details.

From the analysis of the various laws which have been adopted with reference to mechanics' liens, it would seem necessary that certain changes should be made in this law in order to properly safeguard every person interested.

The old law, as it stood before the adoption of the codes, proved inadequate, and the new law now set forth in our codes is inequitable. The proposed "Uniform Mechanics' Lien Act" cannot be adopted in its entirety in the State of California unless the Constitution is first amended, as the provisions of Section 15, Article XX, of the Constitution makes liens of all types and all classes equal.

We would recommend one of two methods to procure proper legislation: First, to adopt the Uniform Mechanics' Lien Act, making the necessary changes so as to conform to the provisions of our Constitution; or, second, to enact into law in conjunction with and for extension

of the present Mechanic's Lien Law additional provisions. These provisions should be inserted either as part of or following Sections 1184, 1184-a, 1184-b, 1184-c and 1184-d, creating an alternative method following, in its general outline, the procedure under the notice to withhold but extending that for the protection not only of the workman or the materialman but also of the owner. These alternative provisions should properly provide that, if the owner shall elect to proceed under them, he should have inserted in the contract with his builder a clause to that effect, and there should also be designated in the original contract so recorded the depository, who shall be charged with the duty of making the payments provided for. The contract may provide for the payment for the work in installments, either at specified times or upon the completion of specified portions of the work, with the provision that not less than 25 per cent of the contract price shall be held by the depository until 35 days after the filing of the notice of completion; or, if no notice of completion is filed, until 90 days after the actual completion or cessation from labor on the work. At the time of entering into such contract the owner shall deposit with the depository so designated in the original contract the contract price agreed upon for the doing of such work. If, thereafter, any modification shall be made in the contract for such work, either by decreasing or increasing the amount of work to be done thereafter, such modification shall be filed with the county recorder and the amount of money agreed to be paid for any addition to the original contract shall be forthwith deposited with the depository. Within five days after the filing of the contract the principal contractor shall prepare and file with the depository a statement and estimate showing each class of work or material to be put into said work, either by himself or by any sub-contractor, with the estimated cost thereof, and in addition thereto a statement, as nearly accurate as may be estimated, of the actual amount which will be necessary for the payment for labor entering into said work. Any person contracting with the contractor for the performance of any work or the furnishing of any materials or supplies for the said work shall, within five days after the execution of said contract, deposit a copy thereof or a statement of its general terms, including what is agreed to be done thereunder and the price to be paid therefor. Upon the filing of such contract with the depository, the depository shall make a record thereof and shall set apart out of the funds in his hands sufficient money to make the payments thereon as they shall become due. Any person proposing to enter into any contract with the contractor may demand from the depository, and the depository shall furnish to such person, a statement of the total contract price, the amount which has been paid or set aside for the payment of claimants and the balance remaining unapplied. Any person who shall enter into any contract with the contractor to furnish labor, material or supplies without first ascertaining whether or not sufficient funds remain available in the hands of the depository for the payment of his claim shall be deemed to have furnished such labor, materials or supplies solely upon the credit of the contractor, and he shall not acquire any lien against the said fund or property in excess of the actual balance remaining unapplied in said fund at the time of filing said contract. Any person entering into a contract with the contractor for the furnishing of labor, materials or supplies who shall fail within said period of five days to file said copy or statement with the said depository shall be deemed to have agreed to furnish such material, labor or supplies solely upon the credit of said contractor and shall not have any lien against the property or fund.

UNIT BID SUMMARY

Compiled from the Daily News Service of Pacific Constructor

0.78 MILE GRADING—SAN BERNARDINO COUNTY—GOVT.

SAN BERNARDINO COUNTY, Cal.—Geo. Herz Co., 311 Platt Bldg., San Bernardino, at \$55,209 submitted low bid to U. S. Bureau of Public Road, San Francisco, for 0.78 mi. grading Section C of Route 65, the Mill Creek National Forest Highway, San Bernardino National Forest, involving:

- (1) 8 acres clearing;
- (2) 108,500 cu. yds. unclass. excav.;
- (3) 1220 cu. yds. unclass. excav., struc.;
- (4) 57,900 sta. yds. overhaul;
- (5) 0.78 mi. finish earth graded road;
- (6) 280 cu. yds. class A concrete;
- (7) 7 cu. yds. class B concrete;
- (8) 31,200 lbs. reinf. steel;
- (9) 68 lin. ft. 18-in. corr. metal pipe;
- (10) 240 lin. ft. 24-in. do, 14 gauge;

- (11) 135 lin. ft. 30-in. do, 14 gauge;
- (12) 210 lin. ft. 30-in. do, 10 gauge;
- (13) 96 6x6-in. x 6-ft. stretchers for concrete cribbing in place, including stretchers;
- (14) 158 8x6-in. x 6-ft. do;
- (15) 32 8x5-in. x 6-ft. 8-in. headers for concrete cribbing in place, including headers;
- (16) 234 10x5-in. x 6-ft. 8-in. do;
- (17) 128 3x6-in. x 5-ft. 10-in. stretchers for concrete cribbing in place (stretchers furnished by Govt.);
- (18) 148 8x6-in. x 5-ft. 10-in. do;
- (19) 42 10x6-in. x 5-ft. 10-in. do, f. o. h. Colton;
- (20) 30 right-of-way mounments.

Complete bids follow:
 (A) Geo. Herz, San Bernardino, \$55,209.

(B) Clark & Campbell, Los Angeles, \$60,967.
 (C) Baker & Taylor, San Francisco, \$61,645.
 (D) Crook & Henne, Los Angeles, \$65,171.
 (E) Gist & Bell, Arcadia, \$66,053.
 (F) Weymouth-Crowell, Los Angeles, and E. Penn Watson, San Diego, \$71,114.
 (G) Frank C. Cuffe, San Rafael, \$79,791.
 (H) H. M. Baruch and Robinson-Roberts Co., L. A., \$79,821.
 (I) Frank W. Hammer, Los Angeles, \$81,695.
 (J) C. G. Willis & Sons, Los Angeles, \$83,631.
 (K) Engineer's estimate, \$88,973.

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) |
|------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| (1) | \$490.00 | \$275.00 | \$300.00 | \$250.00 | \$300.00 | \$300.00 | \$250.00 | \$300.00 | \$250.00 | \$280.00 | \$250.00 |
| (2) | .31 | .39 | .41 | .425 | .42 | .485 | .54 | .55 | .60 | .62 | .60 |
| (3) | 2.00 | 1.35 | 1.50 | 1.50 | 1.50 | .75 | 2.00 | 1.50 | 1.50 | 1.50 | 2.00 |
| (4) | .01 | .015 | .02 | .015 | .02 | .01 | .02 | .02 | .01 | .03 | .03 |
| (5) | 300.00 | 300.00 | 350.00 | 300.00 | 500.00 | 250.00 | 200.00 | 250.00 | 300.00 | 700.00 | 300.00 |
| (6) | 30.00 | 28.00 | 25.00 | 25.00 | 30.00 | 26.00 | 30.00 | 28.00 | 30.00 | 22.00 | 35.00 |
| (7) | 35.00 | 26.00 | 35.00 | 28.00 | 29.00 | 35.00 | 35.00 | 28.00 | 30.00 | 22.00 | 35.00 |
| (8) | .045 | .045 | .05 | .055 | .04 | .05 | .06 | .05 | .05 | .05 | .07 |
| (9) | 1.50 | 2.00 | 1.05 | 1.40 | 2.00 | 1.70 | 1.50 | 2.00 | 1.50 | 1.50 | 1.60 |
| (10) | 2.10 | 2.50 | 1.70 | 2.00 | 2.50 | 2.51 | 2.00 | 2.50 | 2.50 | 1.75 | 2.40 |
| (11) | 2.80 | 3.50 | 2.05 | 2.50 | 3.00 | 3.16 | 2.50 | 2.75 | 3.00 | 2.50 | 3.30 |
| (12) | 4.30 | 5.00 | 3.50 | 4.15 | 3.50 | 5.17 | 5.00 | 4.50 | 4.50 | 3.75 | 4.35 |
| (13) | 3.00 | 2.90 | 1.40 | 3.25 | 3.50 | 3.22 | 4.00 | 2.50 | 3.50 | 3.25 | 3.50 |
| (14) | 3.40 | 4.00 | 1.70 | 3.70 | 3.75 | 4.44 | 4.00 | 4.00 | 4.00 | 3.20 | 4.30 |
| (15) | 3.80 | 4.00 | 1.80 | 4.00 | 3.25 | 4.50 | 4.00 | 4.25 | 4.25 | 4.20 | 4.80 |
| (16) | 4.70 | 5.00 | 2.10 | 5.00 | 4.00 | 5.57 | 4.00 | 5.25 | 5.00 | 5.20 | 5.80 |
| (17) | .95 | .75 | .56 | 1.15 | 3.00 | 1.60 | 3.00 | 1.25 | 1.25 | 1.25 | 1.70 |
| (18) | 1.25 | 1.40 | .70 | 1.25 | 2.25 | 1.87 | 3.00 | 2.25 | 1.25 | 1.80 | 2.25 |
| (19) | 1.30 | 1.60 | .85 | 1.40 | 3.25 | 2.15 | 3.00 | 2.25 | 1.75 | 2.00 | 2.80 |
| (20) | 4.40 | 3.00 | 3.00 | 3.00 | 3.00 | 5.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.50 |

PLATE GIRDER BRIDGES—LOS ANGELES COUNTY

LOS ANGELES COUNTY, Calif.—Weymouth-Crowell Co., 2104 E 15th St. Los Angeles, at \$154,611.55 submitted low bid to State Highway Commission, Sacramento, to construct four deck plate girder bridges across Piru Creek at points between 13 1/2 and 15 miles north of Castaic; the first consisting of three 80-ft. spans and two 50-ft. spans, the second consisting of three 80-ft. spans and one 50-ft. span, the third consisting of three 80-ft. spans and two 60-ft. spans, and the fourth consisting of two 80-ft. spans and two 60-ft. spans, involving:

- (1) 7,300 cu. yds. struc. excavation;

- (2) 1,432 cu. yds. Class A cem. conc. (footing blocks);
- (3) 3,655 cu. yds. Class A cem. conc. (struc.);
- (4) 60 cu. yds. Class A cem. concrete (slope paving);
- (5) 360,000 lbs. bar reinf. steel;
- (6) 1,520,000 lbs. structural steel;
- (7) 30,660 lbs. cast steel;
- (8) 2,735 lin. ft. solid timber railing;
- (9) 280 lin. ft. 8-in. corr. metal pipe
- (10) 1 lot miscellaneous items of work.

Complete bids follow:
 (A) Weymouth-Crowell Co., Los Angeles, \$154,611.55.

(B) Sharp & Fellows, Los Angeles, \$165,397.00.
 (C) H. M. Baruch Corp., Los Angeles, \$167,127.03.
 (D) Lynch Cannon Eng. Co., Los Angeles, \$174,259.30.
 (E) Gist & Bell, Arcadia, \$179,019.00.
 (F) Oberg Bros., Beaumont, \$182,316.10.
 (G) Neves & Harp, Santa Clara, \$190,195.00.
 (H) Bodenhammer Const. Co., Oakland, \$197,513.20.
 (I) Sander Pearson & Dimmitt & Taylor, Santa Monica, \$212,220.60.

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) |
|------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| (1) | \$ 955 | \$ 1.80 | \$ 4.04 | \$ 2.50 | \$ 2.00 | \$ 3.63 | \$ 3.00 | \$ 2.75 | \$ 4.25 |
| (2) | 7.05 | 10.00 | 8.24 | 7.50 | 9.00 | 8.15 | 10.00 | 12.00 | 12.80 |
| (3) | 13.02 | 14.70 | 12.00 | 17.00 | 18.00 | 14.67 | 17.75 | 16.00 | 19.00 |
| (4) | 14.58 | 10.00 | 8.25 | 15.00 | 10.00 | 13.35 | 15.00 | 13.00 | 15.00 |
| (5) | .038 | .0325 | .0315 | .0325 | .035 | .035 | .032 | .0425 | .034 |
| (6) | .045 | .0433 | .0436 | .042 | .0425 | .0467 | .0439 | .05 | .0475 |
| (7) | .105 | .10 | .10 | .08 | .10 | .07 | .10 | .12 | .10 |
| (8) | .95 | .70 | .73 | .90 | 1.00 | .75 | 1.00 | 1.00 | 1.00 |
| (9) | .30 | .40 | .59 | 1.00 | .50 | 1.00 | 2.00 | 1.00 | 1.00 |
| (10) | 1100.00 | 1000.00 | 1403.00 | 1500.00 | 2000.00 | 1665.00 | 3500.00 | 3000.00 | 2000.00 |

REINFORCED CONCRETE CONDUIT—LOS ANGELES

LOS ANGELES, Cal.—W. T. Loesch & Son, 119 E. Union St., Pasadena, (Colo. 1671) submitted low bid to the county supervisors at \$11,428.82, to construct reinforced concrete conduit in the Verdugo Wash from Louise St. 1270 ft. westerly, involving:

- (1) 2800 cu. yds. excav. and grading;
- (2) 2600 cu. yds. backfill;
- (3) 550 cu. yds. fill;
- (4) 1500 cu. yds. Class A concrete;
- (5) 290 cu. yds. Class B concrete;
- (6) 2265 lin. ft. placing fencing on top of channel walls;
- (7) 175 lin. ft. drilling dowel holes;

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | Total |
|-----|-------|-------|-------|--------|--------|--------|-------|-------|-------------|
| (A) | \$.18 | \$.17 | \$.65 | \$5.25 | \$5.25 | \$.105 | \$.40 | \$.05 | \$11,428.82 |
| (B) | .25 | .13 | .15 | 5.65 | 6.00 | .06 | .50 | .07 | 12,224.90 |
| (C) | .23 | .18 | .30 | 5.80 | 5.80 | .10 | .20 | .10 | 12,470.00 |
| (D) | .33 | .20 | .40 | 6.00 | 6.00 | .12 | .50 | .30 | 13,395.30 |
| (E) | .37 | .43 | .60 | 5.50 | 7.07 | .02 | .50 | .12 | 13,917.75 |
| (F) | .20 | .30 | .50 | 5.60 | 5.00 | .15 | 1.00 | .50 | 13,995.75 |
| (G) | .50 | .30 | .20 | 6.00 | 7.00 | .20 | .50 | .30 | 14,415.50 |
| (H) | .40 | .15 | .25 | 6.50 | 8.75 | .07 | .50 | .20 | 14,776.05 |
| (I) | .375 | .288 | .288 | 6.70 | 6.70 | .10 | .50 | .30 | 14,882.20 |
| (J) | .59 | .39 | .20 | 6.20 | 7.25 | .075 | 1.00 | .20 | 15,081.37 |
| (K) | .45 | .29 | .40 | 7.84 | 8.25 | .20 | .50 | .50 | 17,423.60 |
| (L) | .50 | .18 | .35 | 7.50 | 10.00 | .25 | .40 | .35 | 17,539.25 |
| (M) | .50 | .15 | .20 | 8.95 | 13.00 | .15 | .40 | .50 | 20,335.25 |

LA HONDA ROAD—SAN MATEO COUNTY

REDWOOD CITY, San Mateo Co., Cal.—Meyer Rosenberg, 1755 San Bruno Ave., San Francisco, at \$27,030 (for both alternates) awarded contract by county supervisors to pave a portion of the La Honda Road, about 1 1/4 mi. southerly from the Skyline Blvd. junction, involving:

- (1) 55,000 cu. yds. grading and excav.;
- (2) 70,000 sta. yds. overhaul;
- (3) 3,600 cu. yds. broken stone base;
- (4) 144,500 sq. ft. 1-course asphalt macadam wearing surf. (hot oil);
- (4a) 144,500 sq. ft. do (cold oil);
- (5) 800 lin. ft. install 15-in. corrugated metal pipe culvert;
- (6) 170 lin. ft. install 36-in. do;

| | (A) | (B) | (C) | (D) | (E) | (F) |
|------|-------|-------|-------|-------|-------|-------|
| (1) | \$.29 | \$.31 | \$.46 | \$.39 | \$.48 | \$.53 |
| (2) | .005 | .005 | .005 | .01 | .02 | .005 |
| (3) | 1.90 | 2.33 | 2.69 | 4.55 | 3.00 | 2.10 |
| (4) | .02 | .014 | .036 | .0295 | .03 | .05 |
| (4a) | .02 | .0175 | .037 | .0325 | .0325 | .05 |
| (5) | .50 | .25 | .30 | .50 | 1.00 | .50 |
| (6) | 1.00 | .40 | .20 | 1.00 | 1.40 | 1.00 |
| (7) | 20.00 | 30.50 | 28.00 | 15.00 | 30.00 | 30.00 |
| (8) | 2.50 | 1.20 | 3.00 | 4.00 | 4.00 | 4.00 |

HASKINS HILL ROAD—SAN MATEO COUNTY

REDWOOD CITY, San Mateo Co., Cal.—H. E. Casey Co. 307 B St. San Mateo, at \$26,576.70 (cold oil—emulsified alternate) awarded contract by county supervisors to surface the Haskins Hill Road, also known as the Pescadero Road, from Memorial Park to the Alpine road, in the 3rd and 4th Road Districts, involving:

- (1) 650 cu. yds. excav. and grading;
- (2) 7500 cu. yds. broken stone base;
- (3) 485,500 sq. ft. asphalt wearing surface, 1-inch (cold oil);
- (3a) 485,500 sq. ft. do (hot oil);
- (4) 764 lin. ft. install corr. metal pipe culvert (county to furnish pipe);
- (5) 450 lin. ft. timber flume;

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) |
|------|-------|-------|-------|--------|-------|-------|-------|
| (1) | \$.33 | \$.30 | \$.30 | \$1.00 | \$.45 | \$.34 | \$.50 |
| (2) | 2.04 | 2.57 | 2.15 | 1.60 | 2.74 | 2.95 | 2.95 |
| (3) | .021 | .015 | .022 | .034 | .024 | .0325 | .0325 |
| (3a) | .0175 | .0175 | .0175 | .035 | .022 | .027 | .03 |
| (4) | .30 | .30 | .40 | .50 | 1.00 | .25 | 1.00 |
| (5) | .55 | .76 | .40 | .50 | .75 | .50 | 1.00 |
| (6) | 22.50 | 25.00 | 20.00 | 20.00 | 20.00 | 20.00 | 25.00 |
| (7) | .35 | .38 | .80 | .75 | 1.00 | .30 | 1.55 |

- (8) 50 lin. ft. placing tile drains.
- The bidders follow:
- (A) Wm. T. Loesch & Son.
 - (B) Associated Constructors, Inc.
 - (C) Schuck Construction Co.
 - (D) Clark & Campbell.
 - (E) Johnson & Reeves.
 - (F) The Harry Friedman Co.
 - (G) Sharp & Fellows Const. Co.
 - (H) Silveria & Robbins.
 - (I) Herbert M. Baruch Corp.
 - (J) Heuser & Garnett.
 - (K) Oberg Brothers.
 - (L) R. H. Travers.
 - (M) C. G. Payne Const. Co.
- Unit bids follow:

COMPLETE BID LISTING

ARIZONA STATE.—As previously reported, Lee Moor Const. Co., 1202 Bassett Tower Bldg., El Paso, awarded contract by State Highway Commission on Sept. 2, at \$19,763.14, for highway construction on the Blythe-Wickenburg Highway, E-93-H. The work begins at the east end of the Colorado River bridge near Ehrenberg and extends easterly approx. five miles and consists of oil processing by the road mix method, involving:

- Federal Aid Work**
- (1) 1700 lin. ft. cable road guard (C. I. P.);
 - (2) 650 lin. ft. type B bank protection (C. I. P.);
 - (3) 67,014 sq. yds. preparation of sub-grade or road surf.;
 - (4) 3672 sq. yds. grading dips;
 - (5) 100 cu. yds. subgrade stabilizer (C. I. P.);
 - (6) 20 M. gals. water applied to roadway (C. I. P.);
 - (7) 7456 cu. yds. mineral aggregate;
 - (8) 10,123 cu. ml. mineral aggregate, haul;
 - (9) 126,757 gals. oil applied to roadway (C. I. P.);
 - (10) 1047 cu. yds. shoulder material;
 - (11) 2038 cu. ml. shoulder material, haul;
 - (12) 5.031 mi. mix, lay down and finish
 - (13) 390 cu. yds. screenings for seal coat (C. I. P.);

Non-Federal Aid Work

- (14) 125 cu. yds. special mineral aggregate for stockpiling (C. I. P.)

The bids were opened Aug. 31.

- Complete bids follow:
- (A) Lee Moor Const. Co., El Paso, Texas, \$19,763.14.
 - (B) Ralph Pleasant, Phoenix, Ariz., \$19,763.47.
 - (C) W. R. Dennis Const. Co., San Diego, \$26,231.98.

Unit bids follow:

| | (A) | (B) | (C) |
|------|--------|--------|--------|
| (1) | \$.65 | \$.70 | \$1.00 |
| (2) | 2.50 | 2.00 | 5.00 |
| (3) | .01 | .01 | .02 |
| (4) | .08 | .05 | .10 |
| (5) | 1.00 | .65 | 1.00 |
| (6) | 2.00 | 5.00 | 2.50 |
| (7) | .50 | .50 | .80 |
| (8) | .12 | .12 | .15 |
| (9) | .0525 | .052 | .05 |
| (10) | .75 | .65 | .80 |
| (11) | .12 | .12 | .15 |
| (12) | 475.00 | 500.00 | 600.00 |
| (13) | 2.00 | 2.00 | 3.00 |
| (14) | 1.00 | 1.00 | 2.50 |

AWARD

ELKO COUNTY, Nevada.—As previously reported, George French, Jr., P. O. Box 675, Stockton, Calif., at \$46,052.97 awarded contract by the State Highway Commission to furnish and apply cut-back asphalt and mix with crushed rock or crushed gravel surface over 24.33 miles between Wells and East Foot of Pequops, Route 1, Sections E2, E1 and F, involving:

- (1) 570,882 gals. cut-back asphalt, apply to roadway surface;
- (2) 24.33 miles, mixing;
- (3) 24.33 mi. rebuild and finish shoulders.

- Complete bids follow:
- (A) Geo. French, Stockton, \$46,052.97
 - (B) Basalt Rock Co., Napa, 49,880.58
 - (C) Dodge Bros., Fallon, Nev. 51,555.86
 - (D) A. D. Drumm, Fallon, 51,599.22
 - (E) J. A. Casson, Hayward, 52,734.99
 - (F) Engineer's estimate, 51,705.33

Unit bids follow:

| | (1) | (2) | (3) |
|-----|-------|----------|---------|
| (A) | \$.06 | \$475.00 | \$10.00 |
| (B) | .065 | 500.00 | 25.00 |
| (C) | .069 | 475.00 | 25.00 |
| (D) | .068 | 500.00 | 25.00 |
| (E) | .07 | 500.00 | 25.00 |
| (F) | .065 | 550.00 | 50.00 |

8.4 MILES GRADE-SURFACE—TULARE COUNTY

- TULARE COUNTY, Cal.—Thompson Bros., 2150 G St., Fresno, at \$299,-882.45 submitted the low bid to the State Highway Commission, Sacramento, to grade and surface with crushed gravel or stone 8.4 miles between Lemon Cove and Three Rivers, involving:
- (1) 444 sta. clear and grub right of way;
 - (2) 209,000 cu. yds. rdwy. excavation without class.
 - (3) 993,000 sta. yds. overhauil;
 - (4) 46,700 cu. yds. imported borrow;
 - (5) 11,870 cu. yds. struc. excav.;
 - (6) 19,000 tons crusher run base;
 - (7) 18,050 tons crushed gravel or stone (bitum. treated surf.);
 - (8) 500 lbs. light fuel oil;
 - (9) 950 tons cut-back asphalt (surf. and seal coat);
 - (10) 820 tons screenings (seal coat);
 - (11) 1,000 M. gals. water applied to subgrade;
 - (12) 2,000 cu. yds. Class A cem. conc. (struc.);
 - (13) 460 cu. yds. Class A cem. conc. (footing blocks);
 - (14) 208,500 lbs. bar reinforcing steel (struc.);
 - (15) 57,000 lbs. struc. steel;
 - (16) 600 lbs. cast steel;
 - (17) 838 lin. ft. 8-in. corr. metal pipe;
 - (18) 392 lin. ft. 12-in. do;
 - (19) 2,448 lin. ft. 18-in. do;
 - (20) 1,874 lin. ft. 24-in. do;
 - (21) 800 lin. ft. 30-in. do;
 - (22) 306 lin. ft. 36-in. do;

- (23) 350 lin. ft. 42-in. do;
 - (24) 180 lin. ft. 8-in. perforated metal pipe underdrains;
 - (25) 160 lin. ft. 12-in. do;
 - (26) 52 concrete joints (pipe culverts);
 - (27) 17 miles new property fence;
 - (28) 5.5 miles remove existing property fences;
 - (29) 47 gates complete in place;
 - (30) 3,150 cu. yds. remove cem. conc. and rubble wall;
 - (31) 390 cu. yds. light riprap;
 - (32) 5,970 lin. ft. timber guard rail;
 - (33) 440 sta. finish rdwy.;
 - (34) 190 monuments complete in place.
- State will furnish corrugated metal pipe and perforated metal pipe for underdrains.
- Complete bids follow:
- (A) Thompson Bros., Fresno, \$299,-882.45.
 - (B) Peninsula Paving Co. and J. P. Holland, San Francisco, \$324,518.60.
 - (C) Fredrickson & Watson and Jones & King, Oakland and Hayward, \$327,783.10.
 - (D) Meyer Rosenberg, San Francisco, \$331,263.90.
 - (E) A. Teichert & Son and C. T. Malcolm, Sacramento, \$368,014.35.
 - (F) S. H. Palmer, San Francisco, \$369,-790.70.
 - (G) Union Paving Co., San Francisco, \$388,539.60.
 - (H) M. J. Bevanda, Stockton, \$389,-483.70.

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) |
|------------|---------|---------|---------|---------|---------|---------|---------|---------|
| (1) | \$ 7.50 | \$10.00 | \$12.00 | \$12.00 | \$ 9.00 | \$15.00 | \$10.00 | \$10.00 |
| (2) | .42 | .56 | .62 | .55 | .72 | .74 | .65 | .80 |
| (3) | .0075 | .0075 | .005 | .005 | .01 | .01 | .01 | .01 |
| (4) | .31 | .33 | .40 | .35 | .34 | .30 | .50 | .40 |
| (5) | 2.00 | 1.10 | 1.15 | 1.40 | 1.35 | 1.25 | 1.00 | 1.25 |
| (6) | 2.15 | 1.80 | 1.81 | 1.60 | 1.88 | 2.00 | 2.50 | 1.75 |
| (7) | 1.70 | 1.89 | 1.81 | 2.65 | 2.10 | 2.20 | 2.20 | 1.85 |
| (8) | 2.75 | 2.50 | 2.25 | 2.00 | 2.50 | 2.50 | 2.50 | 2.25 |
| (9) | 12.00 | 10.00 | 10.40 | 13.00 | 12.50 | 10.00 | 10.77 | 14.00 |
| (10) | 3.49 | 1.75 | 3.00 | 3.00 | 2.25 | 2.50 | 2.50 | 2.25 |
| (11) | 1.15 | 1.50 | 1.20 | 1.25 | 2.00 | 1.60 | 2.50 | 1.00 |
| (12) | 16.00 | 20.00 | 17.00 | 18.00 | 17.50 | 17.00 | 20.00 | 17.00 |
| (13) | 13.00 | 11.00 | 12.00 | 11.50 | 17.50 | 17.00 | 30.00 | 15.00 |
| (14) | .0375 | .04 | .037 | .04 | .0425 | .045 | .04 | .05 |
| (15) | .058 | .06 | .055 | .055 | .0425 | .05 | .045 | .05 |
| (16) | .30 | .20 | .10 | .15 | .12 | .07 | .25 | .15 |
| (17) | .30 | .25 | .15 | .25 | .25 | .30 | .30 | .40 |
| (18) | .40 | .20 | .20 | .30 | .30 | .40 | .30 | .45 |
| (19) | .50 | .35 | .30 | .35 | .35 | .50 | .30 | .50 |
| (20) | .60 | .40 | .35 | .45 | .40 | .60 | .35 | .65 |
| (21) | .75 | .50 | .40 | .60 | .50 | .75 | .35 | .70 |
| (22) | 1.00 | .60 | .45 | .70 | .60 | .85 | .35 | .75 |
| (23) | 1.20 | .75 | .60 | .85 | .75 | 1.00 | .40 | .85 |
| (24) | .30 | .75 | .70 | .75 | 1.00 | 1.00 | 1.00 | 1.25 |
| (25) | .40 | .90 | .75 | .85 | 1.10 | 1.00 | 1.25 | 1.35 |
| (26) | 3.50 | 8.00 | 6.00 | 8.00 | 7.50 | 3.00 | 6.00 | 5.00 |
| (27) | 365.00 | 400.00 | 350.00 | 300.00 | 400.00 | 500.00 | 400.00 | 600.00 |
| (28) | 15.00 | 80.00 | 50.00 | 50.00 | 50.00 | 50.00 | 50.00 | 300.00 |
| (29) | 15.00 | 12.00 | 11.00 | 12.00 | 15.00 | 13.00 | 12.00 | 20.00 |
| (30) | 1.50 | 2.50 | 1.25 | 2.25 | 1.75 | 1.00 | 2.50 | 2.00 |
| (31) | 5.00 | 2.50 | 2.00 | 2.00 | 3.00 | 3.00 | 4.00 | 8.00 |
| (32) | .75 | .80 | 1.00 | .80 | .85 | .75 | 1.00 | 1.00 |
| (33) | 5.00 | 6.00 | 6.00 | 4.50 | 5.00 | 5.00 | 5.00 | 6.00 |
| (34) | 2.50 | 3.00 | 2.50 | 3.00 | 2.50 | 2.00 | 2.00 | 3.00 |

GRADE-CONCRETE PAVE.—LOS ANGELES—CITY

- LOS ANGELES, Cal.—J. L. McClain 3452 W Slauson Ave., submitted low bid to board of public works August 31 at \$37,401.61 to improve 118th Street between Main St. and Athens Way, and other streets in the 118th St. and Spring St. improvement District, involving:
- (1) lump sum for all grading;
 - (2) 153,586 sq. ft. 6-in. concrete pave.;
 - (3) 105 sq. ft. 8-in. concrete pave.;
 - (4) 1709 sq. ft. 4-in. concrete paving (driveways).

- (5) 5665 sq. ft. rock and oil rdwy.;
 - (6) 3945 lin. ft. light unclas. curb;
 - (7) 10,728 sq. ft. 1-course cem. walk;
 - (8) water system;
 - (9) 201 water service connections.
- The bidders were:
- (A) J. L. McClain, \$37,401.61.
 - (B) A. E. Pearson, \$38,385.03.
 - (C) Marter & Bock, Ltd., \$39,800.13.
 - (D) Griffith Co., \$42,223.94.
 - (E) L. B. Konjeste, \$59,920.85.
 - (F) Engineer's estimate, \$48,075.92.

The bids were:

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
|-----------|-----------|----------|---------|---------|---------|---------|-----------|---------|-----|------|
| (A) | \$2200.00 | \$133.18 | \$18.09 | \$10.10 | \$40.10 | \$13.13 | \$7400.00 | \$19.75 | | |
| (B) | 1300.00 | 144.18 | 11.11 | 15.35 | 996.107 | 7746.00 | 19.80 | | | |
| (C) | 5000.00 | 125.18 | 10.10 | 10.42 | 11.15 | 7700.00 | 21.00 | | | |
| (D) | 4500.00 | 15.20 | 07.10 | 10.30 | 10.11 | 8000.00 | 19.00 | | | |
| (E) | 7000.00 | 22.25 | 15.30 | 59.15 | 16 | 9542.14 | 22.00 | | | |
| (F) | 3600.00 | 186.25 | 09.15 | 45.14 | 15 | 7750.00 | 20.00 | | | |

COMPLETE BID LISTING

- ARIZONA STATE.—As previously reported, Ralph P. Leasant Co., 200 Luhrs Bldg., Phoenix, awarded contract by State Highway Commission on September 2, at \$53,594.77, for highway construction on Benson-Douglas Highway, E-79-G and Non-F. A. portion. The work, which begins approximately 18 miles south of Tombstone and extends southeasterly about six miles including the Non-F. A. portion, consists of oil processing by the road mix method, involving:
- (1) 81,533 sq. yds. prepare subgrade or road surface;
 - (2) 7285 cu. yds. mineral aggregate (C. I. P.);
 - (3) 123,850 gals. cutback asphaltic cement (C. I. P.);
 - (4) 4,963 miles mix, lay down and finish;
 - (5) 381 cu. yds. furnish and spread screenings (C. I. P.);
 - (6) 1638 cu. yds. shoulder material.
- Structures Over 20-ft. Clear Span (Federal Aid Work)**
- (7) 16 cu. yds. mineral aggregates (C. I. P.);
 - (8) 224 gals. cutback asphaltic cement (C. I. P.);
 - (9) 0.009 mile mix, lay down and finish;
 - (10) 1 cu. yd. furnishing and spreading screenings (C. I. P.);
- Non-Federal Aid Work**
- (11) 15,604 sq. yds. prepare subgrade or road surface;
 - (12) 1397 cu. yds. mineral aggregate (C. I. P.);
 - (13) 23,756 gals. cutback asphaltic cement (C. I. P.);
 - (14) 0.95 mile mix, lay down and finish;
 - (15) 73 cu. yds. furnishing and spreading screenings (C. I. P.);
 - (16) 348 cu. yds. shoulder material (C. I. P.);
 - (17) 100 cu. yds. special mineral aggregate for stockpile (C. I. P.)

The bids were opened Aug. 31.

The total bids were:

- (A) Ralph Pleasant, Phoenix, \$53,-594.77.
- (B) Skeels & Graham Co., Tucson, Ariz., \$54,710.92.
- (C) O. F. Fisher, Phoenix, \$54,710.92.

The unit bids were:

| | (A) | (B) | (C) |
|------------|--------|--------|--------|
| (1) | \$.01 | \$.01 | \$.02 |
| (2) | 3.25 | 3.20 | 3.80 |
| (3) | .10 | .105 | .10 |
| (4) | 700.00 | 750.00 | 700.00 |
| (5) | 4.50 | 4.50 | 4.25 |
| (6) | 1.50 | 1.80 | .87 |
| (7) | 3.25 | 3.20 | 3.80 |
| (8) | .10 | .105 | .10 |
| (9) | 700.00 | 750.00 | 700.00 |
| (10) | 4.50 | 4.50 | 4.25 |
| (11) | .01 | .01 | .02 |
| (12) | 3.25 | 3.20 | 3.80 |
| (13) | .10 | .105 | .10 |
| (14) | 700.00 | 750.00 | 700.00 |
| (15) | 4.50 | 4.50 | 4.25 |
| (16) | 1.50 | 1.80 | .87 |
| (17) | 4.00 | 3.20 | 4.00 |

COMPLETE BID LISTING

- ARIZONA STATE.—As previously reported, L. E. Dixon Co., 609 S Grand Ave., Los Angeles, awarded contract by State Highway Commission Sept. 2, at \$248,757.85, for highway construction on the Globe-Showlow Highway, E-99-C. The work, which is located approx. 11 1/4 miles northeast of Globe, extends northeast about 8 1/2 mi. to Seven-Mile Draw, consists of the grading and draining of the project, involving:
- (1) 225 sq. yds. clear and grub;

GRADE-SURFACE—MENDOCINO COUNTY—STATE

- (2) 312,220 cu. yds. rdwy. excav., unclassified;
- (3) 7301 cu. yds. drainage do;
- (4) 24,978 cu. yds. slides and over-breakage;
- (5) 2291 cu. yds. struc. excav., unclassified;
- (6) 73,641 cu. yds. borrow excav., unclassified;
- (7) 251,757 sta. yds. earthwork over-haul;
- (8) 774 cu. yds. Class A concrete, including cement;
- (9) 184 cu. yds. Class B do;
- (10) 72,009 lbs. reinf. steel (C.I.P.);
- (11) 1892 lin. ft. 24-in. C.M.P. (C.I.P. except excav. and con.);
- (12) 530 lin. ft. 30-in. do;
- (13) 1462 lin. ft. 36-in. do;
- (14) 40 lin. ft. 36-in. perforated C.M.P.
- (15) 737 cu. yds. plain r/fppap (C.I.P.);
- (16) 1 cattle guard, type B;
- (17) 21,150 lin. ft. cable road guard (C. I. P.);
- (18) 1812 lin. ft. stand. fence (C.I.P.);
- (19) 155 lin. ft. reconst. fence (C.I.P.);
- (20) 300 lin. ft. galv. iron pipe (C.I.P.);
- (21) 1 90-deg. elbow for 36-in. C.M.P. (C.I.P.);

Structures Over 20-ft. Clear Span

- (22) 2018 cu. yds. drainage excav., unclassified;
- (23) 1626 cu. yds. structure do;
- (24) 18 cu. yds. Class AA concrete, including cement;
- (25) 1201 cu. yds. Class A do;
- (26) 230 cu. yds. Class B do;
- (27) 151,785 lbs. reinf. steel (C.I.P.);
- (28) 16 fixed plate bridge seats (C.I.P.);
- (29) 16 exp. rocker do;

The bids were opened August 31.

The total bids were:

- (A) L. E. Dixon Co., \$248,757.85.
- (B) C. G. Willis & Sons, Inc., Los Angeles, \$316,725.60.
- (C) Ralph Pleasant Const. Co., Phoenix, \$330,480.17.
- (D) Phoenix-Tempe Stone Co., Phoenix, \$574,899.03.
- (E) Crr & Rawlis, El Paso, Tex., \$382,570.55.

The unit bids were:

| | (A) | (B) | (C) | (D) | (E) |
|------|---------|---------|---------|---------|---------|
| (1) | \$15.00 | \$ 9.00 | \$10.00 | \$30.00 | \$ 7.00 |
| (2) | .40 | .54 | .60 | .60 | .70 |
| (3) | .30 | 1.00 | .385 | 1.50 | .70 |
| (4) | .30 | .405 | .45 | .45 | .525 |
| (5) | 1.50 | 1.50 | 1.75 | 1.50 | 1.75 |
| (6) | .30 | .30 | .35 | .50 | .45 |
| (7) | .01 | .02 | .01 | .02 | .015 |
| (8) | 20.00 | 19.25 | 23.00 | 26.00 | 24.00 |
| (9) | 21.00 | 23.25 | 23.00 | 26.00 | 27.00 |
| (10) | .045 | .042 | .0425 | .06 | .05 |
| (11) | 2.00 | 2.00 | 2.15 | 2.50 | 2.00 |
| (12) | 2.50 | 2.50 | 2.85 | 3.00 | 2.45 |
| (13) | 3.25 | 4.50 | 4.30 | 4.00 | 3.75 |
| (14) | 4.50 | 4.00 | 4.85 | 5.00 | 4.00 |
| (15) | 2.00 | 5.00 | 1.75 | 5.00 | 3.50 |
| (16) | 300.00 | 500.00 | 400.00 | 450.00 | 400.00 |
| (17) | .40 | .60 | .50 | .70 | .65 |
| (18) | .15 | .08 | .10 | .10 | .15 |
| (19) | .17 | .05 | .10 | .10 | .15 |
| (20) | .35 | .30 | .40 | 1.00 | .40 |
| (21) | 10.00 | 10.00 | 25.00 | 10.00 | 12.50 |
| (22) | .30 | 1.00 | .385 | 1.00 | .70 |
| (23) | 1.50 | 1.50 | 1.75 | 1.50 | 1.75 |
| (24) | 60.00 | 60.00 | 60.00 | 60.00 | 75.00 |
| (25) | 20.00 | 21.75 | 23.00 | 26.00 | 24.00 |
| (26) | 17.00 | 16.50 | 23.00 | 26.00 | 24.00 |
| (27) | .045 | .042 | .0425 | .06 | .05 |
| (28) | 3.00 | 5.00 | 5.00 | 2.50 | 3.00 |
| (29) | 35.00 | 50.00 | 40.00 | 25.00 | 40.00 |

MENDOCINO COUNTY, Calif. — A. Teichert & Son, P. O. Box 1118, Sacramento, at \$78,943.75 submitted low bid to the State Highway Commission, Sacramento, to grade and surface with crusher run base about 1.8 miles and to surface with untreated crushed gravel or stone about 4.5 miles bet. Little Dann Creek and Heagneys, about 6.3 miles, involving:

- (1) 16.1 acres clear and grub right of way;
- (2) 103,110 cu. yds. rdwy. excavation, without class.
- (3) 464,350 sta. yds. overhaul;
- (4) 525 cu. yds. struc. excav.;
- (5) 42 cu. yds. Class A Port. cem. conc. (struc.);
- (6) 3,850 lbs. bar reinf. steel (struc.);
- (7) 2,000 cu. yds. sel. material (shoulders);
- (8) 5,500 cu. yds. crusher run base;
- (9) 8,400 cu. yds. untreated crushed gravel or stone surf.;
- (10) 2,350 cu. yds. untreated crushed gravel or stone in stockpiles;
- (11) 2,210 cu. yds. screenings in stockpiles;

| | (A) | (B) | (C) | (D) | (E) |
|------|---------|--------|-------|-------|-------|
| (1) | \$25.00 | \$8.00 | | | |
| (2) | .35 | .28 | .32 | .31 | .35 |
| (3) | .01 | .005 | .01 | .005 | .01 |
| (4) | 1.25 | 1.00 | 1.00 | 1.00 | 1.50 |
| (5) | 25.00 | 30.00 | 25.00 | 20.00 | 30.00 |
| (6) | .05 | .08 | .06 | .05 | .06 |
| (7) | .80 | 1.50 | .55 | .50 | .60 |
| (8) | 1.50 | 2.00 | 2.00 | 2.85 | 1.85 |
| (9) | 1.80 | 2.15 | 2.15 | 2.51 | 2.00 |
| (10) | 1.30 | 2.05 | 2.00 | 2.18 | 2.00 |
| (11) | 2.50 | 2.40 | 1.95 | 1.94 | 2.40 |
| (12) | 1.50 | 1.50 | 2.50 | 1.50 | 1.00 |
| (13) | .50 | .50 | .50 | .40 | .50 |
| (14) | .75 | .75 | .70 | .60 | .75 |
| (15) | 1.00 | 1.00 | 2.00 | 1.00 | 1.00 |
| (16) | 1.50 | 1.00 | 2.00 | 1.00 | 2.00 |
| (17) | 5.00 | 10.00 | 5.00 | 4.00 | 8.00 |
| (18) | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 |

- (12) 1,000 M. gals. water applied to subgrade and surf.;
- (13) 194 lin. ft. 18-in. corrug. metal pipe;
- (14) 44 lin. ft. 24-in. do;
- (15) 44 lin. ft. 48-in. do;
- (16) 125 timber guide posts and culvert markers;
- (17) 83 sta. finish roadway;
- (18) 28 monuments complete in place. State will furnish corrug. metal pipe and cast steel frames and covers for drop inlets.

Complete bids follow:
 (A) A. Teichert & Son, Sacramento, \$78,943.75.
 (B) E. B. Bishop, Sacramento, \$79,468.05.
 (C) Chigris & Sutso, San Francisco, \$83,689.00.

- (D) Hein Bros. Basalt Rock Co. and J. W. Galbraith, Petaluma, \$86,006.75.
- (E) C. W. Wood, Stockton, \$87,270.50.
- (F) Hemstreet and Bell, Marysville, \$88,877.50.

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) |
|------|----------|---------|----------|---------|----------|----------|
| (1) | \$100.00 | \$50.80 | \$100.00 | \$50.80 | \$500.00 | \$100.00 |
| (2) | .32 | .31 | .32 | .31 | .35 | .30 |
| (3) | .01 | .005 | .01 | .005 | .01 | .01 |
| (4) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.50 |
| (5) | 25.00 | 20.00 | 25.00 | 20.00 | 20.00 | 30.00 |
| (6) | .06 | .05 | .06 | .05 | .05 | .06 |
| (7) | .80 | 1.50 | .55 | .50 | .50 | .60 |
| (8) | 1.50 | 2.00 | 2.00 | 2.85 | 1.85 | 2.30 |
| (9) | 1.80 | 2.15 | 2.15 | 2.51 | 2.00 | 2.60 |
| (10) | 1.30 | 2.05 | 2.00 | 2.18 | 2.00 | 2.00 |
| (11) | 2.50 | 2.40 | 1.95 | 1.94 | 2.40 | 2.75 |
| (12) | 1.50 | 1.50 | 2.50 | 1.50 | 1.00 | 2.00 |
| (13) | .50 | .50 | .50 | .40 | .50 | .50 |
| (14) | .75 | .75 | .70 | .60 | .75 | .75 |
| (15) | 1.00 | 1.00 | 2.00 | 1.00 | 1.00 | 1.50 |
| (16) | 1.50 | 1.00 | 2.00 | 1.00 | 2.00 | 2.00 |
| (17) | 5.00 | 10.00 | 5.00 | 4.00 | 8.00 | 5.00 |
| (18) | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 |

PILING & FOUNDATIONS—GOVT. ISLAND—ALAMEDA

ALAMEDA, Alameda Co., Cal.—Following is a complete list of bids received by the U. S. Bureau of Public Roads, 461 Market St., San Francisco, for piling and foundation work in connection with the erection of the following structures at Government Island, Alameda:

- One-story concrete and hollow tile shop (120x72-ft.).
- Two-story concrete and hollow tile storage depot (100x125-ft.).
- One-story concrete and hollow tile forest service garage (175x125-ft.).
- One-story concrete and hollow tile coast guard garage (64x27-ft.).
- One-story concrete and hollow tile pump house (11x18-ft.).

- Concrete and pile-tank foundations.
- (1) install piling and concrete foundations complete, type A of 20-ft. capacity;
- (2) do, type B;
- (3) do, type C;
- (4) unit price per lin. ft. type A, piling;
- (5) unit price per lin. ft., extra concrete, Type A;

- (6) unit price per lin. ft., piling, Type B;
- (7) unit price per lin. ft., extra concrete, Type B;
- (8) unit price, per lin. ft. extra piling, Type C;
- (9) addition pile load, testing;
- (10) unit price per cu. yd., Class A concrete, includ. reinf. steel;
- (11) unit price per cu. yd., Class S concrete.
- (A) M. B. McGowan, 74 New Montgomery St., San Francisco.
- (B) Healy-Tibbitts Const. Co., 64 Pine St., San Francisco.
- (C) C. Monson, San Francisco.
- (D) A. W. Kitchen, San Francisco.
- (E) Barrett & Hill, San Francisco.
- (F) Whited & Whited, Santa Rosa.
- (G) Clinton Const. Co., San Francisco.
- (H) W. E. Lyons, Oakland.
- (I) E. T. Lesure, Oakland.
- (J) Schuler & McDonald, Oakland.
- (K) Duncanson - Harelson Co., San Francisco.
- (L) H. C. Vensano, San Francisco.
- (M) Engineer's estimate.

Unit bids follow:

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) |
|-----|-----|--------|----------|--------|-----|-------|-------|---------|---------|-------|-------|
| (A) | \$ | \$ | \$29,985 | \$ | \$ | \$.47 | \$300 | \$16.00 | \$25.00 | | |
| (B) | | | 20,772 | | | | .70 | 150 | 18.00 | 23.90 | |
| (C) | | | 31,550 | | | | .60 | 175 | 20.00 | 25.00 | |
| (D) | | | 37,077 | 32,146 | | | .26 | 1.97 | .60 | 228 | 19.00 |
| (E) | | 34,553 | | 33,153 | .20 | | | .80 | 100 | 19.00 | 25.00 |
| (F) | | | | 32,240 | | | | .56 | 40 | 18.00 | 30.00 |
| (G) | | | | 34,030 | | | | .70 | 200 | 18.00 | 21.00 |
| (H) | | | | 34,200 | | | | .63 | 200 | 18.00 | 26.00 |
| (I) | | 34,303 | | 35,706 | .17 | | | .60 | 120 | 19.00 | 22.00 |
| (J) | | | | 35,797 | | | | .76 | 40 | 15.70 | 19.85 |
| (K) | | 35,810 | | 37,045 | .16 | 1.90 | | .55 | 100 | 25.00 | 27.00 |
| (L) | | | | 46,760 | | | | .30 | 120 | 25.00 | 28.00 |
| (M) | | 42,042 | 42,652 | 38,382 | .60 | .65 | 2.00 | 1.00 | 125 | 25.00 | 30.00 |

VENTURA, Ventura Co., Cal.—Oil-fields Trucking Co., Taft, at \$1,266.50 submitted low bid to State Department of Public Works, Sacramento, for road work at the Ventura School for Girls at Ventura, involving 4,500 feet of road work, 18 ft. wide to be scarified, oil treated and rolled. Only other bid was submitted by the Western Motor Transfer Co., Inc., Santa Barbara, at \$1,295. Bids held under advisement.

15.448 MILES NATIONAL FOREST HIGHWAY—ARIZ.

COMPLETE BID LISTING

COCONINO COUNTY Ariz.—Skou-
sen Bros., Albuquerque, N. M., sub-
mitted low bid to U. S. Bureau of
Public Roads, Phoenix, August 18, at
\$196,683.90 (bidding on combination
proposal), for 15,448 miles grading of
Sections B and C, Route 4, the Ash-
fork-Flagstaff Angell National Forest
Highway, Tusayan National Forest,
Coconino County, Ariz., involving:
(1) 120 acres clearing;
(2) 119,000 cu. yds. unclass. excav.;
(3) 2030 cu. yds. unclass. excav. for
structures;
(4) 91,000 cu. yds. unclass. excav. for
borrow;
(5) 204,700 sta. yds. overhaul;
(6) 33,300 cu. yds. subgrade stabilizer
bottom course;
(7) 45,500 cu. yds. do, top course;
(8) 183,700 cu. yd. mi. hauling sub-
grade stabilizer;
(9) 660 cu. yds. Class A concrete;
(10) 182 cu. yds. Class B concrete;
(11) 21 cu. yds. Class D concrete;
(12) lump sum removing old conc.;
(13) 63,100 lbs. reinf. steel;
(14) 1026 lin. ft. 24-in. C.M.P. in place;
(15) 514 lin. ft. 30-in. do;

(16) 746 lin. ft. 36-in. do;
(17) 30 lin. ft. remove and relay ex-
isting 24-in. C. M. pipe;
(18) 92 cu. yds. hand laid riprap;
(19) 2 cattle guards in place;
(20) 60 right of way monuments in place
(21) maintain existing roads and sec-
tions accepted for traffic; ex-
tra work, estimate;
(22) widen cattle guard; lump sum;
(23) remove and reconstruct 2 cattle
guards, lump sum;
(24) 5450 lin. ft. move and reset fence.
The total bids were:
(A) Skouesen Bros., \$196,683.90.
(B) Central States Const. Co., Ltd.,
Oakland, \$216,504.95.
(C) Everly & Allison, Albuquerque, N.
M., \$218,202.50.
(D) Utah Const. Co., Ogden, Utah,
\$221,400.75.
(E) Gist & Bell, Arcadia, Cal., \$231-
055.70.
(F) Phoenix-Tempe Stone Co., Phoe-
nix, \$254,316.10.
(G) Ralph Pleasant Const. Co., Phoe-
nix, \$257,280.50.
(H) Engineer's estimate, \$230,388.70.
The unit bids were:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) |
|-----------|----------|----------|----------|----------|----------|----------|----------|----------|
| (1)..... | \$ 50.00 | \$ 60.00 | \$120.00 | \$ 80.00 | \$140.00 | \$ 90.00 | \$100.00 | \$ 90.00 |
| (2)..... | .65 | .87 | .55 | .68 | .72 | .93 | .90 | .62 |
| (3)..... | 1.00 | 1.50 | 1.70 | 2.00 | 2.00 | 1.25 | 1.25 | 1.25 |
| (4)..... | .30 | .26 | .45 | .45 | .33 | .35 | .40 | .33 |
| (5)..... | .015 | .01 | .03 | .02 | .02 | .02 | .02 | .02 |
| (6)..... | .25 | .17 | .25 | .20 | .30 | .30 | .35 | .35 |
| (7)..... | .50 | .48 | .65 | .55 | .55 | .70 | .70 | .75 |
| (8)..... | .10 | .08 | .10 | .09 | .12 | .10 | .10 | .15 |
| (9)..... | 20.00 | 19.75 | 20.00 | 22.50 | 22.00 | 23.00 | 22.50 | 23.50 |
| (10)..... | 22.00 | 18.35 | 20.00 | 24.00 | 20.00 | 25.00 | 24.00 | 21.50 |
| (11)..... | 30.00 | 20.75 | 40.00 | 50.00 | 60.00 | 50.00 | 50.00 | 23.50 |
| (12)..... | 400.00 | 50.00 | 100.00 | 60.00 | 400.00 | 100.00 | 100.00 | 175.50 |
| (13)..... | .045 | .05 | .04 | .0425 | .04 | .05 | .045 | .06 |
| (14)..... | 1.80 | 3.60 | 2.00 | 2.00 | 2.20 | 2.25 | 2.25 | 2.60 |
| (15)..... | 2.40 | 4.60 | 2.50 | 2.50 | 3.00 | 2.65 | 2.50 | 3.30 |
| (16)..... | 4.00 | 6.00 | 4.50 | 4.00 | 4.00 | 4.00 | 4.00 | 5.40 |
| (17)..... | 1.00 | 2.00 | 1.00 | .80 | 2.09 | 1.00 | 1.00 | .90 |
| (18)..... | 4.00 | 9.00 | 5.00 | 1.50 | 2.00 | 4.00 | 3.50 | 3.50 |
| (19)..... | 600.00 | 445.00 | 650.00 | 600.00 | 450.00 | 400.00 | 425.00 | 500.00 |
| (20)..... | 3.00 | 2.50 | 3.00 | 3.00 | 3.00 | 4.00 | 3.50 | 3.00 |
| (21)..... | 1500.00 | 1500.00 | 1500.00 | 1500.00 | 1500.00 | 1500.00 | 1500.00 | 1500.00 |
| (22)..... | 300.00 | 155.00 | 200.00 | 150.00 | 250.00 | 100.00 | 125.00 | 200.00 |
| (23)..... | 500.00 | 300.00 | 600.00 | 600.00 | 750.00 | 100.00 | 125.00 | 150.00 |
| (24)..... | .05 | .05 | .05 | .08 | .07 | .06 | .06 | .03 |

ARIZONA STATE.—As previously
reported, Phoenix-Tempe Stone Co.,
Box 1645, Phoenix, awarded contract
by State Highway Commission, Sept.
2, at \$55,152.85 for highway construc-
tion on the Phoenix-Tempe Highway,
E-2-A, Reo. and E-30 Reo. The work,
which begins at 24th St. and extends
easterly 2 1/2 miles to the packing plant,
consists of placing a 6-in. gravel base
and widening the existing pavement,
involving:

- E-30-Reopened**
(1) 24,047 sq.yds. grading (incl. prepa-
ration of subgrade);
(2) 5010 cu. yds. gravel base course
(C. I. P.);
(3) 22,968 sq. yds. asphaltic concrete
surf. course (C. I. P.);
(4) 3,940 mi. formation and finishing
shoulders (C. I. P.);
(5) 7 tons additional asphaltic con-
crete (C. I. P.);
(6) 75 sq. yds.fl repair corner break-
age (C. I. P.);
- E-2-A, Reopened**
(7) 9666 sq. yds. grading (inc. prepa-
ration of subgrade);
(8) 2014 cu. yds. gravel base course
(C. I. P.);
(9) 9271 sq. yds. asphaltic concrete
surf. course (C. I. P.);
(10) 1,600 mi. formation and finishing
shoulders (C. I. P.);
(11) 16 tons additional asphaltic con-
crete (C. I. P.);
(12) 25 sq. yds. repair corner break-
age (C. I. P.);

The bids were opened August 31.
Complete bids follow:
(A) Phoenix-Tempe Stone Co. \$55-
152.85.
(B) Arizona Sand & Rock Co., Phoe-
nix, \$56,042.17.
Unit bids follow:

| | (A) | (B) |
|-----------|-------|-------|
| (1)..... | \$.35 | \$.49 |
| (2)..... | .80 | 1.01 |
| (3)..... | 1.15 | .97 |
| (4)..... | 50.00 | 99.00 |
| (5)..... | 5.75 | 3.85 |
| (6)..... | 2.50 | 3.09 |
| (7)..... | .35 | .49 |
| (8)..... | .80 | 1.04 |
| (9)..... | 1.15 | .97 |
| (10)..... | 50.00 | 99.00 |
| (11)..... | 5.75 | 3.85 |
| (12)..... | 2.50 | 3.09 |

SUBGRADE STABILIZER—DOUGLAS COUNTY, NEV.

BIDS OPENED

DOUGLAS COUNTY, Nev.—Tiffany-
McReynolds-Tiffany Co., 821 S First
St., San Jose, at \$26,973 (exclusive of
discount) submitted low bid to U. S.
Bureau of Public Roads, San Fran-
cisco, for 7,952 miles subgrade stabilizer
on Sections C and D of Route 3,
Glenbrook National Forest Highway,
Tahoe National Forest, Douglas Co.,
Nev., involving:

(1) 660 M. gals. watering;
(2) 16,600 cu. yds. selected material
for subgrade stabilizer;
(3) 100 cu. yds. suppl. selected mate-
rial;
(4) 4,950 lin. ft. type A fence;
(5) 3,000 lin. ft. type B fence;
(6) 2 12-ft. wire gates;
(7) 6,550 lin. ft. remove and reset
fence;
(8) remove and reconstruct wire gate
and masonry gate posts.
Complete bids follow:
(A) Tiffany-McReynolds-Tiffany, San
Jose, \$26,973.
(B) E. B. Bishop, Sacramento, \$27-
053.
(C) Nevada Rock and Sand Co., Reno,
\$27,285.
(D) Frank C. Cuffee, San Rafael, \$33-
452.
(E) Meyer Rosenberg, San Francisco,
\$37,055.
(F) Engineer's estimate, \$21,862.
Unit bids follow:

(1) 660 M. gals. watering;
(2) 16,600 cu. yds. selected material
for subgrade stabilizer;
(3) 100 cu. yds. suppl. selected mate-
rial;
(4) 4,950 lin. ft. type A fence;
(5) 3,000 lin. ft. type B fence;

*Deduct if awarded this project and other Douglas County, Nev., project
opened this date. Recommended for award to low bidder.

SAN FRANCISCO.—San Francisco
Water Department, 425 Mason St., at
\$1,194.75 submitted low bid to Public
Utilities Commission for laying 8-in.
c. i. pipe line in Army and Kansas
Streets from Hampshire to south of
25th St., involving:

- (1) excavation and backfilling inc. re-
moval of present pipe, 2,000 lin.
ft.;
(2) excavation and backfilling and re-
move surplus, 35 cu. yds.;
(3) metal pipe, 40 tons;
(4) mineral lead joints, 330 ft.
Bidders follow:
(A) S. F. Water Department, \$1,194.75
(B) E. J. Tracy.....1,203.50
(C) J. O'Shea.....1,533.00
(D) Martin Murphy.....1,743.00
(E) E. M. Sullivan.....1,388.60
(F) Lacy and Schulz.....2,291.85
(G) Theo. Cohn.....2,395.50

Unit bids follow:

| | (1) | (2) | (3) | (4) |
|----------|--------|--------|--------|-------|
| (A)..... | \$4.69 | \$2.10 | \$3.55 | \$125 |
| (B)..... | .45 | 1.00 | 3.00 | .45 |
| (C)..... | .60 | 1.00 | 2.50 | .60 |
| (D)..... | .58 | 3.00 | 7.00 | .60 |
| (E)..... | .85 | 1.50 | 4.50 | .17 |
| (F)..... | .897 | 1.00 | 7.92 | .44 |
| (G)..... | .55 | 4.50 | 23.50 | .60 |

5.9 MILES GRADING—SANTA CRUZ COUNTY

SANTA CRUZ COUNTY, Cal.—Mittrey Bros. Const. Co., 412 W 6th St., Los Angeles, at \$280,181.75 submitted the low bid to State Highway Commission, Sacramento, to grade 6.3 mi. between Inspiration Point and Scotts Valley, involving:
 (1) 1,277,000 cu. yds. rtwy. excav.,
 (2) 4,890,800 sta. yds. overhaul;
 (3) 6200 M gal. watering embank;
 (4) 10,475 cu. yds. struc. excav.;
 (5) 736 cu. yds. class A cem. conc. struc.;
 (6) 65,400 lbs. bar reinf. steel, struc.;
 (7) 1630 lin. ft. 8-in. corr. metal pipe;

(8) 214 lin. ft. 12-in. do;
 (9) 8102 lin. ft. 18-in. do;
 (10) 1320 lin. ft. 24-in. do;
 (11) 230 lin. ft. 48-in. do;
 (12) 4084 lin. ft. 8-in. perf. metal pipe underdrain, property fence;
 (13) 4112 gal. galv. complete in place;
 (14) 31 galv. complete in place;
 (15) 312 sta. finish roadway.
 Complete bids follow:
 (A) Mittrey Bros., Los Angeles, \$280,181.75.
 (B) C. W. Wood, Stockton, \$286,468.45.
 (C) Peninsula Paving Co. and J. P. Holland, Inc., S. F., \$289,013.35.
 (D) E. C. Coats and Peterson & 18-gren, Sacramento, \$312,080.20.

(E) Von der Hellen & Pierson, Castac, \$317,138.10.
 (F) M. J. Bevanda, Stockton, \$331,225.36.
 (G) Forter Bros. Corp. and Robt. T. Weymouth, Jr., S. F., \$333,324.03.
 (H) Watson, Jr., Los Angeles, \$341,846.10.
 (I) Geo. Pollock, Sacramento, \$346,454.50.
 (J) Merritt-Chapman and Scott, San Pedro, \$348,108.05.
 (K) Granfield, Farrar & Carlin, San Francisco, \$417,069.60.
 (L) E. C. Coats and Kibbe, Portland, \$543,157.00.
 Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) |
|------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|-------|
| (1) | \$ 18. | 18 | 18 | 185 | 25 | 22 | 22 | 225 | 22 | 23 | 23 | 23 | 24 | 23 | 22 | 22 | 23 | 225 | 24 | 29 |
| (2) | 0025 | 004 | 005 | 007 | 005 | 004 | 005 | 004 | 005 | 004 | 004 | 004 | 006 | 002 | 004 | 005 | 005 | 005 | 004 | 03 |
| (3) | 80 | 50 | 40 | 150 | 50 | 40 | 20 | 75 | 100 | 200 | 100 | 100 | 130 | 125 | 75 | 100 | 150 | 100 | 100 | 250 |
| (4) | 75 | 55 | 40 | 100 | 50 | 40 | 20 | 85 | 60 | 75 | 50 | 50 | 60 | 60 | 75 | 80 | 75 | 80 | 75 | 100 |
| (5) | 1500 | 1600 | 1200 | 2000 | 1500 | 1500 | 1650 | 1350 | 1400 | 1600 | 1600 | 1600 | 1600 | 1600 | 1800 | 1500 | 1500 | 2000 | 2200 | 1600 |
| (6) | 04 | 04 | 03 | 04 | 04 | 05 | 045 | 024 | 04 | 05 | 05 | 05 | 05 | 05 | 035 | 04 | 06 | 04 | 05 | 04 |
| (7) | 25 | 25 | 10 | 30 | 25 | 20 | 25 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 25 | 20 | 25 | 25 | 25 | 30 |
| (8) | 30 | 25 | 15 | 40 | 35 | 30 | 45 | 20 | 40 | 20 | 20 | 20 | 20 | 25 | 35 | 30 | 25 | 20 | 30 | 30 |
| (9) | 40 | 25 | 20 | 60 | 45 | 40 | 45 | 20 | 45 | 20 | 20 | 20 | 20 | 25 | 40 | 25 | 40 | 25 | 45 | 50 |
| (10) | 45 | 30 | 20 | 60 | 50 | 40 | 50 | 60 | 25 | 60 | 20 | 50 | 40 | 50 | 40 | 45 | 45 | 35 | 60 | 60 |
| (11) | 65 | 100 | 45 | 100 | 50 | 30 | 50 | 30 | 50 | 30 | 50 | 75 | 100 | 75 | 35 | 100 | 85 | 50 | 115 | 100 |
| (12) | 25 | 75 | 50 | 100 | 47 | 80 | 100 | 150 | 100 | 150 | 100 | 150 | 100 | 150 | 100 | 100 | 100 | 50 | 115 | 100 |
| (13) | 55000 | 45000 | 40000 | 70000 | 50000 | 48000 | 50000 | 50000 | 48000 | 45000 | 45000 | 47500 | 40000 | 50000 | 65000 | 60000 | 50000 | 575000 | 15000 | 40000 |
| (14) | 1600 | 1200 | 1100 | 1500 | 1050 | 1600 | 1200 | 1200 | 1200 | 1000 | 1000 | 1500 | 1500 | 1500 | 2000 | 2000 | 1500 | 12000 | 15000 | 20000 |
| (15) | 4000 | 4000 | 3000 | 5000 | 5000 | 5000 | 5000 | 4000 | 6000 | 4000 | 4000 | 5000 | 6000 | 6000 | 5000 | 5000 | 6000 | 10000 | 10000 | 5000 |

COMPLETE BID LISTING

ARIZONA STATE — As previously reported New Mexico Construction Co., Denver, Colo., and Albuquerque, N. M., awarded contract by State Highway Commission, Sept. 2, at \$118,601.04, for highway construction on the Ash Fork-Flagstaff Highway, E-39-D and E, Rco. The work, which begins approximately 1 mile east of Williams' extends easterly approximately 16.8 mi., consists of the placing of subgrade stabilizer and oil processing, by the plant mix method, involving:

- (1) 18,196 sq. yds. prep. subgrade or road surf;
- (2) 16,881 cu. yds. subgrade stabilizer
- (3) 68,889 cu. yds. ml. subgrade stabilizer, haul;
- (4) 2215 tons cut-back asphalt cement (CIP in the mixer);
- (5) 456 M. gals. water applied to road (C.I.P.);
- (6) 29,983 tons plant mix;
- (7) 130,505 ton ml. plant mix, haul;
- (8) 16,657 ml. spreading, compacting and finish plant-mix;
- (9) 1284 cu. yds. screening for seal coat (C.I.P.);
- (10) 4505 cu. yds. selected shoulder material;
- (11) 13,610 cu. mi. selected shoulder material, haul;
- (12) 417 cu. yds. special min. aggrec. for stockpiling (C.I.P.);

The bids were opened August 31.

The total bids were:

- (A) New Mexico Constr. Co., \$118,601.04.
- (B) Jack Casson, Grand Canyon, Ariz., \$123,719.91.
- (C) Phoenix-Tempe Stone Co., P. O. Box 1645, Phoenix, Ariz., \$145,089.00.

The unit bids were:

| | (A) | (B) | (C) |
|------|-------|--------|--------|
| (1) | | .02 | \$.02 |
| (2) | | .55 | .55 |
| (3) | | .07 | .08 |
| (4) | | 19.20 | 18.00 |
| (5) | | 2.00 | 2.00 |
| (6) | | 1.40 | 2.10 |
| (7) | | .05 | .06 |
| (8) | | 120.00 | 210.00 |
| (9) | | 2.00 | 4.00 |
| (10) | | .76 | .40 |
| (11) | | .07 | .08 |
| (12) | | .60 | 1.10 |

AWARD

SAN RAFAEL, Marin Co., Cal.—E. Renati, Novato, at \$3312.75 awarded contract by county supervisors to construct reinf. concrete bridge across Novato Creek on Simmons Line, Novato, Road District No. 5, involving:

- (1) 192 cu. yds. Class A Portland cement concrete in place;
 - (2) 20,500 lbs. reinf. steel in place.
- Complete bids follow:

| | |
|------------------------------------|-----------|
| (A) Emil Renati, Novato..... | \$3312.75 |
| (B) John Carcano, San Rafael | 3504.00 |
| (C) Whited & Whited Santa Rosa | 3543.80 |
| (D) L. Lambretti, Mill Valley..... | 3613.60 |
| (E) Main & Hoskinson, Fairfax | 3793.40 |
| (F) W. L. Proctor, Santa Rosa | 3892.00 |
| (G) Frank Bryant, S. F..... | 3988.00 |
| (H) O. H. Smith, San Rafael..... | 4062.50 |
| (I) Louis Sartorio, S. F..... | 4259.50 |
| (J) H. E. Howe, Santa Rosa..... | 4580.60 |
| (K) John P. Lawlor, S. F..... | 4625.50 |

Unit bids follow:

| | (1) | (2) |
|-----|-------|---------|
| (A) | | \$13.25 |
| (B) | | 14.15 |
| (C) | | 14.40 |
| (D) | | 14.55 |
| (E) | | 15.20 |
| (F) | | 16.00 |
| (G) | | 16.50 |
| (H) | | 17.00 |
| (I) | | 18.50 |
| (J) | | 19.80 |
| (K) | | 19.50 |

ENGINEERING NEWS

BRIDGES

SHASTA COUNTY, Cal.—Until Sept. 28, 2 P. M., bids will be received by State Highway Commission, Sacramento, to construct two steel stringer bridges with concrete decks on concrete bents, one across Hat Creek and the other across Pit River, involving:

- (1) 1,255 cu. yds. struc. excav.;
- (2) 322 cu. yds. Class A Port. cement concrete (footing blocks);
- (3) 942 cu. yds. Class A do (struc.);
- (4) 157,000 lbs. reinf. steel;
- (5) 465,000 lbs. struc. steel;
- (6) 2,200 lbs. cast steel;
- (7) 1,750 lin. ft. solid timber rail;
- (8) 1 lot miscel. items of work.

MENDOCINO COUNTY, Cal.—Until Sept. 28, 2 P. M., bids will be received by State Highway Commission, Sacramento, to construct a timber bridge across Squaw Rock Slide eight miles north of Cloverdale, consisting of 7 19-ft. spans and 6 18-ft. spans on pile bents, involving:

- (1) 75 cu. yds. struc. excavation;
- (2) 3,200 lin. ft. furnish redwood piles, including test piles;
- (3) 123 drive redwood piles, including test piles;
- (4) 125,000 ft. b.m. redwood timber dense select all-heart struc. grade;
- (5) 36,000 ft. b.m. redwood select all-heart struc. grade;
- (6) 1 lot misc. items of work.

STOCKTON, San Joaquin Cal.—Until Sept. 26, bids will be received by Eugene Graham, county clerk, to construct two steel and timber bridges on Paradise Cut, three miles north of Banta. Estimated cost \$7,000. Plans obtainable from Julius E. Manthey, county surveyor.

MONTREY COUNTY, Calif.—Until Sept. 28, 2 P. M., bids will be received by State Highway Commission to construct a reinforced concrete arch bridge across Wildcat Creek about 5.5 miles south of Carmel, consisting of one 57-ft. span and two 39-ft. spans on concrete piers and abutments, involving:

- (1) 3 trees, remove and dispose of;
- (2) 2,650 cu. yds. struc. excav.;
- (3) 2,300 cu. yds. Class A Port. cement concrete;
- (4) 146,000 lbs. bar reinf. steel;
- (5) 70 sq. yds. masonry slope paving;
- (6) 60 lin. ft. temporary timber guard-rail;
- (7) 16 cu. yds. sand fill;
- (8) 68 lin. ft. 12-in. corr. metal pipe;
- (9) 1 lot miscel. items of work.

LOS ANGELES, Cal.—Parish Bros., 1222 N. Gower St., awarded contract by county supervisors at \$11,989 to construct concrete arch bridge on Topanga Chayon Road over Topanga Canyon 5 miles up the canyon from the Roosevelt Highway; will be 138 ft. in length, the centre arch span being 70 ft. in length, width 30 ft. Quantities listed in issue of Aug. 11.

GLENDALE, Los Angeles Co., Cal.—Myers Bros., 3407 San Fernando Rd., Los Angeles, awarded contract by city council at \$12,424.60 to construct structural steel and concrete superstructure for Canada Blvd. bridge. This work consists of widening of existing bridge, the abutments and piling have been started under a sepa-

rate contract. The proposed structure will be a steel girder bridge with reinforced concrete deck and hand-rails. It will have an 85-ft. span and the completed structure will have a width of 70 ft., including two 6-ft. sidewalks.

LOS ANGELES, Calif.—Until 2 P. M., Sept. 26, bids will be received by County Supervisors for the construction of a timber bridge to be erected on Del Amo Ave. over Compton Creek. Bids will be taken as follows:

- (1) Bridge, complete, of Redwood construction;
- (2) Bridge, complete of Douglas Fir construction.

The proposed bridge will be 57 ft. in width and 30 ft. in length. W. D. Armstrong, 12th floor, Hall of Records, is the County Bridge Engineer. Mame B. Beatty, 501 Hall of Records, Clerk of the Board.

SAN RAFAEL, Marin Co., Cal.—Following contractors have secured plans and specifications for reinforced concrete bridge across Novato Creek on Simmons Line, Novato, Road District No. 5, bids for which will be opened Sept. 13, 11 A. M., by county supervisors:

Bestini Bros., San Rafael.
Louis Lambretti, Mill Valley.
John Carcano, San Rafael.
Frank Main, Fairfax.
Frank Bryant, San Francisco.
Petaluma Const. Co., Petaluma.
Emil Renati, Novato.
Otis Smith, San Rafael.

Project involves:

- (1) 192 cu. yds. Class A Port. cement concrete in place;
- (2) 20,500 lbs. reinf. steel in place.

Rob E. Graham, county clerk. Rodney E. Messner, county surveyor.

SAN RAFAEL, Marin Co., Cal.—Until September 13, 11 A. M., bids will be received by Rob E. Graham, County Clerk, to construct reinforced concrete bridge across Novato Creek on Simmons Line, Novato, Road District No. 5, involving:

- (1) 192 cu. yds. Class "A" Portland cement concrete in place;
- (2) 20,500 lbs. reinforcing steel in place.

GLENDALE, Los Angeles Co., Cal.—Myers Bros., 3407 San Fernando Rd., Los Angeles, submitted low bid to the city council Sept. 1 at \$12,424.60 to construct a structural steel and concrete superstructure for the Canada Blvd. bridge located 600 ft. north of the south intersection of Canada Blvd. with Verdugo Road. Project involves:

97 tons structural steel in place; lump sum for removal of hand rail, sidewalk, sidewalk brackets, curbs fireproofing from plate girders in place;

104 cu. yds. Class F concrete; 10,000 lbs. reinf. steel; ornamental hand rail and posts, incl. reinf. steel and appurtenances, complete; painting, including plate girders.

SACRAMENTO COUNTY, Cal.—State Highway Commission has voted an allotment of \$560,000 to finance widening of the Yolo Causeway for four lines of traffic instead of two. The money will be provided from federal relief funds allocated to the State under congressional enactments. By provision of the appropriation the work must be completed by June 30, 1933. Walker E. Garrison, state director of public works, announces this will be one of the first of nineteen emergency projects approved by the State Highway Commission.

SAN BERNARDINO COUNTY, Cal.—Bridge Dept., State Highway Commission, has been authorized to prepare plans for the new viaduct to be constructed over the Santa Fe Railway tracks at San Bernardino to replace the existing steel structure. C. W. Jones, engineer in charge of special bridge investigations, has been in San Bernardino during the past few days gathering engineering data for the state bridge department. The project is estimated to cost \$266,000, of which \$75,000 will be paid by the railway company, the balance by the state, city and county. The city's share will probably be represented by right-of-way donated. In the construction of the viaduct, the existing steel will be utilized, the proposed structure to be of steel girder construction, with concrete pavement. Additional steel columns will be added to carry the increased width and length. The bridge will be 40 ft. wide with two 4-ft. walks. The roadway will be paved with concrete. The new lay-out provides for the removal of the Third St. ramp and the extension of the new approach down Mt. Vernon Avenue.

SAN JOSE, Santa Clara Co., Cal.—Until Sept. 19, 11 A. M., bids will be received by Henry A. Pfister, County Clerk, to construct two reinforced concrete culverts over Middlefield Road, Supervisor District No. 5. Lump sum bids will be taken. Specifications obtainable from Robert Chandler, County Surveyor.

LOS ANGELES COUNTY, Cal.—Until Sept. 28, 2 P. M., bids will be received by H. H. Sweetser, district engineer, U. S. Bureau of Public Roads, 461 Market St., San Francisco, to construct the San Gabriel River bridge on Section B of Route 62, San Gabriel National Forest Highway, involving:

- (1) 1,250 cu. yds. unclass. excav. for structures;
- (2) 1,163 cu. yds. concrete;
- (3) 106,000 lbs. reinf. steel;
- (4) 483,000 lbs. structural steel;
- (5) 38,000 lbs. steel cylinders;
- (6) 350 cu. yds. wired riprap.

Plans obtainable from engineer on deposit of \$10, returnable, checks for same to be made payable to Regional Fiscal Agent, U. S. Forest Service.

CAPITAL CITY TITLE COMPANY

J. C. PALEN,
Manager

914 Seventh Street
Sacramento :: California

SAN BERNARDINO CO., Cal.—Col. Walter E. Garrison, State Director of Public Works, has announced that bids will be taken and contract awarded this year for a new steel bridge to replace the existing wooden bridge across the Mojave River, north of the Harvey House at Barstow, San Bernardino County. An appropriation of \$176,000 was made last year.

NEVADA CITY, Nevada Co., Cal.—Until October 3, bids will be received by county supervisors for repairs to the bridge over Greenhorn Creek between Grass Valley and You Bet. The work will consist of foundation repairs, new flooring and stringers. Specifications on file in office of county clerk.

RENO, Nevada.—City council has withdrawn a petition to the Reconstruction Finance Corporation for a loan of \$35,000 to finance construction of sewers and culverts and for renovating the city hall. The council has been informed that funds borrowed by municipalities cannot be used to purchase materials and carry on building projects.

HUMBOLDT COUNTY, Calif.—Until Sept. 22, 2 P. M., bids will be received by H. S. Conly, district engineer, State Highway Commission, 546 Wabash Ave., Eureka, to construct a bridge across Mad River, about three miles northeast of Arcata, consisting of one 285-ft. through steel truss span to be moved and four 19-ft. timber approach spans to be constructed. Plans obtainable from engineer.

DREDGING, HARBOR WORKS & EXCAVATIONS

MENDOCINO COUNTY, Cal.—Chas. R. Perkins, Port Bragg, at \$5,827.80 submitted lone bid to and was recommended for award by U. S. Engineer Office, Custom House, San Francisco, for dredging at the mouth of Noyo River, Calif., involving 8,830 cu. yds. of dredging. His unit bid was 66c per cubic yard. Engineer's estimate, \$6475 net and \$675 gross.

STOCKTON, San Joaquin Co., Cal.—Puget Sound Bridge & Dredging Co., 2929 16th S. W., Seattle, at \$624 per cu. yd., for Section (C) only, awarded contract by U. S. Engineer Office, Sacramento, for dredging approximately 1,243,000 cu. yds. of material from the San Joaquin river 26 ft. channel prism. Bids received on the following propositions:

- (1) 171,000 cu. yds. dredging in San Joaquin river (Parts A and B awarded together);
- (2) 1,072,000 cu. yds. dredging in San Joaquin River and across Venice and Mandeville Islands Part (C) awarded separately;
- (3) 1,243,000 cu. yds. dredging in the San Joaquin river and across Venice and Mandeville islands Parts (A) (B) and (C) awarded together.

Sections (A) and (B) rejected and work will be done by Government plant and day labor. Complete bids published in issue of August 26.

LOS ANGELES, Cal.—Standard Dredging Co., Central Bldg., submitted low bid to U. S. Engineer, Los Angeles, Sept. 6, at a total of \$62,558. for dredging in Los Angeles Harbor, involving 106,000 cu. yds. material to be removed. The bids follow:

Standard Dredging Co., 59.3c per cu. yd.; total, \$62,858.
 Merritt-Chapman & Scott Corp., 67.5c per cu. yd.; total, \$71,550.

A. M., under Spec. No. 6960, bids will be received by Public Works Officer, 11th Naval District, for dredging at Pier at Naval Operating Base (Air Station) San Diego, involving 6,400 cu. yds. Specifications obtainable from the above on deposit of \$10. returnable, checks for same to be made payable to Chief of the Bureau of Yards and Docks.

BIDS WANTED

LOS ANGELES, Cal.—Until 2 P. M., Sept. 26, bids will be received by the Los Angeles County Supervisors for the construction of unit No. 3 of the San Gabriel River Outlet at Alamitor Bay, as follows:

- PROPOSAL NO. 1
 District to pay freight on rock from quarry to point nearest site of work to which railroad company will quote a rate.
- (1) 375 lin. ft. construct railroad trestle, including laying of track;
- (2) 325 lin. ft. construct wooden bulk-head complete;
- (3) 4300 tons furnish and place class B rock, exclusive of freight;
- (4) \$290 tons furnish and place class A rock, exclusive of freight;
- (5) 770 tons furnish and place class C rock, exclusive of freight.

PROPOSAL NO. 2

Contractor to pay all transportation costs on rock from quarry to site of work.

- (1) 375 lin. ft. construct railroad trestle, including lay track;
 - (2) 325 lin. ft. construct wooden bulk-head complete;
 - (3) 4300 tons furnish and place class B rock, including freight;
 - (4) \$290 tons furnish and place class A rock, including freight;
 - (5) 770 tons furnish and place class C rock, including freight.
- E. C. Eaton, 202 N. Broadway, County Flood Control Engineer.

SUISUN, Solano Co., Calif.—Dutton Dredging Co., 547 Mills Bldg., San Francisco, at \$14,702 submitted low bid to U. S. Engineer Office, Custom House, San Francisco, for dredging in the Suisun Slough near Suisun, involving 150,000 cu. yds. dredging. Complete bids follow:

- Dutton Dredging Co., San Francisco, \$975; \$14,702.
 - San Francisco Bridge Co., \$10; \$15; 075.
 - American Dredging Co., \$1017; \$15; 335.
 - Puget Sound Bridge & Dredging Co. \$11; \$16,587.
 - Hydraulic Dredging Co., \$15; \$22; 619.
- Engineer's estimate, \$1061; \$15,994. Bids held under advisement.

MARYSVILLE, Yuba Co., Cal.—C. G. Payne Const. Co., 2445 E 9th St., Los Angeles, desires bids on clearing right of way in connection with raising and strengthening an existing levee along east bank of the Feather River from the Lake of the Woods to Starr Bend. The project involves the moving of 475,000 cu. yds. of material. Bids for the work will be opened by the U. S. Engineer Office, California Fruit Bldg., Sacramento, Sept. 30, under Proposal No. 33-54, Spec. No. 4734.

MARYSVILLE, Yuba Co., Cal.—Until Sept. 30, 3 P. M., under Circular Proposal No. 33-54 Spec. No. 4734, bids will be received by U. S. Engineer Office, California Fruit Bldg., Sacramento, to raise and strengthen an existing levee and construct a section of new levee along the east bank of the Feather River from the Lake of the Woods to Starr Bend, approximately

10 miles downstream from the city of Marysville. The total length of the levee work is about 3.5 miles and the total quantity of material to be moved is approximately 475,000 cubic yards.

OAKLAND, Cal.—Until Sept. 30, 3 P. M., new bids will be received by U. S. Engineer Office, Customhouse, San Francisco, for removing the sunken and abandoned schooner-barge Simla, lying in Oakland Harbor. Previous bids were rejected. Specifications obtainable from above office.

VERNON, Los Angeles Co., Calif.—Until 10 A. M., Oct. 4, bids will be received by county supervisors to construct approximately 865 lin. ft. of protection works along the Santa Paula Creek east of Santa Paula, under Cash Contract. Plans were prepared by Chas. W. Peitt, County Surveyor. The work will involve:

- (1) 1500 cu. yds. earth embankment;
- (2) 255 cu. yds. concrete slope paving;
- (3) 16,300 lbs. reinforcing steel.

The work is to be completed by Dec. 1st.

MARYSVILLE, Yuba Co., Calif.—Following contractors have secured plans and specifications for raising and strengthening an existing levee and constructing a section of new levee along the east bank of the Feather River from the Lake of the Woods to Starr Bend, approximately 10 miles downstream from the city of Marysville. The total length of the levee work is about 3.5 miles and the total quantity of material to be moved is approximately 475,000 cubic yards, bids for which will be received by U. S. Engineer Office, California Fruit Bldg., Sacramento, Sept. 30 at 3 P.M.:

- Ajax Dredging Co., 429 1st St., San Francisco.
- Franks Contracting Co., 260 California St., S. F.
- John Phillips Co., 582 Market St., San Francisco.
- Haas, Doughty & Jones, 1104 Merchants Exchange Bldg., S. F.
- Meyer Rosenberg, 1755 San Bruno Ave., S. F.
- Union Paving Co., 624 Call Bldg., San Francisco.
- C. W. Wood, P.O. Box 1435, Stockton.
- A. J. Peterson, P.O. Box 1506, Bakersfield.
- Thos. S. Aitken, Berkeley.
- Delta Dredging Co., Pittsburg.
- R. P. Easley, Antioch.
- R. L. Oakley, Palo Alto.
- Schweitzer Bros., 2475 E. 9th St., Los Angeles.
- Marshall & Stacy, care Alameda Hotel, Alameda.
- Mittry Bros. Constr. Co., 412 W. 6th St., Los Angeles.

SANTA MONICA, Los Angeles Co., Cal.—Puget Sound Bridge and Dredging Co., Inc., and W. F. Way, 2929 16th S. W., Seattle, care N. S. Ross, Business Manager for the contractor, 3550 Ingraham St., Los Angeles, awarded contract by city council Sept. 1, at \$59,535 to construct the Santa Monica Breakwater. The contractor will open offices Tuesday, Sept. 6, in the Builders' Exchange Bldg., Santa Monica.

MENDOCINO COUNTY, Cal.—Chas. R. Perkins, Port Bragg, at \$5,827.80 awarded contract by U. S. Engineer Office for dredging at the mouth of Noyo River, Calif., involving 8,830 cu. yds. of dredging. His unit bid was 66c per cubic yard. Engineer's estimate, \$6475 net and \$675 gross.

STREET LIGHTING SYSTEMS

SALINAS, Monterey Co., Cal.—City Engineer Howard Cozzens instructed to prepare specifications and secure bids to furnish and install ten light standards. The standards will be installed around the new armory-auditorium now nearing completion.

MACHINERY AND EQUIPMENT

SUNNYVALE, Santa Clara Co., Cal.—See "Government Work and Supplies", in this issue. Bids wanted by the Bureau of Yards and Docks, Navy Department, under Specification No. 6856, for concrete pavements, railroad tracks, metal clad partitions and drainage, plumbing and heating, air conditioning, helium and gasoline system in hangar; and one-story reinforced concrete pumping and ethylizing building and equipment at Naval Air Station, Sunnyvale.

RED BLUFF, Tehama Co., Calif.—Robert Garrett, Red Bluff, bidding for John Bean Mfg. Co., San Jose, awarded contract by city council to furnish a deep well turbine pump and motor. Bid is on a 500-gallon capacity pump was \$1132, and on a 600-gallon capacity, \$1241.

SAN FRANCISCO.—Meyer Rosenberg, 1755 San Bruno Ave., San Francisco, at \$28,749.23 awarded contract by Department of Public Works to improve Sunset Blvd., Section E, between Irving St. and the South Drive of Golden Gate Park.

SAN FRANCISCO.—General Engineering and Drydock Co., 1100 Sansome St., at \$34,500 awarded contract by Superintendent of Lighthouses for reconditioning boiler room and bunkers of Lightship No. 76 to provide for use of fuel oil and to furnish and install two water tube boilers with oil-burning equipment.

HOLLISTER, San Benito Co., Cal.—City council contemplates purchase of a motor dump truck for garbage and street refuse collection.

SAN FRANCISCO.—Until September 22, 3 P. M., under Bid No. 899, bids will be received by T. A. Brooks, city purchasing agent, 270 City Hall, to furnish and install a stiff leg derrick complete. Specifications obtainable from above, office.

LAKEPORT, Lake Co., Cal.—W. W. Prather Lumber Co. and Clear Lake Creameries of Lakeport, and Ford Bros. of Clearlake Highlands, contemplate the installation of Diesel engines in their respective plants to generate their own power.

SACATON, Ariz.—Until Sept. 20 bids will be received by Division of Purchases, Sales and Traffic, Department of Agriculture, Washington, D. C., for one automobile truck for Sacaton; Proposal 3435.

RAILROADS

SUNNYVALE, Santa Clara Co., Cal.—See "Government Work and Supplies", in this issue. Bids wanted by the Bureau of Yards and Docks, Navy Department, under Specification No. 6856, for concrete pavements, railroad tracks, metal clad partitions and drainage, plumbing and heating, air conditioning, helium and gasoline sys-

tem in hangar; and one-story reinforced concrete pumping and ethylizing building and equipment at Naval Air Station, Sunnyvale.

SUNNYVALE, Santa Clara Co., Cal.—Until 11 A. M., Sept. 23, bids will be received by Bureau of Yards and Docks, Navy Department, Washington, D. C., for railroad tracks at the Naval Air Station, Sunnyvale, under Specifications No. 7038. Copies of the specifications may be obtained upon application of the Bureau or from the Commandant, 12th Naval District, 100 Harrison St., San Francisco, on deposit of a check or postal money order for \$10.

FIRE EQUIPMENT

PASO ROBLES, San Luis Obispo Co., Cal.—City council plans to convert fire department chemical truck into a 250-gallon high pressure pumping unit. Cost is estimated at \$700. Specifications have been prepared by Fire Chief Bollinger.

OAKLAND, Calif.—Until Sept. 22, 9 P. M., bids will be received by W. W. Chappell, city clerk, to furnish one 500-gallon pumping engine, equipped with 100-gal. booster pump for use of fire department. Specifications obtainable from city clerk.

RESERVOIRS AND DAMS

LOS ANGELES, Cal.—As previously reported, time for opening bids to construct San Gabriel Dam No. 1, originally set for September 6, has been postponed by the county supervisors to September 19. Twelve bids were submitted to the county on September 6, but were returned unopened to bidders after Chairman Henry W. Wright had announced that due to last minute information that several Eastern contracting firms had reported that they would have bid if sufficient time had been allowed. He then made a motion that the bids be rejected, the plans and specifications be re-adopted, and the call for bids re-advertised for Sept. 19. The motion carried unanimously.

PIPE LINES, WELLS, ETC.

SAN CLEMENTE, Orange Co., Cal.—Bids will be saked at once by city council for drilling a 16-in. water well on the grounds of the San Clemente Golf Club. W. A. Ayer, City Engineer.

SEWERS AND SEWAGE DISPOSAL PLANTS

LOS ANGELES, Cal.—Blue Diamond Corp., Ltd., 1650 S. Alameda St., awarded contract by the County Supervisors at \$5,739.91 net to furnish reinforcing steel to be used in reinforced concrete conduit on Verdugo Wash, from Louise St., 1270 ft. westerly (Proposal No. 1).

LOS ANGELES, Cal.—Until 10 A. M., Sept. 23, bids will be received by Board of Public Works to construct storm drain and appurtenances in Vermont Ave. between 83rd St. and Manchester Ave., Cash contract, involving:

- (1) storm drain and appurtenances, complete.
- (2) 1007 s. ft. 8-in. concrete paving (local depressions).
- (3) 6810 sq. ft. asph. concr. remodeling.

(4) 1233 sq. ft. remodel oiled roadway, way.

- (5) 245 sq. ft. 8-in. concrete gutter.
- (6) 6652 sq. ft. class "C" resurfacing.
- (7) 18 sq. ft. class "D" resurfacing.

The approximate quantities for the storm drains are:

| | |
|--|----|
| 209 ft. 42-in. centrif. concrete pipe. | |
| 321 ft. 33-in. | do |
| 321 ft. 30-in. | do |
| 327 ft. 27-in. | do |
| 45 ft. 18-in. cement or vit. pipe. | |
| 264 ft. 15-in. | do |
| 122 ft. 12-in. | do |
| 10 ft. concr. reinf. for 18-in. pipe. | do |
| 23 ft. concr. reinf. for 15-in. pipe. | do |
| 9 ft. concr. reinf. for 12-in. pipe. | do |
| 5 catchbasins No. 29; | |
| 4 catchbasins No. 31, 14 ft. long; | |
| 1 catchbasin No. 37, 2 grating; | |
| 2 catchbasins No. 39; | |
| 4 manholes "KYZ"; | |
| remodel ornamental light circuit. | |

LOS ANGELES, Cal.—Wm. T. Loesch & Son, 119 E. Union St., Pasadena, awarded contract by county supervisors at \$11,428.82 to construct reinforced concrete conduit in the Verdugo Wash from Louise St., 1279 ft. westerly. Quantities listed in issue of September 1.

ALAMEDA, Alameda Co., Cal.—Until Sept. 23, 11 A. M., under Specifications No. 7, bids will be received by Constructing Quartermaster, Benton Field Air Depot, 33 Pacific Ave., Alameda, to construct a water supply system and sanitary sewer system at Benton Field Air Depot, Alameda. Specifications obtainable from above on deposit of \$10, certified check payable to Treasurer of the U. S. Proposal guarantee, 10%.

LOS ANGELES, Cal.—No bids received by board of public works Aug. 31 to construct sewers in Anaheim St. and Badger Ave. Sewer District, under the 1911 act. Quantities published in issue of August 11.

RENO, Nevada.—City council has withdrawn a petition to the Reconstruction Finance Corporation for a loan of \$35,000 to finance construction of sewers and culverts and for renovating the city hall. The council has been informed that funds borrowed by municipalities cannot be used to purchase materials and carry on building projects.

FRESNO, Fresno Co., Cal.—City council contemplates a bond election to secure funds to finance construction of storm sewers. Preliminary estimates of cost range from \$50,000 to \$300,000, depending upon the length of the extensions contemplated. Jean Vincenz, city engineer.

MARTINEZ, Contra Costa Co., Cal.—Until Sept. 19, 11 A. M., bids will be received by county supervisors to construct a storm sewer in Harbor St., city of Pittsburg, estimated cost \$5,200. Project involves:

- (1) 1900 lin. ft. 18-in. vit. pipe in place
- (2) 5 manholes complete in place;
- (3) 80 ft. 36-in. cast iron culvert pipe.

Plans obtainable from County Surveyor R. R. Arnold at Martinez.

WATERWORKS

LOS ANGELES, Cal.—Until 11 A. M., Sept. 14, bids will be received by Thos. Oughton, City Purchasing Agent 107 City Hall, for three well type vertical turbine pumps complete with motors but without starters. Specification No. 2905.

LOS ANGELES, Cal.—American Pipe & Steel Corp. was awarded contract by City Purchasing Agent, at \$990 net, for furnishing 48 steel tanks for oil circuit breakers, complete with covers and fittings, built as 16 assemblies of three tanks each f. o. b. 1630 N. Main St., Specifications No. 2N87. The bids were opened Aug. 19.

SOQUEL, Santa Cruz Co., Cal.—As previously reported, Chambers of Commerce of Soquel and Capitola, have started proceedings to form a district to vote bonds to finance construction of a water distributing system. Preliminary surveys are being made by L. C. Macabee, consulting engineer, Menlo Park. It is proposed to sink a series of wells and construct a 2,500,000-gal. reservoir on one of three sites now being considered.

SOQUEL, Santa Cruz Co., Cal.—Chambers of Commerce of Soquel and Capitola have named a committee to circulate petitions seeking to have the county supervisors call a special election for the purpose of forming a water district which contemplates a bond issue of \$140,000 to finance construction of a water system to serve the two communities. Preliminary surveys have been made in connection with the project.

SAN LUIS OBISPO, Cal.—Due to an error in proceedings, bonds to finance construction of a water system for the Cambria Water District, have been declared illegal and the county supervisors have rescinded the award of contract to Geo. C. DeGolyer, 231 Federal Telegraph Bldg., Oakland, at \$13,500 for construction. New proceedings will be started and bids for construction asked early in the Spring.

YREKA, Siskiyou Co., Cal.—Following bids received by city council to furnish 700 ft. 8-in. Class 150 c. i. pipe, 12 or -6-ft. laying lengths, either A. W. W. A. specifications, or made by horizontal sand cast, or centrifugal method of classes; either open bell or precasted joints:

Pacific Pipe Co., Main and Folsom Sts., San Francisco, 62c; dipped 64c.
U. S. Pipe & Foundry Co., Monadnock Bldg., S. F., \$1.05.
Pacific States C. I. Pipe Co., Rialto Bldg., S. F., \$1.05; precasted, \$1.13
American C. I. Pipe Co., 503 Balboa Bldg., San Francisco, \$1.056.

Bids taken under advisement. Bid of Pacific Pipe Co., however, will probably be accepted.

SAN JOSE, Santa Clara Co., Cal.—Suburban Water System, headed by Fred C. Ehman, 315 Montgomery St., San Francisco, has acquired in addition to the privately owned water system of Judge F. S. Leib in the Cupertino Dist., privately owned water systems in Los Altos, Mountain View and Sunnyvale District. The new owners contemplate the expenditure of \$100,000 in replacing and extending lines and other improvements.

DALLAS, Texas.—City council will begin a six-year program for improvement of its water system next year. The ultimate cost will be \$1,764,000 and will include additions to the pumping and purification plants and to the distributing system. The work is to be financed with surplus revenues from the sale of water rather than by bond issues. The \$300,000 addition to the pumping and purification plant is to be started next year. It will increase the plant's daily capacity to 60,000,000 gallons. The maximum capacity of the plant now is 40,000,000.

ALAMEDA, Alameda Co., Cal.—Until Sept. 28, 11 A. M., under Specifications No. 7, bids will be received by Constructing Quartermaster, Benton Field Air Depot, 33 Pacific Ave., Alameda, to construct a water supply system and sanitary sewer system at Benton Field Air Depot, Alameda. Specifications obtainable from above on deposit of \$10, certified check payable to Treasurer of the U. S. Proposal guarantee, 10%.

LOS ANGELES, Cal.—Calif. Pipe & Supply Co. has been awarded the contract by Thomas Oughton, City Purchasing Agent, for 200 1½-in. black iron caps at \$5.59 per C, and 200 1½-in. black iron elbows at \$8.60 per C. Bid No. 1026.

YREKA, Siskiyou Co., Cal.—Pacific Pipe Co., Main and Folsom Sts., San Francisco, at \$4 per ft., redipped and delivered three miles south of Yreka, submitted low bid to furnish 700 ft. 8-in. Class 150 cast iron pipe, 12- or 6-ft. laying lengths.

BREMERTON, Wash.—Bids will be asked shortly by city council to furnish 3000 ft. 24-in. steel pipe for supply line to Goat Creek Pumping Station. If loan is available from the Reconstruction Finance Corporation, bids for an additional 3500 ft. will be asked to renew pipe line from reservoir to town limits. C. C. Casad is city engineer.

HAYWARD, Alameda Co., Calif.—Eden Township County Water Dist., Paul W. Kelley, chairman of improvement committee, has started negotiations for the construction of a water supply and distributing system for the West Hayward district. Preliminary surveys, with a view to determining the cost, are under way.

HAYWARD, Alameda Co., Cal.—City council has authorized preparation of plans for improvements to municipal water system including replacement of obsolete pipe line in Jackson Street to the city's booster plant, installation of a new pump and replacement of pipe lines in Watkins St. from A to B Sts. Estimated cost \$15,000.

LOS BANOS, Merced Co., Cal.—Until Sept. 14, 2 P. M. (time extended from Sept. 7) bids will be received by V. G. Bryant, city clerk, for improvements in connection with the Municipal Water System involving:

(1) For certain alterations and additions in present Municipal Water Filter Plant including two concrete rapid sand filters. (As an alternate the substitution of pressure filters for rapid sand filters).

(2) For furnishing and installing two axial flow type pumps complete with motors, etc.

Certified check 10% payable to city clerk required with bid. Plans on file in office of city clerk and obtainable from W. E. Bedesen, engineer, Shaffer Bldg., Merced.

STREETS AND HIGHWAYS

SAN FRANCISCO—J. D. O'Hara, 564 Market St., at \$187.50 awarded contract by Department of Public Works to construct 1500 sq. ft. of concrete sidewalks in 33rd Ave., bet. Ulloa and Vicente Sts., et al. Unit bid is \$125 sq. ft.

OREGON STATE.—Following contractors submitted low bids to State Highway Commission August 31 for highway construction as follows:

gate, Hutton Bldg., Spokane, Wash., at \$90,606 for Alternate 1 and \$89,771 for Alternate 2, submitted low bids for 4.15 miles grading Lime-Huntington Section, Old Oregon Trail.

MARION COUNTY—Myers Contracting Co., Exchange Bldg., Portland, at \$47,856 for Alternate 1 and \$47,826 for Alternate 2 submitted low bids for the Brooks-Woodburn Section Pacific Highway, 9.4 miles grade widening and gravel shoulder construction.

WASHINGTON and Yambill Counties—Oregon Bridge & Dredging Co., Board of Trade Bldg., Portland, at \$58,369 submitted low bid for Multnomah County Line-Middleton and West Dayton-Lafayette sections West Side Pacific Highway, 2.1 miles, Portland cement concrete pavement.

MARIPOSA COUNTY, Cal.—J. Herman Co., 1349 E. Vernon Ave., Los Angeles at \$3,870 recommended for award by U. S. Bureau of Public Roads, San Francisco, to furnish and install ventilating fans, dampers, drives and partition wall (a lump sum); furnish and install additional equipment for automatic operation of shutters and dampers (a lump sum). This work in highway tunnel on Section A5 of Route 2, Wawona Road, Yosemite National Park, involving:

(1) furnish and install ventilating fans, dampers, drives and partition wall complete in place.

(2) furnish and install additional equipment for automatic operation of shutters and dampers.

LOS ANGELES, Calif.—Contracts awarded by County Purchasing Agent for furnishing pre-mixed rock and oil, as follows:

(1) 160 tons of pre-mixed rock and oil at Florence Ave. and Los Angeles River, to Spencer & Holt at \$1.65 per ton.

(2) 1800 tons same at Pennsylvania Ave. south of Foothill Blvd. to Honolulu Ave., to Southwestern Paving Co. at \$1.64 per ton.

(3) 3250 tons same at San Dimas-Pomona Road, from Holt Ave. to pt. bet. two dams, to Griffith Co. at \$1.64 per ton.

Consolidated Rock Co. awarded contract to furnish crushed rock and sand as follows:

(1) 500 tons crushed rock, No. 1, at \$1.20 per ton; Nos. 2, 3 and 4, at \$1.05 per ton; and sand, at 70c per ton, delivered to East Road Skyline-Fullerton Road, special haul zone.

(2) 820 tons No. 4 crushed rock at \$1.25 per ton; also sand at 35c per ton, delivered to Old Topanga Canyon Rd., special haul zone. Spec. No. 4118.

OAKLAND, Cal.—Wallace B. Boggs, 2625 Calafia Ave., Oakland, has been appointed engineer of the joint highway district in connection with the building of the new level tunnel thru the Berkeley hills. He will fill the vacancy caused by the death of County Engineer George A. Posey. Appointment was made by the district's board of directors consisting of Redmond C. Staats, Alameda County supervisor, chairman; Supervisor Oscar Olsson of Contra Costa County and Henry Henman of the Oakland Chamber of Commerce. From 1919 until February, 1931 Boggs was associate with the office of Alameda County Surveyor following which he enters private practice.

FRESNO, Fresno Co., Calif.—City council contemplates bond issue to finance widening of Broadway. The cost is estimated at \$500,000. Efforts would be made to secure \$250,000 Federal Aid funds in connection with the project. Jean Vincenz, city engineer.

MOUNTAIN VIEW, Santa Clara Co. Cal.—C. C. Kennedy, consulting engineer, Call Bldg., San Francisco, preparing estimates of cost for extension of Moffett Blvd. from the city limits to the Naval Air Station at Sunnyvale. Estimates will be submitted at the October 6 meeting of the city trustees.

SAN JOSE, Santa Clara Co., Cal.—A. J. Raisch, 305 Burrell Bldg., San Jose, at \$10,450 awarded contract by the county supervisors to improve San Jose-Alviso road in Supervisor Dist. No. 3, involving 113,000 sq. ft. asphalt concrete, 5-inch.

EL DORADO COUNTY, Cal.—Until Sept. 21, 2:30 P. M., bids will be received by C. H. Whitmore, district engineer, State Highway Commission, 502 State Office Bldg., Sacramento, to treat with fuel oil and cut-back asphalt, 1.7 miles between Placerville and the Railroad Crossing. Project involves:

- (1) 155 bbls. light fuel oil in place;
- (2) 168 tons cut-back asphalt in place;
- (3) 92 sta. mix bit. binder and mineral aggregate.

PLUMAS COUNTY, Cal.—Skeels & Graham, Box 576, Roseville, at \$60,988 awarded contract by U. S. Bureau of Public Roads, San Francisco, for 16.394 miles of placing a crushed gravel base course on Sections E and F of Route 2), Quincy - Beckwith National Forest Highway.

TEHAMA COUNTY, Calif.—Hein Bros. Basalt Rock Co., Petaluma, at \$23,585 awarded contract by U. S. Bureau of Public Roads for 3.715 miles of crushed rock base course, Section A of Route 79, the Morgan Summit-Morgan Springs National Forest Highway, Lassen National Forest.

SUNNYVALE, Santa Clara Co., Cal.—Until October 5, bids will be received by Bureau of Yards and Docks, Navy Department, Washington, D. C., for grading and graveling roads at the Naval Air Station, Sunnyvale. Plans obtainable from the Bureau at Washington and also from the offices of the Commandant, 12th Naval District, 100 Harrison St., San Francisco.

HANFORD, Kings Co., Calif.—As previously reported, bids will be received Sept. 27, 10 A. M., by E. F. Pickerrill, county clerk, to widen and resurface Highway No. 1, Division No. 2, and Highway No. 1, Division No. 3, between Lemoore and Stratford. Project involves:

- (1) 250 cu. yds. earth work on curves;
- (2) 54,115 lin. ft. grading, for shoulder work and headerboards;
- (3) 300 tons asphalt concrete base on curves;
- (4) 8,140 tons asphalt concrete, base material in shouldered & leveling course;
- (5) 13,450 tons asphalt concrete top.

Certified check or bidder's bond 10% payable to Chairman of the Board of Supervisors required with bid. Specifications obtainable from Roy May, county surveyor.

STANISLAUS COUNTY, Cal.—Standard Road Planning Co., 111 W. 7th St., Los Angeles, at \$4896 (\$3,576 net) submitted low bid to District Engineer, State Highway Commission, Sacramento, to plane 7.9 mi. of existing asphalt concrete pavement between the Stanislaus-Merced County line and Modesto, involving 69,600 cu. yds. existing asphalt concrete pavement to be planed and smoothed. Only other bid submitted by Oscar O.

Davis (for Asphalt Pavements Co., Oakland) at \$5011.20 (\$3,672 unit).

OAKLAND, Cal.—Until September 5, P. M., bids will be received by W. W. Chappell, city clerk, to furnish for the remainder of the fiscal year asphaltic mixture for use at atmospheric temperature, as required by the Department of Streets. Walter N. Frickstad, city engineer. Specifications obtainable from city clerk.

SAN JOSE, Santa Clara Co., Cal.—Until Sept. 19, 11 A. M., bids will be received by Henry A. Pfister, County Clerk, to improve Sunnyside and Kennedy Aves., and Forest St., in Supervisor District No. 4, involving 62,900 sq. ft. oil macadam. Specifications obtainable from Robert Chandler, county surveyor, on payment of \$1.

SAN JOSE, Santa Clara Co., Cal.—Until Sept. 19, 11 A. M., bids will be received by Henry A. Pfister, county clerk, to improve Carolyn Ave. and McEvoy St. in Supervisor District No. 4, involving 28,500 sq. ft. asphalt concrete pavement. Specifications obtainable from Robert Chandler, county surveyor, on payment of \$1.

CLARK COUNTY, Nevada—As previously reported, until Sept. 28, 2:30 P. M., bids will be received by S. C. Durkee, State Highway Engineer, Carson City, to grade and gravel surface 23.01 miles bet. Glendale and Clark-Lincoln County line, Route 7, Section A, involving:

- (1) 233,400 cu. yds. roadway excav.;
- (2) 1,610 cu. yds. struc. excav.;
- (3) 46,639 cu. yds. selected bor. excavation in place;
- (4) 159,273 yd. sta. overhaul;
- (5) 23.01 miles subgrade;
- (6) 55,000 cu. yds. crushed gravel or crushed rock surface in place;
- (7) 2,300 cu. yds. crushed gravel or crushed rock in stockpiles;
- (8) 238 cu. yds. Class A concrete;
- (9) 370 cu. yds. Class B concrete;
- (10) 2,990 lin. ft. 18-in. corr. metal pipe in place;
- (11) 2,050 lin. ft. 24-in. do;
- (12) 60 lin. ft. 30-in. do;
- (13) 2,016 lin. ft. 36-in. do;
- (14) 100 lin. ft. perforated pipe in place (12-in. dia.);
- (15) 208 cu. yds. rip-rap;
- (16) 182 monuments;
- (17) 2 furnish and install posts for F. L. markers;
- (18) 23.01 miles finish roadway;
- (19) 4,640 lin. ft. remove and reconstruct fence;
- (20) 30,000 lbs. reinf. steel;

Specifications obtainable from above on deposit of \$15, of which \$10 is returnable. Certified check 5% required with bid.

SAN JOSE, Santa Clara Co., Cal.—A. J. Raisch, 305 Burrell Bldg., San Jose, at \$11,450 awarded contract by county supervisors to improve Foothill Ave. bet. San Martin Ave. and Church Ave. in Supervisor District No. 1, involving 141,000 sq. ft. oil macadam. Complete bids follow:

| | |
|--------------------------------------|----------|
| A. J. Raisch, San Jose..... | \$11,450 |
| W. A. Dontanville, Salinas..... | 11,660 |
| Granite Const. Co., Watsonville..... | 11,730 |
| E. M. Heple, Santa Clara..... | 11,748 |

ARIZONA STATE—Skeels & Graham, 709 Consolidated Bank Building, Tucson, Ariz., awarded contract by State Highway Commission Aug. 25, at \$61,699.57, for highway construction on the Tucson-Nogales Highway, F. A. P. Nos. 25-A, 25-B, 75, E-86-B & E-86-G, Res. The work, which is considered all one project, begins at

the end of the oiled surfacing, approximately 22½ miles south of Tucson, extends south approx. ten miles to the Santa Cruz County line, consists of placing subgrade stabilizer over portions, and the oil processing by the road mix method with shoulder material over the entire length, and is to be completed on or before January 15, 1933. Quantities involved published in issue of August 26.

ARIZONA STATE—Hodgman & McVicar, Winslow, Ariz., awarded contract by State Highway Commission, August 25 at \$69,146.96, for highway construction on the Flagstaff-Williams Highway, E-24-1st Res., Unit "B". The work, which begins about 6.5 mi. west of Flagstaff, extends easterly 6.5 miles toward Flagstaff, consists of grading, draining and placing of subgrade stabilizer and is to be completed on or before Dec. 15, 1932. Quantities involved published in issue of August 26.

PALO ALTO, Santa Clara Co., Cal.—Until Sept. 6, 5 P. M., bids will be received by A. C. Barker, Secretary, Board of Education, Palo Alto School District, 549 Channing Ave., to pave a portion of Dana and Center Streets, involving:

- (1) 19,450 sq. ft. grading;
- (2) 18,665 sq. ft. 6-in. conc. pave.;
- (3) 305 lin. ft. type A concrete curb;
- (4) 690 lin. ft. type B do.

Specifications obtainable from office of City Engineer, City Hall, Palo Alto.

UTAH STATE—Until Sept. 7, 2 P. M., bids will be received by the State Road Commission, Salt Lake City, to construct a concrete paved road in Salt Lake County, State Project No. 330, between 48th South and Vine St. on 9th East, 1.56 miles, involving 16,450 sq. yds. cement concrete pavement. Specifications obtainable from above office on deposit of \$5, returnable. Certified check 5% required with bid.

FRESNO COUNTY, Cal.—Until September 21, 2 P. M., bids will be received by State Highway Commission to grade and pave with asphalt concrete, 2.7 miles bet. Fancher Creek and Fresno, involving:

- (1) 200 trees remove and dispose of;
- (2) 25,600 cu. yds. rdwy. excav. without class;
- (3) 53,700 sta. yds. overhaul;
- (4) 35,700 cu. yds. imported borrow;
- (5) 29,800 sq. yds. subgrade for pave.;
- (6) 2,260 tons crusher run base;
- (7) 10,250 sq. yds. asph. paint binder;
- (8) 20,150 tons asphalt concrete;
- (9) 120 cu. yds. Class A cem. conc. (sidewalks, curbs, driveways);
- (10) 600 tons oil treated crushed stone or gravel surfacing (road approaches);
- (11) 1,163 barrels fuel oil;
- (12) 550 cu. yds. cem. conc. removed from existing pave. and struc. and disposed of;
- (13) 3 mi. property fences moved and reset;
- (14) 141 sta. finish roadway;
- (15) 13 monuments complete in place.

MONTREY COUNTY, Calif.—Until Sept. 21, 2 P. M., bids will be received by State Highway Commission to improve 4.6 miles between San Ardo and San Jacens, involving bituminous surface treatment to be applied. Project involves:

- (1) 3,610 tons screenings;
- (2) 190 tons emulsified asphaltic road oil.

SANTA CRUZ, Santa Cruz Co., Cal.—City Engineer Roy Fowler is making surveys to widen La Fonda Ave. from the Watsonville-Santa Cruz Highway to the avenue's connection with McIntyre Blvd.

UTAH STATE.—Until Sept. 9, 2 P. M., bids will be received by the State Road Commission, Salt Lake City, to construct a bituminous concrete or rock asphalt road in Weber County, State Project No. 334, bet. 26th St. and 35 St. on Washington Ave., Ogden, 1.29 miles, involving:

- (1) 30,300 sq. yds. pave, planning;
- (2) 1,170 tons sheet asphalt;

ALTERNATE

1,080 tons rock asphalt.
Specifications obtainable from the above office and from District Engineer's office at Ogden on deposit of \$2, returnable. Certified check 5% required with bid.

LOS ANGELES, Cal.—P. J. Akmadzich, 3028 Gilroy St., awarded contract by board of public works to improve Second St. bet. Figueroa St. and Glendale Blvd., using pre-cast piling.

The items involved in the work are:

For Bridge Foundation

- (1) 103.32 tons reinf. steel in place;
- (2) 1440 cu. yds. Class F concrete;
- (3) 50 cu. yds. Class G concrete;
- (4) 94 reinf. conc. piles, 30-ft. long, and 406 reinf. conc. piles, 35 ft. long, amounting to 16,090 ft. piling precast (alternate to 4a);
- (4a) piling cast in place (alt. to 4);
- (5) brick housings complete in place;

For Street Improvement, Sanitary Sewer, Storm Drain and Ornamental Lighting Conduit:

- (6) 14,592 cu. yds. excav., 32,566 cu. yds. fill, includ. removal of existing improvements;
- (7) 205,929 sq. ft. 8-in. asph. concrete paving;
- (8) 193 sq. ft. asphalt concrete wearing surface, variable thickness, average 2-in.;
- (9) 674 sq. ft. asph. concrete wearing surf., variable thickness, average 4-in.;
- (10) 515 sq. ft. asphalt conc. wearing surface, 4-in. thick;
- (11) 39,379 sq. ft. 8-in. concrete paving, including local depressions;
- (12) 17,368 sq. ft. 6-in. concrete paving including driveways;
- (13) 26,804 sq. ft. oiled roadway;
- (14) 43 sq. ft. Class A resurfacing;
- (15) 819 sq. ft. Class C do;
- (16) 6748 ft. heavy unplastered curb;
- (17) 3250 ft. light do;
- (18) 1412 ft. special curb;
- (19) 814 ft. curb armor;
- (20) 4717 ft. curb bar;
- (21) 53,494 sq. ft. 3-in. walk;
- (22) 586 sq. ft. 4-in. walk;
- (23) 4130 sq. ft. 6-in. walk (driveway)
- (24) 1678 sq. ft. 6-in. gutter;
- (25) 2464 sq. ft. 8-in. gutter;
- (26) 30 ft. wooden guard rail;
- (27) 69 ft. on pipe guard rail to be removed and reset;
- (28) storm drain complete;
- (29) sanitary sewer complete;
- (30) 1210 ft. house sewers;
- (31) 490 ft. house sewers, type B;
- (32) 552 ft. house sewers, type D;
- (33) 274 vertical ft. chimney pipe, type B;

(34) orn. light conduit and posts complete; remove and reset light posts, etc., inc. new orn. light system;

(35) 29 manholes to be remodeled.

The work is to be paid for in cash.

LANE COUNTY, Oregon.—Homer G. Johnson, Portland, submitted low bid to the U. S. Bureau of Public Works, August 19 at \$112,645 for improving

12.88 miles of the Oregon Coast Highway, in Siuslaw National Forest, E-5, D-2, E-1, P-1, crushed rock or crushed gravel surfacing, involving:

20,000 cu. yds. unclass. excav. (slides, etc.);

200 cu. yds. unclass. excav. for struc.;

4,000 cu. yds. unclass. excav. for borrow;

5,000 cu. yd. mi. overhaul;

13 miles fine grading of subgrade and shoulders;

24,000 tons crushed rock or crushed gravel, bottom course;

15,000 tons crushed rock or crushed gravel, top course;

6,500 tons suppl. crushed gravel or crushed rock, Class A;

10,000 cu. yd. mi. binder haul;

all required providing and maintaining water plant or plants on job;

1,500 M. gallons watering;

1 providing and maintaining roller on the job;

operation of roller for days actually operated;

100 days, including operator, oil, gas, coal, etc.;

6,200 tons suppl. crushed gravel or crushed rock, Class B;

4,600 tons do, Class C;

1,600 tons do, Class D;

8 cu. yds. Class B conc. (sidewalk);

40,000 cu. yds. subgrade reinforcement

500 cu. yd. cement rubble masonry;

80 lin. ft. 12-in. reinf. conc. pipe in place;

60 lin. ft. 24-in. do;

100 lin. ft. 19-in. perf. galv. corrugated metal pipe drains in place;

1,400 lin. ft. 6-in. porous tile under-drain in place;

3,600 lin. ft. wood guard rail, type 2, in place;

all required maintenance of detours;

400 cu. yds. masonry guard rail, type 2, in place;

200 fog posts in place;

200 lin. ft. painted galv. iron pipe rail;

10,000 cu. yds. binder.

The award was recommended to the low bidder.

WALNUT CREEK, Contra Costa Co. Cal.—City Engineer E. L. O'Hara has completed specifications to widen and straighten Lincoln, Dewing, Camplin and Larkey Avenues, and Oakdale Rd. Estimates of cost will be submitted at a meeting of the city council Sept. 7.

LOS ANGELES, Cal.—Until 2 P. M., Sept. 26, bids will be received by County Supervisors to improve Santa Anita Ave. from Live Oak Ave. to the Rio Hondo, a total distance of 4210 lin. ft. or 0.80 mile, Cash Contract No. 445, involving:

(1) 125,371 sq. ft. 4-in. asph. concr. pavement (incl. shaping);

(2) 549 sq. ft. 2-in. asph. concr. pavement (incl. shaping);

(3) 2900 sq. ft. 8-in. concrete pavement (incl. shaping);

(4) 4872 lin. ft. monolithic concrete curb and gutter (incl. shaping) (6x10x18-in. curb and 5-ft. gutter);

(5) 3143 lin. ft. monolithic concrete curb and gutter (incl. shaping) (6x10x20-in. curb and 5-ft. gutter);

(6) 182 lin. ft. 6x10x18-in. concrete curb;

(7) 219 lin. ft. 6x10x20-in. concrete curb;

(8) 110 sq. ft. 8-in. concrete gutter;

(9) 49 cu. yds. concrete cross gutter;

(10) 19 cu. yds. concrete driveway aprone (Class "B" concrete);

(11) 4 std. catchbasins No. 8 (3 ft. opening);

(12) 2 std. catchbasins No. 4 (one unit).

SAN FRANCISCO—Engineering Department, Department of Public W'ks, completes specifications to improve Quintara St. bet. 35th and 36th Aves. and 35th Ave. bet. Quintara and Rivera Sts. (where not already improved). Project involves:

(1) 182 lin. ft. unarmored conc. curb;

(2) 165 lin. ft. 6-in. V.C.P. side sewers

(3) 4,312 sq. ft. asph. conc. pave.

Estimated cost, \$1,600. J. J. Casey, city engineer.

SAN FRANCISCO—Engineering Department, Department of Public W'ks, completes specifications to improve the crossing of 35th Ave. and Quintara Sts., involving:

(1) 600 cu. yds. excavation;

(2) 94 lin. ft. unarmored conc. curb;

(3) 600 sq. ft. 1-course conc. sidewalk;

(4) 3 brick catchbasins;

(5) 65 lin. ft. 10-in. V.C.P. culverts;

(6) 4,894 sq. ft. asph. conc. pave.

Estimated cost, \$1,660. J. J. Casey, city engineer.

SUNNYVALE, Santa Clara Co., Cal.—See "Government Work and Supplies" in this issue. Bids wanted by the Bureau of Yards and Docks, Navy Department, under Specification No. 6956, for concrete pavements, railroad tracks, metal clad partitions and drainage, plumbing and heating, air conditioning, helium and gasoline system in hangar; and one-story reinforced concrete pumping and ethylizing building and equipment at Naval Air Station, Sunnyvale.

ARIZONA STATE—Ralph Pleasant Co., 200 Luhrs Bldg., Phoenix, awarded contract by State Highway Commission, Sept. 2, at \$55,594.77, for construction on Benson-Douglas Highway, E-79-G and Non F. A. Portion. The work, which begins 18 miles south of Tombstone, and extends southeasterly about 6 miles including the Non F. A. portion, consists of oil processing by the road mix method. The quantities listed in issue of Aug. 23.

ARIZONA STATE—Phoenix-Tempe Stone Co., Box 1625, Phoenix, awarded contract by State Highway Commission, Sept. 2, at \$55,152.85, for construction on Phoenix-Tempe Highway E-2-A, Reo., and E-30 Reo. The work which begins at 24th St. and extends easterly 2 3/4 miles to the Packing Plant, consists of placing a 6-in. gravel base and widening the existing pavement.

ARIZONA STATE—Lee Moor Construction Co., 1202 Bassett Tower Bldg El Paso, awarded contract by State Highway Commission, Sept. 2, at \$19,763.14, for construction on Blythe-Wickenburg Highway, E-95-H. The work begins at the east end of the Colorado River Bridge near Ehrenberg and extends easterly approximately five miles, consists of oil processing by the road mix method.

MARIPOSA COUNTY, Calif.—Until Sept. 23, 2 P. M., bids will be received by State Highway Commission, Sacramento, to grade and surface with bituminous treated crushed gravel or stone 0.2 mile at Lorene's, involving:

(1) 19,600 cu. yds. rdway. excav., unclass.;

(2) 24,000 sta. yds. overhaul;

(3) 40 cu. yds. struc. excav.;

(4) 150 cu. yds. salvaged base course;

(5) 390 tons bit. treated crushed gravel or stone surfacing;

(6) 62 lin. ft. 18-in. corr. metal pipe;

(7) 3 cu. yds. rubble masonry;

(8) 300 lin. ft. laminated timber guard rail;

(9) 10 sta. finish roadway.

ARIZONA STATE—New Mexico Constr. Co., Denver, Colo., and Albuquerque, N. M., awarded contract by State Highway Commission Sept. 2, at \$118,691.04, for construction on the Ash Fork-Flagstaff Highway, E-89-D and E, Reo. The work, which begins one mile east of Williams, extends easterly 16.8 miles, consists of the placing of subgrade stabilizer and oil processing, by the plant mix method.

IDAHO STATE—Wm. Hoops, Twin Falls, Idaho, awarded contract by G. E. McKelvey, commissioner of Public Works, Boise, Aug. 30, at \$11,498.50 for 2.908 miles grading, draining and surfacing with crushed gravel on Owyhee Highway (Caldwell spur), south from Caldwell in Canyon County. Quantities involved published in issue of August 27.

ARIZONA STATE—O. F. Fisher Co. 516 S. Seventh St., Phoenix, awarded contract by State Highway Commission Sept. 2, at \$28,372.33 for construction on the Ashfork-Flagstaff Highway, F, A, 89-F. The work, which begins at the end of the pavement on Williams Ave., near First St., in the town of Williams and extends easterly approximately 1 1/4 miles, consists of the grading, draining and placing of subgrade stabilizer. Quantities listed in issue of August 23.

ARIZONA STATE—L. E. Dixon Co., 609 S. Grand Ave., Los Angeles, awarded contract by State Highway Commission Sept. 2, at \$248,757.85, for construction on the Globe-Showlow Highway, E-99-C. The work, which is located 1 1/4 miles northeast of Globe, extends northeast about 5 1/2 miles to Seven Mile Draw, consists of the grading and draining of the project. Quantities listed in issue of August 22.

LINCOLN COUNTY, Nev.—As previously reported, until Sept. 28, 3 P. M., bids will be received by S. C. Durkee, State Highway Engineer, Carson City, to grade and gravel surface 26.42 miles bet. Clark-Lincoln County line and Maynard Lake, Route 7, Section A, involving:

- (1) 204,000 cu. yds. rdwy. excav.;
- (2) 2,900 cu. yds. struc. excav.;
- (3) 15,221 cu. yds. selected borrow excav. in place;
- (4) 82,882 yd. sta. overhaul;
- (5) 26.42 miles subgrade;
- (6) 63,300 cu. yds. crushed rock or crushed rock surf. in place;
- (7) 2,650 cu. yds. do. in stockpile;
- (8) 34 cu. yds. Class A concrete;
- (9) 547 cu. yds. Class B concrete;
- (10) 2,486 lin. ft. 18-in. Corru. metal pipe in place;
- (11) 2,354 lin. ft. 24-in. do.;
- (12) 1,922 lin. ft. 30-in. do.;
- (13) 1,266 lin. ft. 36-in. do.;
- (14) 230 lin. ft. 48-in. do.;
- (15) 270 cu. yds. rip rap;
- (16) 37 cu. yds. cement grouted rock;
- (17) 141 monuments;
- (18) construct timber bulkhead and backfill shaft;
- (19) 1 furnish and install post for F. L. marker;
- (20) 26.42 miles finish rdwy.;
- (21) 20,440 lbs. reinf. steel;

Specifications obtainable from above office on deposit of \$15, of which \$10 is returnable. Certified check 5% required with bid.

MONTREY COUNTY, Calif.—Until Sept. 21, 2 P. M., bids will be received by L. H. Gibson, District Engineer, State Highway Commission, 50 Higuera St., San Luis Obispo, for fuel oil to be applied to the roadbed be-

tween Rocky Creek and Divdte, 8.25 miles. Specifications obtainable from above office.

ELKO COUNTY, Nev.—Until Oct. 26 (approximate date) bids will be received by S. C. Durkee, State Highway Engineer, Carson City, for grading between Contact and eight miles north, approximately eight miles in length. Specifications will be ready about Oct. 10 at above office, and may be secured after above-mentioned date on deposit of \$15, of which \$10 is returnable. Certified check 5% required with bid.

MENDOCINO COUNTY, Calif.—A. Teichert & Son, P. O. Box 1118, Sacramento, at \$78,943.75 awarded contract by State Highway Commission, to grade and surface with crusher run base about 1.8 miles and to surface with untreated crushed gravel or stone about 4.5 miles bet. Little Dann Creek and Heagsnes, about 6.3 miles.

PALO ALTO, Santa Clara Co., Cal.—Biazzi & Greene, San Jose, at \$3,459.83 awarded contract by Board of Education, Palo Alto, to pave portions of Dana and Center Streets, involving:

- (1) 19,450 sq. ft. grading;
- (2) 38,655 sq. ft. 6-in. conc. pave.;
- (3) 305 lin. ft. type A concrete curb;
- (4) 690 lin. ft. type B do.

Following is a complete list of bids: Biazzi & Greene, San Jose.....\$3,459.83
W. A. Dontanville, Salinas.....3,623.65
Periola & Palermo.....3,862.95
City estimate.....3,650.28

LOS ANGELES CO., Calif.—Southwest Paving Co., 711 Lankershim Bldg., Los Angeles, at \$2,720 awarded contract by State Highway Commission, for treating with fuel oil four miles of shoulders bet. Washington Blvd. and El Segundo, involving (1) 2,000 barrels, heavy fuel oil in place.

COCONINO COUNTY, Ariz.—Until Sept. 27, 10 A. M., bids will be received by the U. S. Bureau of Public Roads, 802 Title and Trust Building, Phoenix, Ariz., for 6.693 miles grading, a portion of Section J of Route 12, Globe-Holbrook National Forest Highway in Coconino and Tonto National Forests, involving:

- (1) 43 acres clearing;
- (2) 7,500 cu. yds. unclass. excav. for structures;
- (3) 170 cu. yds. unclass. excav. for structures;
- (4) 34,000 cu. yds. borrow;
- (5) 35,000 sta. yds. overhaul;
- (6) 8.693 miles finish earth graded rd.
- (7) 11 cu. yds. cement rubble masonry;
- (8) 1,080 lin. ft. corru. metal pipe;
- (9) 9,200 lin. ft. protection ditch;
- (10) 1 cattle guard.

Plans obtainable from C. H. Sweetser, district engineer, 802 Title and Trust Bldg., Phoenix, on deposit of \$10, returnable, checks for same to be made payable to Regional Fiscal Agent U. S. Forest Service.

REDWOOD CITY, San Mateo Co., Cal.—Unity Surveyor Jas. S. James, in a report to the county supervisors, estimates cost of rebuilding the five-mile La Honda Road at \$180,000. The county planning commission has approved the proposed reconstruction program.

ESMERALDA AND NYE Counties, Nev.—Until Oct. 26 (approximate date) bids will be received by S. C. Durkee, State Highway Engineer, Carson City, for grading and gravel surfacing between Miller's Cut-Off Road and Tonopah, approximately 10 miles in length. Specifications will be ready about Oc-

tober 10 at above office, and may be secured after above-mentioned date on deposit of \$15, of which \$10 is returnable. Certified check 5% required with bid.

ARIZONA STATE—O. F. Fisher Co. 516 S. 7th St., Phoenix, submitted low bid to State Highway Commission, August 31, at \$28,372.33 for highway construction on the Ashfork-Flagstaff Highway, F, A, 89-F. The work, which begins at the end of the pavement on Williams Ave. near First St. in the town of Williams and extends easterly approximately 1 1/4 miles, consists of the grading, draining and placing of subgrade stabilizer.

ARIZONA STATE—L. E. Dixon Co. 609 S. Grand Ave., Los Angeles, submitted low bid to the State Highway Commission August 31 at \$248,757.85, for highway construction on the Globe-Showlow Highway, E-99-C. The work, which is located approximately 1 1/4 miles northeast of Globe, extends northeast about 5 1/2 miles to Seven Mile Draw, consists of the grading and draining of the project.

ARIZONA STATE—New Mexico Const. Co., Denver, Colo., submitted low bid to State Highway Commission on Aug. 31, at \$118,691.04, for highway construction on the Ashfork-Flagstaff Highway, E-89-D & E, Reo. The work, which begins approximately one mile east of Williams, extends easterly approximately 16.8 miles, consists of the placing of subgrade stabilizer and oil processing by the plant mix method.

ARIZONA STATE—Phoenix-Tempe Stone Co., Box 1645, Phoenix, submitted low bid to State Highway Commission Aug. 31, at \$55,152.85, for highway construction on the Phoenix-Tempe Highway, E-2-A, Reo, and E-30 Reo. The work, which begins at 24th St., and extends easterly 2 1/2 miles to the Packing Plant, consists of placing a 6-in. gravel base and widening the existing road. Quantities involved published in issue of Aug. 25.

ARIZONA STATE—Ralph Pleasant Co., 200 Luhrs Bldg., Phoenix, submitted low bid to State Highway Commission on Aug. 31, at \$53,594.77, for highway construction in the Benson-Douglas Highway, E-79-G and Non F, A, Forton. The work, which begins approximately 18 miles south of Tombstone, and extends southeasterly about 6 miles including the Non F, A, portion, consists of oil processing by the road mix method. Quantities involved published in issue of August 23.

ARIZONA STATE—Lee Moor Construction Co., 1202 Bassett Tower Bldg., El Paso, submitted low bid to State Highway Commission Aug. 31, at \$19,763.14 for highway construction on the Blythe-Wickenburg Highway, E-98-H. The work begins at the east end of the Colorado River Bridge near Ehrenberg and extends easterly approximately five miles, consists of oil processing by the road mix method.

MODOC COUNTY, Cal.—Hemstreet & Bell, Marysville, awarded contract by U. S. Bureau of Public Roads, at \$109,827.25 for 26,077 miles placing crushed rock or crushed gravel base course on Section A of Route 11, Lava Beds National Forest Highway and on Secs. A and E of Rte. 12, Howard Gulch National Forest Highway, Modoc National Forest. Complete bids published in issue of August 19.

BUILDING NEWS

GOVERNMENT WORK AND SUPPLIES

LOS ANGELES COUNTY, Cal.—President Hoover has instructed the various government departments to proceed immediately with the expenditure of \$156,221,000 for construction projects throughout the country, following certification by the Secretary of the Treasury that the funds are now available. According to reports, the program will include the new federal office building to be constructed in Los Angeles at a cost of approximately \$5,850,000. The Treasury Department will announce this week a list of the building projects coming under its jurisdiction, scheduled to be undertaken at this time. John Parkinson and Donald B. Parkinson and John C. Austin and Frederic M. Ashley are the architects for Los Angeles' new federal office building.

SAN FRANCISCO—Until September 23, 11 A. M., bids will be received by Constructing Quartermaster, Fort Mason, for repairs to East and West Garrison Wharves at Fort McDowell. Plans obtainable from above.

SUNNYVALE, Santa Clara Co., Cal.—As previously reported, Warner Elev. Co., Cincinnati, Ohio, at \$9500 submitted low bid to Bureau of Yards and Docks to furnish and install passenger elevator at Sunnyvale Dirigible Base. Otis Elevator Co., Washington, D. C., only other bidder at \$11,674.

Plans Being Figured—Bids Close
October 5.
P. O. EXTENSION Cost, \$—
GREPLEY, Colorado.
Extend and remodel Post Office.
Owner—United States Government.
Plans by Supervising Architect, Treasury Dept., Washington, D. C.

Bids Wanted—To Close Oct. 20.
POST OFFICE Cost, \$195,000
MODESTO, Stanislaus Co., Cal. 12th and I Streets.

Two-story Class A masonry and steel post office (tile roof, steam heating system, hardwood and terrazzo floors, etc.)

Owner—United States Government.
Plans by Supervising Architect, Treasury Dept., Washington, D. C.

SAN DIEGO, Cal.—Until September 22, 11 A. M., under Specification No. 6959, bids will be received by Public Works Officer, Eleventh Naval District, San Diego, for painting exterior of buildings at Naval Radio Station, Chollas Heights, San Diego. The work consists of the provision of all materials for and the complete exterior painting of (a) six stucco quarters; (b) one stucco combined power house and operation building; (c) one stucco pump house; (d) one stucco garage; (e) one small stucco blower house; (f) one small concrete pump house, in connection with cooling tank; (g) two frame garages with ready roofing; (h) one frame garage with corrugated iron siding and ready roofing; (i) six corrugated iron buildings with pitched corrugated iron roof; (j) two small frame transformer houses with ready roofing; (k) concrete superstructure of cooling

tank; and (l) frame roof superstructure and cooling tank. Specifications obtainable from above on deposit of \$10, returnable, checks for same to be made payable to Chief of the Bureau of Yards and Docks.

SUNNYVALE, Santa Clara Co., Cal.—Until October 5, bids will be received by Bureau of Yards and Docks, Navy Department, Washington, D. C., for grading and graveling roads at the Naval Air Station, Sunnyvale. Plans obtainable from the Bureau at Washington and also from the offices of the Commandant, 12th Naval District, 100 Harrison St., San Francisco.

SUNNYVALE, Santa Clara Co., Cal.—Until 11 A. M., October 5, bids will be received by the Bureau of Yards & Docks, Navy Dept., Washington, D. C., to furnish and install wires, conduits, junction boxes, lighting fixtures, receptacles, power outlets, switches, circuit breakers, remote control stations, transformers, cutouts, potheads, distribution cabinets and all other equipment necessary for the systems at the Naval Air Station, Sunnyvale, under Spec. No. 7052. Plans obtainable from Bureau or Commandant, 12th Naval District, 100 Harrison St., San Francisco. Deposit of a check or postal money order for \$10, payable to the Chief of the Bureau of Yards & Docks required.

ALAMEDA, Alameda Co., Calif.—M. E. McGowan, 74 New Montgomery St., San Francisco, at \$29,985 was awarded contract by U. S. Bureau of Public Roads, for Type C piling and foundation work of 20-ft. capacity in connection with the erection of the following structures at Government Island, Alameda.

One-story concrete and hollow tile shop (120x72-ft.)

Two-story concrete and hollow tile storage depot (106x125-ft.)

One-story concrete and hollow tile forest service garage (175x125-ft.)

One-story concrete and hollow tile coast guard garage (64x27-ft.)

One-story concrete and hollow tile pump house (11x18-ft.)

BENICIA, Solano County, Cal.—Ray Burner Co., 401 Bernal St., San Francisco, at \$566 submitted low bid to the Commanding Officer, Benicia Arsenal, to furnish f.o.b. Benicia Arsenal, one oil burner, rotary type, and all material necessary for complete installation and operation of rotary oil burner of an approved commercial type, in the fire box of a 25-hp. marine type "Leffel" boiler. Burner to operate on 110-volt, 60-cycle single phase current.

Following is a complete list of bids:
Ray Burner Co., San Francisco.....\$566
Enterprise Oil Burner Co., S. F..... 637
T. J. Kennedy, Martinez..... 766
Simplex Oil Burner Co., Berkeley 835
Bids held under advisement.

SUNNYVALE, Santa Clara Co., Cal.—Until 11 A. M., Sept. 28, bids will be received by Bureau of Yards and Docks, Navy Department, Washington, D. C., for railroad tracks at the Naval Air Station, Sunnyvale, under Specifications No. 7038. Copies of the specifications may be obtained upon application of the Bureau or from the Commandant, 12th Naval District, 100 Harrison St., San Francisco, on de-

posit of a check or postal money order for \$10.

SUNNYVALE, Santa Clara Co., Cal.—Until 11 A. M., September 28, bids will be received by the Bureau of Yards and Docks, Navy Department, Washington, D. C., for concrete pavements, railroad tracks, metal clad partitions, and drainage, plumbing and heating, air conditioning, helium, and gasoline systems in the hangar; and one-story reinforced concrete gasoline pumping and ethylizing building and equipment at the Naval Air Station, Sunnyvale. Specification No. 6596 and drawings may be obtained on application to the Bureau or to the Commandant, 12th Naval District, 100 Harrison St., San Francisco, Calif. Deposit of a check or postal money order for \$25, payable to the Chief of the Bureau of Yards and Docks, is required for the plans.

MARYSVILLE, Yuba Co., Cal.—C. G. Payne Const. Co., 245 E 9th St., Los Angeles, desires bids on clearing right of way in connection with raising and strengthening an existing levee along east bank of the Feather River from the Lake of the Woods to Starr Bend. The project involves the moving of 475,000 cu. yds. of material. Bids for the work will be opened by the U. S. Engineer Office, California Fruit Bldg., Sacramento, Sept. 30, under Proposal No. 33-54, Spec. No. 4734.

SAN DIEGO, Cal.—Until Sept. 20, 11 A. M., under Spec. No. 6960, bids will be received by Public Works Officer, 11th Naval District, for dredging at Pier at Naval Operating Base (Air Station) San Diego, involving 6,400 cu. yds. Specifications obtainable from the above on deposit of \$10, returnable, checks for same to be made payable to Chief of the Bureau of Yards and Docks.

ALAMEDA, Alameda Co., Cal.—Until Sept. 28, 11 A. M., under Specifications No. 7, bids will be received by Constructing Quartermaster, Benton Field Air Depot, 38 Pacific Ave., Alameda, to construct a water supply system and sanitary sewer system at Benton Field Air Depot, Alameda. Specifications obtainable from above on deposit of \$10, certified check payable to Treasurer of the U. S. Proposal guarantee, 10%.

SALT LAKE CITY, Utah.—Until 2:30 P. M., Sept. 20, bids will be received by the Veterans' Administration, Arlington Bldg., Washington, D. C., for landscape planting at the Veterans' Administration Hospital, Salt Lake City.

OAKLAND, Cal.—Until September 30, 3 P. M., bids will be received by U. S. Engineer Office, Customhouse, San Francisco for removing the sunken and abandoned schooner-barge Simla, lying in Oakland Harbor. Previous bids rejected. See item under "Dredging, Harbor Work and Excavations," in this issue.

PASADENA, Cal.—Secretary of the Treasury Mills states that \$325,000 has been allocated for Pasadena's new federal building. It has not been determined whether the present federal building at E Colorado St. and Garfield Ave. will be enlarged or a separate post office auxiliary plant built.

SAN FRANCISCO.—General Engineering and Drydock Co., 1100 Sansome St., at \$34,500 awarded contract by Superintendent of Lighthouses for reconditioning boiler room and bunkers of Lightship No. 76 to provide for use of fuel oil and to furnish and install two water tube boilers with oil-burning equipment.

KLAMATH FALLS, Oregon.—Until Sept. 22, 2 P. M., bids will be received by the Treasury Department, Supervising Architect's Office, Washington, D. C., for furnishing insect screens in the post office at Klamath Falls. Specifications obtainable from Custodian of the building or from above office.

FORT LYON, Colo.—Morley Const. Co., 1643 Bellevue Ave., Kansas City, Mo., at \$334,500 submitted low bid to Veterans' Administration, Washington D. C., to erect Veterans' Administration Hospital at Fort Lyon, Colo., including main building and dining hall and attendants' quarters.

Plans Being Figured—Bids Close Oct. 11, 2:30 P. M.

STOREHOUSE Cost, \$—
ROSEBURG, Oregon.
Storehouse Building No. 13 at Veterans' Hospital.

Owner—United States Government.
Plans by Construction Division, U. S. Veterans' Bureau, Washington, D. C.

Bids are being received by the U. S. Veterans' Bureau, Arlington Bldg., Washington, D. C. This work will include excavating, road and pavement, grading and drainage, reinforced concrete, hollow tile, brick work, cut stone, cast stone, compressed asphalt tile, iron work, steel sash, steel shelving and partitions, shingle tile roofing, roof ventilators, metal lathing, plastering, carpentry, insect screens, glazing, painting, hardware, plumbing, heating, electrical work, and outside service connections, and such other items as shown or specified.

LOS ANGELES, Calif.—Allocation of \$3,850,000 for Los Angeles' new federal office building to be constructed at Main and Temple Sts., was announced in Washington this week by an inter-departmental board composed of President Hoover, Secretary of the Treasury Mills and Postmaster General Brown. The total amount to be expended for the structure is \$5,850,000, the balance to be provided later. This sum does not include the original appropriation of \$950,000 which was used for the purchase of the site and payment for preliminary surveys and sketches. John and Donald E. Parkinson, 308 Title Insurance Bldg., John C. Austin and Frederic M. Ashley, Chamber of Commerce Bldg., are the architects for the building.

Low Bidder.
POST OFFICE Cost, \$370,000
Mills, Washoe Co., Nevada. No. 21
Mill Street.
Three-story Class A Post Office (terra cotta and stone exterior finish marble corridors, etc.; 190x80 ft.)
Owner—United States Government.
Architect—F. J. DeLongchamps, Gazette Bldg., Reno.
Low Bidder—MacDonald Engineering Co., 1 La Salle St., Chicago, Ill., at \$339,683.

Second low bid was submitted by Jacobsen Constr. Co., Salt Lake City, Utah, at \$343,000.

Complete list of bids will be published shortly.

SOUTH SAN FRANCISCO, San Mateo Co., Cal.—Until October 12, 11 A. M., under Specification No. 7064, bids will be received by Public Works Officer, Mare Island Navy Yard, for water tank tower at U. S. Naval Direction Finder Station at South San Francisco. The work involves replacing the present wooden water tank tower and concrete foundations with a new steel tank tower and concrete foundations; repairing the present pump houses where they connect to tower; painting; disposing of old material and cleaning up the site. Plans obtainable from Commandant, Mare Island Navy Yard, on deposit of \$5, returnable, checks for same to be made payable to Chief of the Bureau of Yards and Docks.

Preparing Plans. Cost, \$60,000
QUARTERS Cost, \$60,000
SAN FRANCISCO, Presidio.

Four double sets of non-commissioned officers' quarters (brick construction, tile roof).

Owner—United States Government.
Plans by Constructing Quartermaster, Fort Mason.
Bids will be asked shortly.

Plans Being Completed.
FEDERAL BLDG. Total cost \$3,500,000
SAN FRANCISCO, Civic Center.

Six-story and basement reinforced concrete Federal office bldg. (granite exterior, terra cotta court lining, lead covered copper roofing, terrazzo and promenade tile flooring, mastic tile floors in offices, steam heat).

Owner—United States Government.
Architect—Arthur Brown, Jr., 251 Kearny Street.

Mechanical Engineer—Leland & Haley
58 Sutter Street.
Structural Engineer—C. H. Snyder,
251 Kearny Street.

Plans will be forwarded to Washington for approval about Oct. 1.

BALBOA, Canal Zone—Until Oct. 13, 11 A. M., bids will be received by Bureau of Yards and Docks, Navy Department, Washington, D. C., for five quarters; a transformer enclosure, and concrete roads, walks and gutters, at the Naval Station, Balboa, C. Z. The work includes concrete, hollow tile, steel and iron work, steel windows and all-metal screens, asbestos shingle roofing, stucco, interior work, wood framing and trim, plumbing, drainage, and electrical systems. Specification No. 6895 and accompanying drawings may be obtained on application to the Bureau or to the Commandant, Fifteenth Naval District, Balboa, Canal Zone. Deposit of a check or postal money order for \$25, payable to the Chief of the Bureau of Yards and Docks, is required as security for the safe return of the drawings and specifications.

HALLS AND SOCIETY BUILDINGS

Construction Postponed Indefinitely.
LODGE BLDG. Cost, \$23,000
PINOLE, Contra Costa Co., Cal.
Two-story Class C brick lodge building (50x100 ft.) tile, tar and gravel roof, hot air heating system, hardwood, linoleum and tile floors.
Owner—Pinole Lodge, F. & A. M.
Plans by Matanovich-Manov, 218-219 Fox Theatre Bldg., Oakland.

Bids Opened.
ALTERATIONS Cost, \$25,000
NAPA, Napa Co., Cal.
Alterations to second floor of Masonic

Temple (banquet facilities will be provided).
Owner—Masonic Hall Association.
Architect—Reed & Corlett, Oakland
Bank of Savings Bldg., Oakland.
Low Bidder—S. G. Johnson, 4652 Dolores St., Oakland.

Following is a complete list of bids:
S. G. Johnson, Oakland.....\$34,226
E. W. Doughty, Napa..... 35,181
R. W. Littlefield, Oakland..... 35,580
Kofield & Arnitz, Napa..... 35,786
Chas. Stockton & Sons, S. F..... 36,473
F. C. Stolte, Oakland..... 38,845
Bids held under advisement.

Complete Bid Listing.
ALTERATIONS Cost, \$25,000
NAPA, Napa Co., Cal.
Alterations to second floor of Masonic Temple (banquet facilities will be provided).

Owner—Masonic Hall Association.
Architect—Reed and Corlett, Oakland
Bank of Savings Bldg., Oakland.
Low Bidder—S. G. Johnson, 4652 Dolores St., Oakland.

Following is a complete list of bids:
S. J. Johnson, Oakland.....\$24,226
E. W. Doughty, Napa..... 24,826
N. J. Sjoberg & Sons, S. F..... 35,184
R. W. Littlefield, Oakland..... 35,580
Kofield & Arnitz, Napa..... 35,786
Chas. Stockton & Sons, S. F..... 36,473
F. C. Stolte, Oakland..... 38,845
Bids held under advisement.

HOSPITALS

RED BLUFF, Tehama Co., Cal.—Until September 19, 10 A. M., bids will be received by county supervisors to install new heating plant at county hospital. Plans will be housed in a separate structure and is estimated to cost \$2500. Plans on file in office of county clerk.

PHOENIX, Ariz.—Sam R. Jones, Box 889, R.F.D. 7, Phoenix, proposes erecting a sanatorium on a 160-acre tract near Cave Creek. Program calls for the construction of an administration building, 110 cottages, staff buildings and a school, costing approximately \$400,000. The project has not yet been financed.

POWER PLANTS

LOS ANGELES, Calif.—Until 11 A. M., Sept. 27 (time extended from Sept. 6) bids will be received by City Purchasing Agent, Thomas Oughton, 107 City Hall, for furnishing steam turbine electric generator unit f.o.b. cars (bidders to designate point) in accordance with Spec. No. 2827, obtainable at office of Purchasing Agent. Equipment is to be substantially of the following specifications: 81,250-k.v.a.; 65-60-k.w.; power factor 0.80; voltage, 13,800; phases, 3-Y conductors; 50 cycles.

LOS ANGELES, Calif.—Until 11 A. M., Sept. 27 (time extended from Sept. 6) bids will be received by City Purchasing Agent, Thomas Oughton, 107 City Hall, to furnish steam boiler equipment, Spec. No. 2826, as follows:
(1) furnish and erect at Wilmington, the first of two steam generating units and appurtenances of 1400 lbs. per sq. in. max. pressure, 1350 lbs. normal working pressure. Alt. bids will be taken on equipment of 480 lbs. max. pressure, 450 lbs. working pressure.

(2) Furnish and erect the second of two steam generating units, etc.
Spec. No. 2826 obtainable from the office of the Purchasing Agent.

PHOENIX, Ariz.—Construction of a municipal electric light and power plant for operation of the city street railway system and street lighting purposes, is to be considered at a conference September 14 between Phoenix officials, electrical technicians and contractors. Terms of the city's contract with the Central Arizona Light and Power company, of that company's franchise, and other legal technicalities are to be reported at the conference by L. C. McNabb, city attorney. A plan for financing the power project also is to be presented. Under estimates received by City Commissioner Kimball, electric power can be generated at a cost to the city of 7 mills per kilowatt hour, as compared to 1½ mills under the present power contract. On such a basis, it was said, power costs of operating the railway system could be cut from \$300 monthly to less than \$1500. Representatives of electrical supply houses, power experts and builders have been asked to the September 4 meeting.

LOS ANGELES, Cal.—The railroad commission has approved a contract between the Metropolitan District of Southern California, on the one hand, and the Southern California Edison Company, Ltd., Los Angeles Gas & Electric Corporation, and Southern Sierras Power Company, on the other hand. The contract approved by the Railroad Commission was consummated on July 20th and provides that the electric companies shall furnish power to be used in connection with the construction of the aqueduct of the Metropolitan District from the Colorado River to Los Angeles. The particular service covered by the agreement calls for supplying a maximum demand of 23,000 kilowatts at a substation within 50 miles transmission distance of Cajalco reservoir site; and also at the request of the district in additional 4000 kilowatts at the point specified. The contract calls for a bond of \$400,000 and covers a period of 5½ years. It is made contingent upon the valuation of the \$220,000,000 bond issue authorized at the election of September 29, 1931, and the sale of the bonds. Engineers of the Railroad Commission estimated that the power bill involved will approximate \$2,313,000.

LOS ANGELES, Cal.—Until 11 A. M. Sept. 23, bids will be received by Thos. Oughton, City Purchasing Agent, 107 City Hall, for furnishing distribution and small power transformers f.o.b. Dept. of Water and Power warehouse, 1630 N. Main St., Los Angeles, or f.o.b. cars Power Sp. No. 1 A, T. & S. F. Ry. and/or f.o.b. cars bidder's factory. Spec. No. 2903.

LOS ANGELES, Cal.—Until 2 P. M., Sept. 19, bids will be received by the County Supervisors for the installation of two steam generating units in the power house at the Los Angeles General Hospital, 1100 Mission Rd. The specifications provide for the furnishing and installing of two 500-hp. water-tube boilers designed for battery setting, including the burners, breeching, stack, piping, foundations and all appurtenances, including the removal of two 250-hp. Sterling boilers. Wm. Davidson, 1006 Hall of Records, County Mechanical Engineer, prepared the plans.

SIERRA MADRE Los Angeles Co., Cal.—City council has been asked by various civic organizations to au-

thorize E. S. Cogwell, vice-president of Utility Companies, Inc., San Francisco, to make a survey of Sierra Madre with the object of procuring data upon which to base the establishment of a \$250,000 municipal lighting plant.

PUBLIC BUILDINGS, FIRE HOUSES AND JAILS

Completing Preliminary Plans.
JAIL Cost, \$300,000.
SNEATH RANCH, San Mateo Co., Cal.
Six-story Class A reinforced concrete jail (156,000 sq. ft.)
Owner—City and County of San Francisco.
Architect—Albert E. Roller, Crocker First National Bank Bldg., San Francisco and Dodge A. Riedy, Pacific Bldg., associate architect.
Structural Engineer—H. J. Brunner, Sharon Bldg., San Francisco.
Preliminary plans will be completed in about three weeks.

SAN QUENTIN, Marin Co., Cal.—Judson Pacific Co., 609 Mission St., San Francisco, at \$33,173 awarded contract by State Purchasing Department for steel cells for jail at San Quentin.

RENO, Nevada.—City council has withdrawn a petition to the Reconstruction Finance Corporation for a loan of \$35,000 to finance construction of sewers and culverts and for renovating the city hall. The council has been informed that funds borrowed by municipalities cannot be used to purchase materials and carry on building projects.

Preparing Sketches.
ARMORY Cost, \$50,000.
SAN JOSE, Santa Clara Co., Calif.
One-story armory (probably reinforced concrete construction).
Owner—State of California.
Architect—George B. McDougall, state architect, Public Works Building, Sacramento.

SCHOOLS

Contracts Awarded.
SCHOOL Cost, \$230,000.
VALLEJO, Solano Co., Cal.
Two-story Junior High School (reinforced concrete exterior walls, fire resistant construction on interior, tile roof, maple floors in classrooms, linoleum in corridors, steam heating system with vacuum pump).
Owner—Vallejo Junior High School District, Elmer E. Cave, secretary Board of Education.
Architect—Frederick H. Reimers, 233 Post St., San Francisco.
Mechanical Engineer—R. L. St. John, 54 Market St., San Francisco.

Will contain thirty classrooms, auditorium, gymnasium, cafeteria, library, choral room, orchestra room, and shops. Auditorium to seat 1,000; locker accommodations for 1,000.

General Work

San Francisco Const. Co., 3159 Fillmore St., San Francisco, \$189,900.

Plumbing

Carl T. Doell, 467 21st St., Oakland, \$12,371.

Heating

Carpenter & Mendenhall, 907 Front St., Sacramento, \$29,957.

Painting

Patterson Brothers, 573 Santa Rosa Ave., Berkeley, \$7,680.

BANKS, STORES & OFFICES

Contract Awarded.
ALTERATIONS Cont. Price, \$61,700
BERKELEY, Alameda Co., Cal. SW Shattuck Ave. and Center St.
Remodel five-story Class A bank for stores and offices (move main entrance of office to Center Street, lower first floor convert bank quarters into retail store, general remodeling of basement, install passenger elevator and general remodeling of five stores).
Owner—American Trust Co., 464 California St., San Francisco (Mr. A. H. Herrmann in charge).
Architect—Jas. W. Plachek, Mercantile Bank Bldg., Berkeley.
Lessee—W. T. Grant Co., 1440 Broadway, New York City, New York.
Contractor—Viladsen Bros., 417 Market St., San Francisco.
Elevator—Otis Elevator Co., 1 Beach St., San Francisco.

Preliminary Plans Approved—Working Drawings Started.
JUNIOR HIGH SCHOOL \$325,000
SACRAMENTO, Sacramento Co., Cal.
Land Park Drive and Voltaire Way
Two-story Class C reinforced concrete and brick Junior High School (auditorium, gymnasium, etc.)
Owner—Sacramento Board of Education.
Architect—Harry J. Devine, California State Life Bldg., Sacramento.
Plans will be completed in about six weeks.

Preparing Sketches.
ADMINISTRATION BLDG. \$40,000
LOS ANGELES, Los Angeles Co., Cal.
Pepper Tree Lane.
Two-story administration building (tea garden, dining room, ticket offices, novelty shops, etc.); Spanish type.
Owner—Hollywood Bowl Association.
Architect—Rollin F. Pierson, 314 N. Beverly Drive, Beverly Hills.

WHARVES AND DOCKS

Plans Being Completed.
WHARF Cost, \$100,000
OAKLAND, Alameda Co., Cal. Foot of Kirkham Street.
Garbage wharf (160 feet long; wood construction, creosoted piling).
Owner—City of Oakland (Port Commission) G. E. Hegard, secretary, Grove Street Pier, Oakland.
Plans by Eng. Dept. of City Port Commission.
The Central Pacific, Southern Pacific and Western Pacific railroad companies have accepted the agreement of the City relative to the use of the railroad tracks in connection with this project. It is expected to ask bids for the construction within three weeks.

SAN FRANCISCO—Until September 23, 11 A. M. bids will be received by Constructing Quartermaster, Fort Mason, for repairs to East and West Garrison Wharves at Fort McDowell. Plans obtainable from above.

Plans Being Prepared.
WHARF REPAIRS Cost, \$17,500
RICHMOND, Contra Costa Co., Cal.
Onter Harbor Terminal No. 1.
Repairs to dock and foundations (repair piling, etc.)
Owner—City of Richmond.
Engineer—Edgar H. Hoffman, City Engineer, City Hall, Richmond.
Bids will be asked shortly.

MEMBERS OF THE ASSOCIATED GENERAL CONTRACTORS

PACIFIC COAST AND INTERMOUNTAIN TERRITORY

CALIFORNIA STATE BRANCH

1318 Pershing Square Bldg.—Trinity 9418—Los Angeles

O. C. STRUTHERS, President

E. L. KIER, Vice-President

GEORGE HERZ, Secretary

MELVILLE DOZIER, JR., Manager

NORTHERN CALIFORNIA CHAPTER

206 Sansome St.—Garfield 7107—San Francisco, Calif.

C. W. Wood, President

Geo. C. Pollock, Vice-President

Floyd O. Boos, Secretary-Manager

| | | |
|--|---|-------|
| Atkinson, Lynn S. (HPR)..... | Box 643, 354 Hobart St., Oakland, Glencourt | 5022 |
| Atkinson, Guy F., Co., Inc. (BHPR) 601 Russ Bldg., S. F., Sut. | 1316-17 Edwards & Wilbey Bldg., L. A., Tr. | 7451 |
| Ball, N. M. (HP)..... | 1889 Yosemite Rd., Berkeley, AS. | 6722 |
| Basalt Rock Co., Inc. (H)..... | 900 8th St., Napa, Napa | 105 |
| Bechtel Co., W. A. (BHPR)..... | 155 Sansome St., S. F., GA. | 0780 |
| Bevanda, M. J. (HP)..... | 319 Elks Bldg., S. F., CA. | 7470 |
| Bishop, E. B. (HP)..... | 900 Forum Bldg., Sacramento, Capitol | 2456 |
| Bodenhamer Const. Co. (HPR)..... | Box 643, 354 Hobart St., Oakland, Glencourt | 5022 |
| Calif. Const. Co. (BHPR)..... | 715 Standard Oil Bldg., S. F., DO. | 856 |
| Casson, Jack A. (HP)..... | Hayward, Cal. | 2903 |
| Clark & Henry Const. Co. (HP)..... | 564 Market St., S. F., DO. | 1323 |
| Colley, W. C. (HPR)..... | 35 Northampton Ave., Berkeley, Ash. | 137-M |
| Conner, J. L. (HP)..... | P. O. Box No. 86, Monterey | 6408 |
| Connolly, T. E. (HPR)..... | 461 Market St., S. F., KE. | 9391 |
| Conyes, R. A. (HPR)..... | 1043 38th St., Oakland, Olym. | 3497 |
| Currie, James (HPR)..... | 1100 Peninsula Ave., Burlingame, Burl. | 7107 |
| Delin, C. M. (HPR)..... | 206 Sansome St., San Francisco, Gar. | 161 |
| Dodge Bros., Inc. (HP)..... | 112 Market St., S. F., SU. | 441 |
| Drumm, A. D., Jr. (HP)..... | Fallon, Nevada, Main | 6700 |
| Eaton & Smith (HPR)..... | 715 Ocean Ave., San Francisco, DE. | 4306 |
| Fairbanks, A. J. & J. L., Inc. (HPR)..... | Linden Ave., So. S. F., | 6736 |
| Fay Improvement Co. (HPR)..... | 319 Elks Bldg., S. F., KE. | 2490 |
| Fitzmaurice, J. H. (HP)..... | 2857 Hannah St., Oakland, Higate | 9349 |
| Force Const. Co. (HP)..... | 70 Bellevue, Piedmont, Calif., HU. | 6684 |
| Franks Contracting Co. (RPW)..... | 260 California St., S. F., DOug. | 5974 |
| Fredericks & Watson Const. Co. (HPR)..... | First Natl. Bank Bldg., Stockton, | 1264 |
| French, George J., Jr. (HP)..... | 873 81st Ave., Oakland, SW. | 6676 |
| Gerwick, Ben C., Inc. (HP)..... | P. O. Box No. 675, Stockton, BE. | 988 |
| Graham Construction Co. (BHPR)..... | Watsonville, California, | 1639 |
| Granite Co. (HP)..... | Hobart Bldg., San Francisco, CA. | 1711 |
| Harney, Charles L. (HP)..... | 74 New Montgomery St., S. F., GA. | 6790 |
| Hauser, W. H. (HPR)..... | 3129 E. 7th St., Oakland, Fruitvale | 0466 |
| Healey-Moore Co. (HP)..... | 344 High St., Oakland, A.M. | 433 |
| Hemstreet & Bell (HP)..... | 411 "C" Street, Marysville, | 1717 |
| Heple, Earl W. (BHPR)..... | 494 Delmas Ave., San Jose, Calif. | 1826 |
| Hogman & MacVicar (HP)..... | 714 Plymouth, Pasadena, Tr. | 5400 |
| Holland, J. F., Inc. (HPR)..... | 1834 McKinnon Ave., S. F., MI. | 742 |
| Isbell Const. Co. (HP)..... | Carson City, Nev., P. 1754 (Also Fresno) | 1620 |
| Jenkins, M. A. (HP)..... | 3560 Y St., Sacramento, Capital | 1717 |
| Jones & King (HPR)..... | Hayward, Calif., Hay | 1806 |
| Kaiser Paving Co. (BHPR)..... | Latham Square Bldg., Oak., HI. | 1990 |
| Knapp, J. F. (HPR)..... | 916 Financial Center Bldg., Oak., LI. | 277 |
| Larsen Bros. (HP)..... | Galt, Calif. | 1806 |
| Lee, U. B. (HP)..... | 10055 Carpenter St., San Leandro, Sweet. | 1717 |
| LeTourneau, R. (HPR)..... | 1846 37th St., Oakland, S. F., DO. | 71 |
| Lord & Bishop (HPR)..... | Native Sons Bldg., Sacramento, Main | 1990 |
| Lovelace, Nate (HP)..... | 3433 "N" St., Sacramento, Capital | 277 |
| Malcom, C. T. (HPR)..... | 204 Walnut Creek, Calif., W. C. | 1806 |
| McDonald, D. (HPR)..... | 234 23rd St., Sacramento, P. | 2170 |
| McGillivray Const. Co. (HPR)..... | Box 927, Sacramento, Capital | 3876 |
| McMillan, W. K. (HP)..... | 2088 Howard St., San Francisco, MA. | 808 |
| Mercer-Fraser Co. (BHPR)..... | Eureka, Eureka | 5291 |
| Nevada Contracting Co. (HP)..... | Phon., Nevada, Reno | 5291 |
| Nevada Rock & Sand Co. (HP)..... | Reno, Nevada, Reno | 5291 |
| Nightbert, Fred W. (HP)..... | No. 10 "H" St., Bakersfield | 4178 |
| Pacific Pavements Co., Ltd. (HP)..... | 85 Barstow St., S. F., HE. | 5473 |
| Teisich, A., Sec. Inc. (HP)..... | Cal. Bldg. Co., D.J. | 4471 |
| Phillips, John, Co. (HP)..... | 582 Market St., San Francisco, KE. | 1457 |
| Pollock, Geo. C. (HPR)..... | P. O. Box 903, Sacramento, Mod. | 921 |
| Rohl, H. W., Co. (HPR)..... | 4351 Alhambra Ave., Los Angeles, CH. | 6141 |
| Six Companies, Inc. (BHPR)..... | Financial Center Bldg., S. F., DO. | 6072 |
| Siems-Helmers, Inc. (BHPR)..... | 206 Sansome St., S. F., DA. | 5235 |
| Skels & Graham Co. (HPR)..... | P. O. Box 576, Roseville, Calif. | 461 |
| Tedford, J. N. (HP)..... | Fallon, Nevada, Main | 6586 |
| Teichert, A., Sec. Inc. (HP)..... | Cal., Sacramento, Main | 8635 |
| Tieslar Bros. (HP)..... | 2819 Grove St., Berkeley, BE. | 7583 |
| Tucker, H. V., Co. (HP)..... | 300 Vermont St., S. F., MA. | 921 |
| Ulrich Const. Co., Geo. J. (BHP)..... | Modesto, Modesto | 921 |
| Von der Hellen & Pierschke (HPR)..... | Modesto, Modesto | 921 |
| Ward Engineering Co. (HP)..... | 315 Montgomery St., S. F., DO. | 8743 |
| Wood, C. W. (HP)..... | P. O. Box 1435, Stockton, OL. | 3743 |
| Young, Clarence (HP)..... | 5250 Broadway Ter., Oakland, OL. | 5551 |
| Young & Son Co., Ltd. (HP)..... | 599 Colusa Ave., Berkeley, Berk | |

Associate Members

| | | |
|---|--|------|
| American Bitumuls Co. (Bitumuls)..... | 200 Bush St., S. F., CA. | 6653 |
| Anderson Bros. Supply Co. (Commissary)..... | Boulder City, Nev. | 7712 |
| Andrews, F. T., Co. (C. P. A.)..... | 1650 Russ Bldg., S. F., GA. | 4800 |
| Associated Oil Co. (Asso. Prod.)..... | 79 N. Mont'y St., S. F., KE. | 1730 |
| Austin Western Road Machinery Co. (Road Machinery)..... | 435 Brannan St., San Francisco, DO. | 3700 |
| Autocar Sales & Service Co. (Autocar Trucks)..... | 326 Howard, San Francisco, SU. | 5220 |
| Bacon, Edward R., Co. (Road Machinery)..... | Folsom and 17th Sts., San Francisco, HE. | 4224 |
| Blake Bros. Co. (Crushed Rock)..... | Balboa Bldg., S. F., KE. | 988 |
| Calavera Cement Co. (Cement)..... | 315 Montgomery, San Francisco, DO. | 2313 |
| California Corrugated Culvert Co. (Corrugated Pipe)..... | 5th & Parker, West Berkeley, BE. | 8306 |
| Cement Gun Construction Co. (Gunite)..... | 35 Second St., San Francisco, SU. | 3400 |
| Contractors' Ins. Agency (Insurance)..... | 206 Sansome, S. F., SU. | 4870 |
| Cowell Lime & Cement Co. (Cement)..... | 2 Market St., S. F., GA. | 1898 |
| Geiger Iron Works (Equip.)..... | P. O. Box 423, Stockton, Stock. | 988 |
| Granite Rock Co. (Crushed Rock)..... | Watsonville, Wat. | 3740 |
| Harneschfer Sales Corp. (Equip.)..... | 82 Beale St., S. F., DO. | 6400 |
| Harron, Rickard & McCone Co. (Equip.)..... | 1600 Bryant St., San Francisco, UN. | 7493 |
| Link-Belt Co. (Equip.)..... | 400 Peir A. Bldg., San Francisco, DE. | 1402 |
| Marion Steam Shovel Co. (Power Shovels)..... | 784 Howard St., S. F., SU. | 1205 |
| Modern Vehicle Co. (Mfrs. Steel Dump Bodies)..... | 371 Howard St., San Francisco, KE. | 7053 |
| Murray & Reed (Labor Agency)..... | 4th St., San Francisco, GA. | 8940 |
| Northwest Engineering Co. (Shovels)..... | 23 Main St., S. F., SU. | 1322 |
| Pacific Coast Aggregates..... | 700 Wells Fargo Bldg., S. F., SU. | 6683 |
| Pacific Coast Engineering Co. (Structural Steel)..... | Foot of W. 4th St., Oakland, HI. | 4100 |
| Pacific H. B. A. Steel Co. (In. Drill Steel)..... | 540 Brannan St., San Francisco, GA. | 4100 |
| Pacific Portland Cement Co. (Golden Gate)..... | Hunter-Dulin Bldg., San Francisco, CA. | 5291 |
| Pland-Evans (Commissary)..... | Merchants' Ex. Bldg., S. F., GA. | 1730 |
| Robinson Tractor Co. (Caterpillar Tractors)..... | 1705-06 E. 12th St., Oakland, FR. | 2485 |
| Roebing's, Jno. A. Sons Co. (Wire Rope)..... | 17 Howard St., San Francisco | 6490 |
| Santa Cruz Portland Cement Co. (Santa Cruz)..... | 646 Folsom St., San Francisco, GA. | 3307 |
| Shell Oil Co. (Shell Products)..... | 100 Bush St., S. F., EX. | 4141 |
| Soule Steel Co. (Reinforcing Steel)..... | 1750 Army St., S. F., VA. | 4100 |
| Spears-Wellis Machinery Co. (Equip.)..... | 1832 9th St., Oak., HU. | 7700 |
| Standard Oil Co. of Calif. (Standard Products)..... | Standard Oil Bldg., San Francisco, SU. | 6194 |
| Traffic Service Bureau (Freight Audits)..... | 24 Calif. St., S. F., GA. | 1400 |
| Union Oil Co. of Calif. (Union Prod.) Mills Bldg., S. F., SU. | 234 Steuart St., S. F., CA. | 6788 |
| United Commercial Co., Inc. (Equip.)..... | 234 Steuart St., S. F., CA. | |
| Western Pipe & Steel Co. (Steel Pipe)..... | 444 Market, S. F., GA. | |

SOUTHERN CALIFORNIA CHAPTER

1318 Pershing Square Bldg.—Trinity 9418
Los Angeles, Calif.

C. C. FitzGerald, President
LYNN S. ATKINSON, First Vice-President (Engineering Div.)
WM. A. SIMPSON, Second Vice-President (Building Div.)

The address of the firm is the same city in which is located the Chapter office unless otherwise shown in membership list.

Building Contractors

| | | |
|-------------------------------|--------------------------------------|------|
| Atkinson, J. F..... | 1102 Story Bldg., Vandike | 7783 |
| Baruch Corp., Herbert M..... | 1015 Lincoln Bldg., Trinity | 5473 |
| Bradley Const. Co., K. R..... | 1833 West Pico, Washington | 2106 |
| Burgin, W. Jay..... | 1100 Redondo Ave., Long Beach, L. B. | 8103 |
| Byerts & Dunn..... | 7908 Santa Monica Blvd., Crestview | 9602 |
| Clinton Construction Co..... | 1103 Spring Arcade Bldg., Madison | 2597 |
| Crowell, Wm. C..... | 495 S. Bdwy., Pasadena, WAKEfield | 6692 |
| Crowell Co., Weymouth..... | 2104 E. 15th Ave., Westminster | 5708 |
| DeCamp-Hudson Co., Ltd..... | 277 W. 24th St., Westminster | 3382 |
| Dixon, L. E., Co..... | 609 So. Grand Ave., Trinity | 4925 |
| Escherich Bros..... | 234 W. 37th Place, Adams | 6294 |

Class of Construction: (B) Building; (H) Highway; (P) Public Works; (R) Railroad.

| | | | |
|--------------------------|---------------------------|----------------|-------------|
| Hall, J. F. | 531 Douglas Bldg., | MUtal | 6722 |
| Houghton & Anderson | 143 Rose St., | MUtal | 5430 |
| K. F. Lowell & Co., Ltd. | 606 Union Bank Bldg., | VAndike | 4072 |
| Macdonald & Driver | 311 Board of Trade Bldg., | TUcker | 6467 |
| McKee, Robert E. | 1128 Central Bldg., | TRinity | 0291 |
| Miller, Geo. E. | 401 N. Canon Dr., | B. H., | OXford 7404 |
| Simpson Construction Co. | 1007 Architects Bldg., | MUtal | 7261 |
| Snell, Fred L. | 339 N. Beverly Dr., | Beverly Hills, | OXford 6409 |
| Willard-Brent Co. | 254 E. 27th St., | Richmond | 2101 |

Bridges, Foundations

| | | | |
|---------------------------|-------------------------|---------|-------|
| Ledbetter Co., W. M. | Box 1264, Arcade St., | CApitol | 13415 |
| Rogey Brothers | 707 San Fernando Bldg., | ANGelus | 8759 |
| Raymond Concrete Pile Co. | 1008 Washington Bldg., | VAndike | 6536 |

Highways, Paving, Grading

| | | |
|----------------------------|-----------------------------|-----------------------------|
| Basich Bros. | Torrance, Gardena | 446 |
| Bock, Geo. J. | 1007 S. Harvard, | EMpire 7614 |
| Donovan & Sons, J. G. | 4031 Goodwin Ave., | OLympic 0423 |
| Ferry, Peter L. | San Fernando Rd. and Bdwy., | Glendale, CL 0164 |
| Fleming Construction Co. | Pomona | |
| Griffith Company | L. A. Railway Bldg., | Westmore 9343 |
| Hall-Johnson Co. | P. O. Box 387, Alhambra, | Eliot 1855 |
| Herz & Co., Geo. | 310 Platte Bldg., | San Bernardino, S. B. 24142 |
| Heuser, Chas. U. | 316 Allen Ave., | Glendale, DOuglas 3963 |
| Hudson, Chas. U. | 408 Rives-Strong Bldg., | VAndike 3374 |
| Jahn & Bressi | 701 Lane Mortgage Bldg., | TRinity 8674 |
| Lang Transportation Co. | 5501 Santa Fe Ave., | JEfferson 3104 |
| Lewis Construction Co. | 300 S. Juanita St., | Washingt 1407 |
| Packard & Tanner | 905 W. LaBram St., | PHoenix 4137 |
| Pearson & Dickerson | 4485 Cypress, Riverside, | 1600 |
| Ross, M. S. | 4011 Goodwin Ave., | CApitol 7603 |
| Wells & Bressler | P. O. Box 596, Santa Ana, | 227 |
| Willis, C. G. & Sons, Inc. | 2119 E. 25th St., | LAfayette 9826 |

Pipe Lines, Water Works

| | | |
|----------------------------|------------------------------|---------------|
| American Concrete Pipe Co. | P. O. Box 1428, Arcade Sta., | JE 4211 |
| Haverty Co., Thos. | 316 E. 8th St., | VAndike 1171 |
| United Concrete Pipe Co. | Box 1, Station H, L. A., | TWinoaks 9196 |

Subways, Conduits

| | |
|------------------------|-----------------------|
| Delta Construction Co. | P. O. Box 79, Compton |
|------------------------|-----------------------|

General Engineering

| | | |
|--------------------------------|-----------------------------|---------------|
| Atkinson, Lynn S. | 609 S. Grand, | TRinity 7451 |
| Eartmus, Peter | Hollywood Riva, Redondo, | 6404 |
| Bent Bros, Inc. | 418 S. Pecan S., | ANGelus 7510 |
| Campbell-Reichert Co. | 4000 Whiteside Ave., | ANGelus 0598 |
| Cox, R. L. | 1100 Westminster, | Alhambra 1699 |
| Emasco Conc. Cutting Corp. | 1517 Santa Fe Ave., | VAndike 7168 |
| Fitz-Gerald Eng. & Constr. Co. | 216 Rowan Bldg., | TRinity 5088 |
| Foley, D. A., Construc. Co. | 716 Grant Bldg., | TUcker 7814 |
| Kemper Const. Co., Ltd. | 3701 Overland, | Los Angeles |
| Maeco Construction Co. | Hynes, JEfferson | 1148 |
| Merritt-Chapman-Scott Corp. | P. O. Box 507, San Pedro, | 2880 |
| Mitty Bros. Construction Co. | 722 Detwiler Bldg., | VAndike 0210 |
| Morrison-Knudsen Co. | 411 West Fifth St., | MUtal 7684 |
| Robinson-Roberts Co. | 706 Rives-Strong Bldg., | TRinity 2889 |
| Spicer, C. A. | 818 Financial Center Bldg., | TUcker 9570 |
| Standard Redging Co. | 325 Central Bldg., | TRinity 3253 |
| Watson, R. A. | 1026 N. McCadden Pl., | GRanite 4121 |

Affiliates

| | | |
|------------------------------|--------------------------------|-------------------------|
| Brashears & Co., C. | 501 Security Bldg., | TRinity 5091 |
| Consolidated Rock Prod. Co. | S. Los Angeles St., | TRinity 0241 |
| Gilmore Oil Co. | 2423 E. 28th St., | JEfferson 1211 |
| Graham Brothers | 1215 W. 7th St., | Long Beach, L. B. 65251 |
| Hartford Accident & Ind. Co. | 548 S. Spring St., | MAdison 1471 |
| L. A. Brick Co. | 18 Mission Road, | ANGelus 5684 |
| Sun Lumber Co. | Crescent Drive, Beverly Hills, | OXford 6191 |
| Union Oil Co. | Union Oil Bldg., | TUcker 7211 |

JAS. MURDOCK, President
J. C. COMPTON, Vice-President

H. V. BOGERT, Rec. Secretary

J. B. WARRACK, Treasurer
P. L. CROOKS, Vice-Pres. and Secretary

PORTLAND CHAPTER

Multnomah Hotel—Atwater 7883—Portland, Ore.

Paul L. Crooks, President Philip Hart, 2nd Vice-President
Ross B. Hammond, 1st Vice-President J. A. Lyons, Treasurer
G. B. Herington, Executive Secretary

| | | |
|--------------------------------|-------------------|-----------|
| Baker Construction Co. (B) | Security Bldg., | Atw. 9211 |
| Christensen, Fred, Inc. (BHP) | 187 E. 34th St., | Ea. 8934 |
| Cochrane Construction Co. (HP) | 65th & Ainsworth, | Tr. 5944 |

Class of Construction: (B) BUILDING; (H) HIGHWAY; (P) PUBLIC WORKS; (R) RAILROAD.

ALAMEDA COUNTY CHAPTER

354 Hobart St., Rm. 410—Glencourt 7400—Oakland, Calif.

S. G. Johnson, President H. J. Christensen, Treasurer
Geo. J. Maurer, Vice-President W. E. Hague, Manager

| | | |
|---------------------------|------------------------|-----------------------|
| Brennan, J. P. (B) | 2820 Regent, Berkeley, | BE. 0346 |
| Christensen, H. J. (B) | 1924 Broadway, | Oakland, LA. 7164 |
| DeVelbiss, C. Dudley (B) | 369 Pine St., | S. F., GA. 3225 |
| Dyer Construction (B) | 337 17th St., | Oakland, GL. 3203 |
| Furlong, Thos. H. L. (B) | 460 Jerome Ave., | Piedmont, HU. 0620 |
| Jacobs & Pattiani (BP) | 337 17th St., | Oakland, GL. 3203 |
| Johnson, S. G. (B) | 4652 Dolores Ave., | Oakland, FR. 6650 |
| Keating, W. C. (B) | 925 Forum Bldg., | Sacramento |
| Lesure, E. T. (B) | 87 Rosa Circle, | Oakland, OL. 0389 |
| Littlefield, R. W. (B) | 337 17th St., | Oakland, HI. 0994 |
| Lyons, W. E. (B) | 354 Hobart St., | Oakland, HO. 5325 |
| Maurer, George J. Co. (B) | 50 York Drive, | Oakland, HU. 3457 |
| Nordstrom, David H. (B) | 354 Hobart St., | Oakland, HU. 7400 |
| Pedgrift, James H. (B) | 4106 Broadway, | Oakland, HU. 1300 |
| Petersen, George (B) | 1841 Bancroft, | San Leandro, TR. 2043 |
| Petersen, James B. (B) | 4021 Java Vista, | Oakland, FR. 9887 |
| Schultz, Herbert (B) | 811 Mendocino, | Berkeley, AS. 2360 |
| Sullivan & Sullivan (B) | 2653 Best Ave., | Oakland, AN. 4724 |
| Thornally, W. C. (B) | 354 Hobart St., | Oakland, GL. 8476 |
| Westlund, Fred J. (B) | 354 Hobart St., | Oakland, GL. 7400 |

Associate Members

| | | |
|---------------------------------|-----------------------------|-------------------------|
| Calaveras Cement Co. | 315 Montgomery St., | San Francisco |
| Cowell, Henry, Lime & Cemt. Co. | 81 Franklin St., | Oakland, HI. 3398 |
| East Bay Glass Co. | 621 Sixth St., | Oakland |
| Lannon Bros. Mig. Co. | Fifth and Magnolia Sts., | Oakland |
| Maxwell Hardware Co. | 1320 Washington St., | Oakland |
| Melrose Building Materials Co. | 4591 Tidewater Ave., | Oakland |
| Oakland Planning Mill. | Second and Washington Sts., | Oakland |
| Pacific Portland Cement Co. | 111 Sutter, | San Francisco, CA. 4100 |
| Santa Cruz Portland Cement Co. | 354 Hobart St., | Oakland |
| Sunset Lumber Co. | 400 High St., | Oakland |
| Tilden Lumber Co. | Foot of University Ave., | Berkeley |

SAN DIEGO CHAPTER

Spreckels Theater Bldg.—Main 4289—San Diego, Calif.

George R. Dalry, President M. A. Mathias, Manager
M. H. Golden, Vice-President

| | | |
|--------------------------------|------------------------------|------------------|
| Carroll, B. G. | 4396 Maryland St., | Hillcrest 5274-M |
| Daley Corporation (HP) | 4430 Boundary St., | Randolph 1136 |
| Dennis Constr. Co., V. R. (HP) | Box 183, Sta. A, | Hillcrest 8293 |
| Ford, E. Paul (HP) | Box 201, E. San Diego, | Randolph 5101 |
| Golden, M. H. (B) | 404 California Bank Bldg., | Franklin 7983 |
| Grove, Cecil B. | 4316 Island Ave., | Franklin 7474 |
| Hazard Constr. Co., R. E. (HP) | 2508 Kettner Blvd., | Franklin 6315 |
| Jarboe Constr. Co. (B) | 208 Spreckels Theatre Bldg., | Franklin 3792 |
| Kier Const. Co., W. E. (B) | First National Bank Bldg., | Main 2427 |
| Larsen, B. O. (B) | 1340 E. St., | Main 4752 |
| Miracle Constr. Co. (HP) | Box 601, E. San Diego, | Main 2295 |
| Penick & Sons, T. B. (HP) | 3075 L St., | Main 4582 |

PACIFIC NORTHWEST BRANCH

4134 Arcade Building, Seattle, Wash.

| | | |
|-------------------------------------|----------------------------|--------------|
| Compton, J. C. (HP) | McMinnville, Ore., | McM. 106 |
| Crooks, P. L., Inc. (HPR) | Henry Bldg., | Atw. 7767 |
| Dann, J. J. (PHR) | 300 Henry Bldg., | Atw. 5837 |
| Edlefsen-Weygandt Co. (HP) | Foot of Jefferson, | Atwater 4090 |
| Endicott, Wm. | Corvallis, Oregon | |
| Gates, E. L. (HPR) | Eugene, Oregon | |
| Gilpin Construction Co. (HPR) | Henry Bldg., | Atw. 6220 |
| Greenwood, A. C. (HPR) | 500 N. Front St., | Br. 3030 |
| Guthrie & Co., A., Inc. (BPHR) | 552 Sherlock Bldg., | Atw. 8316 |
| Hammond, Ross B. (B) | 1312 Public Service Bldg., | Atw. 2159 |
| Hauser Bros. Construction Co. (PHR) | Multnomah Hotel, | Atw. 7441 |

| | |
|--------------------------------|---|
| Hoffman, L. H. (BP) | Public Service Bldg., Atw. 3181 |
| Jacobsen-Jensen Co. (PH) | 407 Stanton, Gar. 3313 |
| Johnson Contract Co. (HPR) | 414 Exchange Bldg., Atw. 0678 |
| Johnson-Gardner Co. (HPR) | 414 Exchange Bldg., Atw. 0678 |
| Kern & Kibbe (HPR) | 290 E. Salmon St., Ea. 4116 |
| Kernan, F. J. | Porter Bldg., At. 2055 |
| La Pointe Constr Co. | 1291 Cumberland Rd., Be. 6000 |
| Lindstrom & Felgenson (BPHR) | 1991 Halsey St., Ta. 9226 |
| Lyons, J. A. (BPHR) | 1001 Halsey St., Tr. 2841 |
| Milne Constr. Co. | 1853 E. Broadway, Tab. 7277 |
| Morrison & Knudsen (BHPR) | 319 Broadway, Boise, Idaho |
| Morgan, T. M. (H) | 5410 Wilshire Blvd., Los Angeles |
| Newport Construction Co. (PHR) | 317 Exchange Bldg., Atw. 5900 |
| Pacific Bridge Co. (BPHR) | Ft. of E. Salmon St., Ea. 2164 |
| Parker & Banfield (BP) | 984 E. 17th St., Sel. 6182 |
| Parker-Schram Co. (PHR) | Couch Bldg., Atw. 4375 |
| Peck, E. C. & Co. (PH) | Aberdeen, Wash. |
| Puckett, W. H. Co. (PHR) | 319 Broadway, Boise, Idaho |
| Quinn, J. L. (B) | Box 1109, Klamath Falls, Ore. |
| Rebman, J. (PH) | 343 Vancouver Ave., Tr. 7825 |
| Robertson, Hay & Wallace (B) | 6055 Wetherly Bldg., Ea. 3613 |
| *Saxton & Looney | Corvallis, Ore. |
| Seed, John S. (B) | 201 Worcester Bldg., Atw. 6444 |
| | Honorary Member and Director of Chapter |
| Shea & Co., J. F. (PHR) | 211 Henry Bldg., Atw. 2435 |
| Sullivan & Doyle (PHR) | Ft. of Curry St., Atw. 5297 |
| | Box 104, Portland, Ore. |
| United Contracting Co. (BPHR) | 309-10 Stock Ex. Bldg., Atw. 5296 |
| von der Hellen & Pierson (HR) | Naches, Wash. |
| White, Ernest & Co. (B) | Twin Falls, Idaho |
| Wren & Greenough (PHR) | 1037 Com. Bldg., At. 9882 |
| Wright Constr. Co. (BPH) | Aberdeen, Wash. |
| Young, I. L. (BPH) | 524 Henry Bldg., At. 0297 |

Associate Members Portland Chapter

| | |
|-------------------------------------|----------------------------------|
| Balzer Machinery Co. | 275 Pine St., Atw. 9391 |
| Beall Pipe & Tank Co. | 85 Columbia Blvd., Wa. 3171 |
| Clyde Equipment Co. | 555 Thurman St., Br. 5561 |
| Collins Concrete Pipe Co. | 410 River St., Wa. 7670 |
| Fenaughty Machinery Co. | 309 E. Yamhill, Ea. 2187 |
| Grand Sheet Metal Works. | 60 E. Third N., Ea. 2181 |
| Latture, J. L. Equip. Co. | 312-314 E. Madison St., Ea. 8166 |
| Loggers & Contractors Machy. Co. | 345 E. Madison St., Ea. 4128 |
| Metropolitan Casualty Ins. Co., The | Wilcox Bldg., Atw. 7521 |
| National Hospital Assn. | 400 Mohawk Bldg., Atw. 5291 |
| Oregon Portland Cement | 321 E. Madison, Ea. 3191 |
| Phoenix Iron Works | 360 Hawthorne, Ea. 0029 |
| Pomeroy, J. H. & Co. | Box 48, Seattle, Wash. |
| Pure Iron Culvert & Mfg. Co. | 763 Gladstone, Sel. 2275 |
| Santa Cruz Portland Cement | 45 Fourth St., Ea. 9848 |
| Standard Oil Co. | Pacific Bldg., Bea. 4161 |
| Swigert, Hart & Yett. | Ft. of E. Salmon St., Lan. 1125 |
| Union Oil Co. of California | Yeon Bldg., Atw. 9521 |
| Wallace Bridge & Structural Steel | P. O. Box 48, Seattle, Wash. |
| Shell Oil Co. | Commerce Bldg., At. 7321 |

SPOKANE CHAPTER

West 515 First Avenue—Main 6822—Spokane

| | |
|-------------------------------|--------------------------------|
| Max J. Kuney, President | I. G. Anderson, Vice-President |
| Nick Norman, Vice-President | Dan Hannab, Secty.-Treas. |
| Alloway & Georg (B) | Hutton Bldg. |
| Auld & Shinn (B) | 1121 Indiana |
| Burmette, C. A. (H) | 1118 Ide Ave. |
| Byers, W. A. (H) | W. 1204 Mansfield |
| Clifton & Applegate (HPR) | Hutton Bldg. |
| Collins, J. H. & Co. (H) | Colville, Wash. |
| Colonial Building Co. (BH) | Hutton Bldg. |
| Crick, James (H) | Realty Bldg. |
| Degerstrom, N. A. (HPR) | Peyton Bldg. |
| Edwards, J. E. (H) | S. 1423 Adams |
| Geist, W. L. (H) | W. 444 23rd Ave. |
| Hansen Construction Co. | Opportunity |
| Harding, Geo. (H) | Walla Walla, Wash. |
| Hargrave Construction Co. (H) | W. 418 Twentieth |
| Hewett, F. R. (H) | W. 420 Twenty-second |
| Joslin & McAllister (H) | East 3038 Trent Ave. |
| Kuney, Max J. (H) | Hutton Bldg. |
| Larson Bros. (B) | Hyde Bldg. |
| Long, Oliver J. (H) | W. 1924 Mansfield |
| Lyon & Price (H) | W. 503 Fourteenth |
| March Construction Co. | W. 1002 Riverside, Spokane |

| | |
|----------------------------------|------------------------|
| Martin, F. E. (B) | Galax Hotel |
| McLellan, A. (B) | E. 932 Ermina |
| Medby, M. C. (B) | S. 3614 Arthur |
| Meyers, W. G. (B) | S. 2217 Tekoa |
| Morin, S. G. (B) | S. 309 Bernard |
| Norman, Nick (B) | 231 Waverly Place |
| Nyberg, Carl (H) | Realty Bldg. |
| Orino, Sam (H) | E. 3104 Boone |
| Payne, Mrs. C. M. | N. 2602 Hamilton St. |
| Power, C. A. (H) | S. 1703 Grand |
| Siems, Spokane Co. (BPHR) | Realty Bldg. |
| Standard Asphalt Paving Co. (HP) | Chronicle Bldg. |
| Sullivan, D. A., & Co. | 415 Sprague Ave. |
| Terteling, J. A. & Sons (HP) | 5111 Sound Ave. |
| Tobin, James & Son (H) | West 1715 Pacific Ave. |
| Triangle Construction Co. (H) | W. 1220 Ide |
| True-House Construction Co. (B) | No. 121 Browne |
| Wheeler & England (HP) | Coeur d'Alene, Idaho |
| Young, Peter J. (B) | S. 11 Cedar St. |

Associate Members

| | |
|---|----------------------------------|
| Beall Pipe & Tank Corp. | West 615 Main Ave. |
| Brandt Bros. | W. 14 Main Ave. |
| Coeur d'Alene Hardware & Foundry | Wallace, Idaho |
| Commercial Importing Co. | 617 Western Ave., Seattle, Wash. |
| Consolidated Supply Co. | W. 1310 Ide Ave. |
| Construction Equipment Co. | 1118 Ide Ave. |
| Fenaughty Machinery Co. | N. 715 Division St. |
| W. P. Fuller & Co. | N. 229 Post St. |
| General Machinery Co. | E. 3501 Riverside |
| Gladding-McBean & Co. | 524 Old National Bldg. |
| Haweey Fuel Co. | N. 740 Division St. |
| Hofius-Ferris Equipment Co. | W. 728 Mallon |
| Marshall Wells Co. | S. 157 Howard |
| Jones & Dillingham Co. | W. 715 First Ave. |
| Jones & Mitchell | Hutton Bldg. |
| Long Lake Lumber Co. | N. 348 Wall St. |
| W. S. McCrea & Co. | 212 Symons Bldg. |
| J. E. McGovern Co. | 550 Peyton Bldg. |
| Nott-Awtater Co. | S. 157 Monroe St. |
| Oriental Importing Tea & Coffee Co. | W. 917 First |
| Spokane Concrete Pipe Co. | N. 2627 Dakota |
| Spokane Culvert & Tank Co. | N. End Division Street Bridge |
| Spokane Paper & Stationery Co. | S. 152 Jefferson |
| Standard Oil Co. of Calif. | Old National Bldg. |
| Union Oil Co. | 611 Chronicle Bldg. |
| Washington Brick, Lime & Sewer Pipe Co. | S. 151 Washington St. |
| Washington Machinery & Supply Co. | W. 9 Cataldo |

MOUNTAIN PACIFIC CHAPTER

(Strictly a Public Works Chapter, practically every member carrying on highway, public works and railroad construction)

Washington Hotel—Seattle, Wash.

| | |
|-----------------------------------|---|
| John W. Rumsey, President | Lee Johnson, Secretary, Treasurer |
| John M. Clifton, Vice-President | James D. Brown, Manager |
| Allen & Goven | Olympia, Wash. |
| Barnard Curtis Co. | Ellensburg, Wash. |
| Clifton, Applegate & Toole | Hutton Bldg., Spokane, Ma. 4415 |
| Columbia Power & Investment Co. | Stevenson, Wash. |
| Coyle Construction Co. | 901 Westlake N., Seattle, Gar. 5741 |
| N. A. Degerstrom | 444 Peyton Bldg., Spokane |
| Dorsey & Wilder, Inc. | 2006 State St., Bellingham, Wash., 1310 |
| Fuel Oil Service | Olympia, Wash. |
| Goodfellow Bros. | Wenatchee, Wash. |
| Grays Harbor Const. | Hoquiam, Wash., Hoq. 303 |
| Hargrave Construction Co. | W. 418, 20th Ave., Spokane |
| Hendricks & Co. | Chehalis, Wash. |
| F. R. Hewitt | 420 W. 22nd, Spokane, Riv. 7554 |
| Johnson, Homer G. | Perkins Hotel, Portland |
| Joslin & McAllister | Spokane, Wash. |
| Lee H. Johnson | 920 N. Tacoma Ave., Tacoma, Ma. 6241 |
| Lidral, Wiley | Securities Bldg., Seattle |
| Lyon & Price | 503 W. 14th, Spokane, Riv. 5319-R |
| Norris Bros. | Burlington, Wash. |
| Chas. A. Powers | S. 1703 Grand, Spokane, Riv. 3640 |
| Puget Sound Bridge & Dredging Co. | Seattle, El. 7300 |
| Puget Sound Construction Co. | Colman Bldg., Seattle, El. 7311 |
| Fred G. Redmon | 206 S. 4th Ave., Yakima, 9133 |
| Rumsey & Co. | Lumber Exchange Bldg., Seattle, Ma. 8751 |
| Standard Asphalt Co. | Chronicle Bldg., Spokane, Wash., Ma. 1689 |
| von der Hellen & Pierson | Enumclaw, Wash. |
| Winston Bros. | 4580 Colorado Ave., Seattle, Glen: 2268 |

Class of Construction: (B) Building; (H) Highway; (P) Public Works; (R) Railroad.

PACIFIC

25¢
per Copy

SKILL - INTEGRITY



RESPONSIBILITY

CONSTRUCTOR

CONSOLIDATED WITH

Building and Engineering News

IN THIS ISSUE



SUPER-EXPRESS TRANSCONTINENTAL HIGHWAY URGED

By CHAS. F. ABBOTT, Executive Director
American Institute of Steel Construction.

LEGISLATION AND THE CONTRACTOR: A CHALLENGE TO BE MET

By GEO. N. CROCKER, Counsel, A.G.C., Calif. Branch

PREVAILING WAGE LAWS FAIL TO ACCOM- PLISH PURPOSE INTENDED

MARION BUSINESS MEN PROTEST ROAD MACHINERY BAN

REVISION OF BIDDING SYSTEM URGED BY CONTRACTOR

ANNUAL SAFETY CONGRESS AND EXPOSITION

UNIT BID SUMMARY—CONSTRUCTION NEWS



Daily Construction Report Service

offering the best for less

CONTRACTORS—EQUIPMENT DEALERS—
MATERIALMEN — Pacific Constructor Daily
News Service, published in connection with the official A.G.C. magazine, offers complete and up-to-the-minute information on all types of Engineering Construction in California and the major projects in the Western States.

It is compiled by the most complete staff ever assembled on a service of its kind on the Pacific Coast, and assures its users of only authentic and reliable reports.

If you have not yet received a copy of this service, send for a few days' samples (no charge), and be convinced that it is the most complete Engineering Report Service in the West.

Subscription price is \$5.00 per month, or \$50.00 a year when paid in advance, which includes semi-monthly issues of magazine.

FREE TO ADVERTISERS

PUBLISHED BY
STARK-RATH PUB. CO.

PACIFIC
INTEGRITY RESPONSIBILITY
CONSTRUCTOR

547 MISSION STREET
SAN FRANCISCO

DAILY NEWS SERVICE

PACIFIC CONSTRUCTOR

With which is Consolidated Building and Engineering News

Official Publication of the Associated General Contractors of America
for the Eleven Pacific Coast States

J. P. FARRELL, *Editor*

S. P. McCASLAND, *Assoc. Editor, Am. Soc. C. E.*

VOL. 15

SAN FRANCISCO, CALIF., OCTOBER 1, 1932

No. 18

Editorial Comment

Have you purchased your dust goggles yet?

Dust will soon be flying on the Golden Gate Bridge. Directors of the district have requested the contractors to submit their offers on construction. The bids are to be opened on all units of the work on October 14, with the exception of the steel contract, which has already been awarded on a bid of \$10,494,000.

Thirty-five million dollars are available for the bridge, which will be of the suspension type, 4205 feet between the supporting piers and to be constructed 225 feet above low tide and 220 feet above high tide.

More than \$17,000,000 will be invested in equipment to be used in construction of the 220-mile aqueduct for the Metropolitan Water District, which has obtained a loan of \$40,000,000 from the Reconstruction Finance Corporation.

In addition, a total payroll of \$100,000,000 will be expended over a period of six years, with a like sum going for supplies.

Equipment to be purchased includes 108 electric locomotives, 489 rock drills, 86 air compressors, 2048 mine cars, 62 tunnel blowers, 135 steam shovels, 223 trucks, 41,000,000 pounds of powder, 6,000,000 barrels of cement, 780 carloads of structural steel, 2500 cars of reinforcing steel, 218,000 feet of steam pipe, 200 miles of steel rails, 16 cars of sheet copper, 340 cars of copper and 1700 carloads of timber.

The aqueduct project is the largest self-liquidating project in the United States at the present time. It will bring water from the Colorado River to more than a dozen cities in Southern California.

Preliminary construction work is expected to begin within two months, as soon as a portion of the \$220,000,000 voted bond issue is prepared and sold.

The Texas section of the American Society of Civil Engineers has adopted a new form of surety bond which is creating considerable discussion among surety writers of that State. The bond is much more rigid than any commodity used in the past. Some of the most important provisions of the new bond form are:

(1) The only defense which can be urged by the surety is completion of the contract, or default of the owner.

(2) The bond obligates the surety to repay bank loans made to the contractor for use in completing the contract covered by the bond.

(3) Creditors of the general contractor who now have no protection under the lien laws and statutory form of

bond are given the same protection as lienable accounts providing proper claims are filed within the lien period of 90 days.

Briefly stated, the bond is so written that in case the general contractor defaults, the surety company will be required to do everything and pay every bill which the general contractor would have had to do or pay had he not defaulted. Beyond this, the surety has no obligation. They must do what the contractor would have done—no more, no less.

"Pacific Constructor" has no desire to criticize the action of the Administration for the special provision clauses, particularly hand labor, laid down for the contractors under the Emergency Relief and Construction Act of 1932, which act, provides "to relieve destitution, to broaden the leading powers of the Reconstruction Finance Corporation and to create employment by providing for and expending a public works program."

However, a protest filed with the Governor of the State of Ohio demands attention. It is published in another section of this issue.

Many contractors claim the act provides relief for everybody but the contractor. Others say the act makes the contractor the goat, inasmuch as he must discard his modern equipment and jump back to the days of his forefathers who undertook the building of roads and bridges with a strong back and a good set of hand tools plus a few horses, a mule or two, and a couple of sand-hacks.

Now comes a surety man who says that under the act, contractors are expected to undertake contracts as part of their public duties and not primarily for personal profit. If the contractor bids too low, he says, his loss will be taken as a contribution to a good cause.

The contractor feels that he is shouldering the burden under the hand labor demands—so does the equipment dealer.

However, time will tell.

Any doubt that the condition of the Federal treasury would be permitted to curtail the optional public works program embodied in the Emergency Relief and Construction Act was removed by President Hoover's announcement that the administration would do everything possible "in order to further aid employment."

The White House announcement followed assurance by Secretary Mills that the \$200,000,000 allotted for public buildings, rivers and harbors and flood control now is available.

(Continued on Page 4)

Limit Stakes and Levels

By THE EDITOR

Italy is considering the adoption of the five-day, 40-hour week as a means of absorbing the country's 1,000,000 unemployed.

The British Piling Company, Ltd., is now selling concrete mixers through automobile garages in sixty British towns. The sales plan includes 12 months of free service and easy payments.

Charles F. Abbott, executive director of the American Institute of Steel Construction, advocates the immediate construction of a super-express transcontinental highway to give employment "to nearly 8,000,000 men."

The Utah State Federation of Labor condemns the Reconstruction Finance Corporation Act, labelling it as a huge "pork barrel," created for the special benefit of vested interests.

The average of common labor rates reported from twenty cities was 43.08 cents per hour for August, as compared with 42.2 cents and 41.14 cents per hour for July and June, respectively. Skilled labor rates showed very little change from the previous month's standings.

San Mateo County plans to provide work for its unemployed. County Surveyor James has been instructed to prepare a program of road improvements preliminary to the County Supervisors calling an election to vote bonds of \$350,000 to finance the work. It is expected that definite action in the matter will be taken this week.

Climaxing a heated debate, in which State labor camps and asserted extravagance in governmental offices were criticized, the thirty-third annual convention of the California State Federation of Labor adopted a resolution condemning the use of convict labor on State projects. The delegates also adopted a resolution demanding the unemployed "get treatment at least as favorable as is accorded to men convicted of felonies."

Native labor must be given preference on the construction of the new United States post office at Portland, Maine, according to a ruling of the Comptroller General. In his ruling, the comptroller stated that while such labor preference is not stipulated generally for Federal projects, except for those specifically authorized under the emergency construction and relief act, it had been stipulated in the case of Hoover Dam, and appears a reasonable requirement in the case of a project located close to the international border, as in the case of the new post office at Portland.

Figures supplied by the American Appraisal Company take 1913 as the pre-war year, and place the cost of frame, brick, steel and reinforced concrete industrial building at 100. The year 1928 was the peak cost year for industrial building, showing frame at 203.5; brick, 212.6; steel, 197.2, and reinforced concrete at 200.3. For 1931, frame is 165.6; brick, 180.1; steel, 167.5, and reinforced concrete 169.1.

Directors of the Stockton Chamber of Commerce are

on record favoring repeal of the State Prevailing wage law. The law, the directors charge, has been used as a subterfuge by unscrupulous contractors to make it difficult for legitimate contractors to bid on public works. It was said that wages paid on public projects are in many cases higher than those paid for the same type of work on private projects.

A drive for a uniform tax on gasoline in all States has been opened in Nebraska.

Sponsors of the plan propose to reduce the present Nebraska gasoline tax of four cents to two cents and to secure enactment of legislation in all States which would create a gasoline tax of two cents, provide for rigid nationwide enforcement and collection and prevent evasion.

C. M. Sutherland, secretary of the Nebraska Petroleum Manufacturers, Inc., an organization of independent oil men, states that similar organizations in Kansas and Missouri are ready to join in the movement. Iowa, too, is expected to co-operate.

A 40-hour week in industry is recommended by the board of directors of the Chamber of Commerce of the United States. In approving the report of a special committee, the board flatly approved the eight-hour day, five-day week during excessive unemployment. While the American Federation of Labor and other organizations have previously favored the 40-hour week, the United States Chamber of Commerce has never before expressed its opinion.

Asphalt pavement costs amounting to \$35 per square yard were reported to the City Council of Montreal recently as the result of efforts to spread employment by doing all city work by hand labor. On a strip of pavement 30 feet wide and 104 feet long estimated to cost \$13,300, the actual cost ran to over \$25,000.

Mayor John F. Dore, of Seattle, has been advised by the Reconstruction Finance Corporation that it will not grant Seattle's request for a loan of \$7,500,000 to finance improvements in connection with the municipal light plant. Mayor Dore claims refusal of the loan "a blow at municipal ownership."

The monthly status rating of American cities in order of building operations placed San Francisco fourth for August—the highest rating the city has made in the national list for many months. Los Angeles, ranking sixth, was the only other Pacific Coast city in the first 25. Sixty-two California cities issued \$3,715,353 permits for August, compared with only \$2,983,268 in July and \$9,242,332 in August last year.

EDITORIAL COMMENT

(Continued from Page 3)

The \$100,000,000 available for post offices and other public buildings will be allocated among projects selected from a previously authorized list of \$154,000,000.

To speed up the emergency building schedule, Secretary Mills has obtained a ruling from Comptroller General McCarl permitting employment of outside architects. Execution of both the regular and emergency construction programs, that together total about \$750,000,000, is still hindered, however, by the provision of the economy law requiring that 10 per cent must be deducted from the limit of cost fixed on all previously authorized projects. Whether this limit of cost applies to public works generally is still open to question, but there is no doubt about its application to public building projects.

Super-Express Transcontinental Highway Urged by Steel Executive

A super-express transcontinental highway should be built immediately not only to give employment but to provide transportation facilities that are sadly needed, according to Charles F. Abbott, Executive Director of the American Institute of Steel Construction. Mr. Abbott addressed the conference held by Babson's Statistical Organization at Wellesley Hills, Mass., on the Emergency Quota Plan to restore purchasing power. This super-highway, however, should be made to pay for itself by assessing the proper tax on buses, trucks and cars using it. Mr. Abbott expressed the opinion that if properly located the highway would prove a means of putting our present highways to more economical usage.

Mr. Abbott's speech is published herewith.—*Editor.*

A survey made by the United States Bureau of Public Roads indicates that better than eighty cents out of every dollar spent for roads goes for labor. It is further claimed that for every man employed directly on the road job the equivalent time of two additional men is needed to supply materials and equipment. These facts should make it rather clear that as a means of relieving unemployment, road-building is probably the greatest agency that can be resorted to. During normal times this business of highway transportation furnishes employment for nearly 8,000,000 men.

The present, however, is not a normal time for the expenditures on roads are far behind the requirements and the popular demand for a reduction in taxation is encouraging our less conscientious public officials to "steal" funds from the very profitable gasoline tax and other levies against motorists. Due to the need of funds for governmental functions entirely foreign to highway construction or maintenance the states are this year, 1932, diverting approximately \$100,000,000 collected through gasoline taxes and motor license fees. In addition the Federal government has imposed emergency levies on gasoline, oil, sale of automobiles and parts and accessories, which will represent another diversion of some \$150,000,000. This year the tax on motorists will not only pay for all road-building and road-maintenance in the country, but in addition will contribute some \$250,000,000 to the general expenses of government.

Two years ago only \$15,000,000 of the gasoline taxes and motorists' license fees were diverted from road-building. Last year \$20,000,000 were diverted. And so easy has it proved that this year approximately \$250,000,000 is being taken away. Yet the claim is unthinkingly made that motor traffic is subsidized by the Government. The highways are not free. Every motorist who drives over them pays in license fees and in gasoline taxes and in an amount more than enough to build and pay for every mile used.

If motorized traffic is proving so remunerative to the public, as these facts would indicate, is it not incumbent upon the public to give the motor entire freedom to prove its full economic value to the public? If the motor is paying its way and more than paying for the cost of highways, would not more and better highways prove even more economical to the public? There is no denying the argument. There are scarcely 150,000 miles of rural pavement in the United States, according to Mr. Frederick E. Everett, president of the American Association of State Highway Officials. He states furthermore that if we were to build 100,000 more miles of first-class roads during the next five years there would still not be enough for 1937 needs. During the past five years automobile registrations increased 40 per cent, while road construction increased but 13 per cent.

We must once and for all, dispose of this incorrect

statement that we have sufficient highways in the United States. We have not half enough. And when measured by the standards of efficiency we are poor indeed in first-class roads. Good roads are essential to an economical operation of a motor car. So-called "good" roads are known to reduce the cost of car operation at least one cent a mile over cost of driving a car over poor roads, and over first-class pavements the cost has been reduced two cents a mile. With properly constructed truck roads the cost of hauling motorized freight would be greatly reduced and thereby enable the trucks and buses to make a larger contribution to the cost of building and maintaining adequate heavy-duty roads.

The public of the United States has allowed itself to be confessed and misled. They are prone to make up their opinion through a partial presentation of the facts. During the past few years Persia, probably one of the most backward countries of the world in so far as transportation is concerned, has suddenly forged to the front because it has built modern roads and equipped the country with motor-lorries. Italy, under a Fascist Government, is today engaged in building an express highway for trucks. Surely these developments have some significance to the American public.

There has been no co-ordinated development of America's road needs very largely because of certain invested interests which are fearful of the consequences. Good motor roads, however, need not be a detriment to the railroad but so developed as to supplement and aid the railroads. In some sections of the country already motorized freight and passenger cars are being operated on the short feeder rail-lines. Such equipment is making those lines pay dividends once more and are serving as feeder systems to the through rail-lines. Engineers have advised me that it is possible, by a simple change in the road-bed, to turn a number of unprofitable rail-lines into profitable toll roads for motor buses and trucks. In some instances where transportation is extremely congested a toll motor road could be erected above the rails and the two means of transportation be operated simultaneously and with profit.

For a number of years we have been talking of transcontinental motor roads. The Lincoln Highway was built and other allegedly magnificent through roads. But seriously how many of these so-called first-class roads are really adequate to the modern needs of motor travel? You have but to drive over them to find out. If the heavy truck and big bus does not crowd you off, the broken surface, dangerous curves and congesting "necks" make motoring not only difficult but actually dangerous.

During the past few years we have begun to learn something about the operation of so-called express highways, those roads which avoid heavy centers of traffic and run across country without grade crossings or traffic stop lights. Many a good road in this country today is not being used adequately because there is lacking this through express highway to feed the traffic on and off such local roads.

If we would make full use of our highways and avail ourselves of the full economy of motor traffic we should see to it that we have adequate highways. It is truly distressing that the requirement has not been met before this. During a period of economic distress we could well afford to concentrate our energies on this problem and build our much needed express highways and thereby

provide labor for a large part of the ten million men now thrown out of work by the clogged machinery of our industries.

For these reasons, very largely, I proposed that those agencies directly concerned join in a concerted movement to have built a transcontinental express highway, planned and laid out according to best engineering advice. This has frequently been proposed before this, but every log-rolling Congressman tries each time to have the highway routed through his political bailiwick. It should be created as a private undertaking, thereby removing the plans from the blighting influence of politics. In that way we would prove very definitely the economic good that can come to the country through having a really first class highway, one that will pay for itself, that will give immediate employment to thousands of men and stimulate business for twice as many thousands more.

To spend money merely to be spending it may never be economically sound, and during the period of a business depression there are more arguments against such expenditures than during times of plenty. But we recognize the necessity of spending wisely if we are to get the country out of the depression. There are expenditures which today represent wise economy because they are made upon projects that promise to stimulate business in many related lines and to encourage the starting of entirely new enterprises. Such projects are truly self-liquidating for they not only offer a means of earning a sufficient return to repay their original cost, but they promise to stimulate new sources of business activity and revenue.

Any new appropriation made today should be measured by this yardstick: will it make for better business and more business? Expenditures made in accordance therewith are not only truly economic but essential at the moment if we hope to bring the country out of the present despond of depression. A super-transcontinental highway, planned to meet the needs of the country as a whole without regard to political aspirations of specific localities or sections is today desperately needed. If this highway is planned to meet best the traffic needs of the country as a whole, co-ordinated and located in such a manner as to offer the maximum of convenience to the greatest number, there would be little call to prove its profitable return to the country.

Failure to accomplish this objective in the past should not deter a sincere effort today to survey its possibilities and to strive to set up a proposal that can be pointed to by all agencies interested as the most practical and the ideal highway for the United States. It is felt that the interest of industry in this enterprise is by no means superseded by the interest of the Bureau of Public Roads and the War Department for the highway will not only prove an economic advantage, but likewise a valuable artery of defense.

The Federal Government could grant a franchise with the power of eminent domain that private capital can finance the construction through a bond issue to be sold to the public. However financed the road would be a self-sustaining, self-liquidating project; therefore it would be very proper to seek assistance from the Reconstruction Finance Corporation. If built by a private corporation a recapture clause could be inserted in the charter that would divert the rights to the States after the bond issue had been paid.

A suitable toll, based on mileage, could be charged for passenger automobiles and other tolls obtained from buses, trucks, etc. Freight charges might be equalized with prevailing railroad rates. Concession rights would result in substantial income. The latter would include restaurants, hotels, garages, service stations, motion picture rights advertising, camping facilities, etc.

The construction cost would probably not exceed \$75,000 per mile.

It is the quickest and most practical method of meeting the unemployment situation. Actual work is of such a nature that it could be started in each State within a short time.

Engineers and workmen would be engaged for designing and erecting bridges, buildings along the way, grade separations and connections to other roads and to manufacture machinery for construction work. It involves mining of coal, iron ore and limestone, making of coke, steel, cement, requiring quantities of lumber, sand and stone. It aids the merchants in the districts through which the road runs. Every dollar for the cost of the road will bring into activity several other dollars. All of this would mean work for thousands of engineers and several millions of workmen.

The highway could today be completed at approximately one-half the cost that would be necessary during normal periods.

It would promote a greater sale of automobiles, trucks and buses as well as other accessories needed in their operation.

AMERICAN CEMENT FOR AMERICAN CONSTRUCTION IS URGED BY HYDE

"Protests have come to my attention regarding the use by road contractors of cement and other material manufactured in other countries on roads supported by Federal funds," says Arthur M. Hyde, Secretary of Agriculture.

"Road construction is under the jurisdiction of the States and territories.

"The Federal Government lacks authority to point out that the intent of Congress in passing emergency appropriations for the construction of public roads was to afford employment. That intent was not limited to those engaged directly in road building, but included as well those who would be engaged in the production of material. In my opinion there is a strong, moral implication, arising from the emergency character of such appropriations, that preference in the materials used should be given to materials produced in this country."

GERMAN PUBLIC WORKS BODY PAYS FIVE PER CENT DIVIDEND

The German Company for Public Works (Deutsche Gesellschaft fuer Oeffentliche Arbeiten), founded August 1, 1930, by the German Government as sole owner, to administer all old loans and to grant all new loans made by the Government to subsidize public works for the relief of unemployment, has declared a 5 per cent dividend for the year ended March 31, 1932, it is reported by Vice-Consul C. W. Gray at Berlin, to the U. S. Department of Commerce.

Total loans on the company's books at the close of the year reached about \$99,225,000 of which the company itself had granted \$17,055,000 since its foundation. During the last business year an average of about 25,000 persons were employed on the works thus subsidized, plus an additional 25,000 who are estimated to have found employment in industries supplying materials and equipment for such works.

The profit and loss account closed with a net surplus of \$3,187,000, distributed as follows: (a) A 5 per cent dividend on a capital of \$35,730,000, amounting to \$1,787,000, was paid to the Government but immediately loaned back to the company on long terms; (b) \$1,190,000 was added to the special reserve fund; and (c) the balance, nearly \$210,000, was carried over into next year.

Prevailing Wage Laws Fail To Accomplish Purpose Intended

"DURING the past eighteen months two pieces of legislation designed to protect workers on public construction projects were enacted," declares the East Bay Industrial Association, with headquarters in Oakland. "It now seems appropriate that we should analyze the effect of these laws upon the workers and the taxpayers. Both measures are similar in that their intent is to make sure that wages paid on public work shall be not less than the 'prevailing wage' for similar service on private projects in the district where the work is done. The State statute, which became effective August 14, 1931, differs from the Federal law in that the wage scale to be paid on work done for the State of California, and/or political subdivisions thereof, are pre-determined by the board awarding the contract and stipulated in the call for bids. On Federal projects, the Secretary of Labor is authorized, in the event any wage dispute arises after the work is begun, to determine the 'prevailing wage scale,' and his decision is final and binding upon all parties concerned.

"Subsequent to the passage of these laws there has been a marked downward trend in wages. Statistics show building permits throughout the nation have fallen off tremendously during the past two years. California, more fortunate than most of the States and exceeded only by New York State in the volume of building construction, has nevertheless suffered a decline of 47% in the value of building permits issued during the year ending June 30, 1932, in comparison with the preceding twelve months. The inevitable result of this curtailment of building has been more keen competition among both building trades workers and contractors for jobs, marked by an inevitable decline in wages and prices. Notwithstanding this fact, many State and municipal boards, in determining prevailing wage scales, have ignored this downward trend entirely, and established as prevailing scales the peak wages of 1929.

"This action has unquestionably been influenced largely by the representation of labor leaders that a fictitious union scale is in reality the 'prevailing scale.'

"Recognizing that some modification of the wage scale established in the year 1929 was inevitable, the local District Council of Carpenters in March of this year was jointly responsible for setting up a Board of Review which reduced carpenters' wages from \$9.00 to \$7.20 per day. The District Council of Carpenters has subsequently taken the position that the reduced scale does not apply to public work, despite the fact that \$7.20 per day is the maximum wage being paid approximately 90% of the carpenters employed in Alameda County. Wages established for many other trades under the State statute have been proportionately inflated.

"So long as public officials empowered to determine prevailing wage scales are amenable to the influence of organized union labor it seems inevitable that artificial wage scales, higher than those actually being paid on private work, will be set up.

"In an effort to gain more power, labor leaders have also attempted to extend the operation of the prevailing wage laws into manufacturing industries, notwithstanding the fact that Attorney General U. S. Webb, at the request of the State Architect, on August 25, 1931, rendered the following opinion:

"Your second question is whether the prevailing wage must be listed for mechanics working for sub-contractors

for branches of work handled by planing mills, iron works, sheet metal works, structural steel fabricating shops, etc, the product of whose work will eventually enter into the building, but who are not actually working at the site. As above noted, the act refers to subcontractors as well as contractors.

"I am of the opinion that in order to be considered a subcontractor subject to the provisions of the act in the same way that the principal contractor is so subject, the subcontractor must actually be employing laborers, workmen or mechanics on the structure itself, and not merely fabricating materials which might ultimately be used in the building."

"In instances where workmen are employed direct by the State, or county, they of course receive the full wage established, but the vast majority of public construction is done by contract, and on such work unscrupulous contractors frequently evade payment of the fixed scale.

"We now have on file the affidavit of a journeyman plasterer who worked on the new Oakland post office building alleging in order to get work he was compelled to agree to return \$5.00 in cash for each day that he worked on the job. He was desperately in need of work and after several unsuccessful attempts to obtain employment at the established rate of \$11.00 per day he submitted to the contractor's terms and was immediately put to work. At the close of each week he was paid by check at the rate of \$11.00 per day, but his net wage was, of course, \$6.00 per day. Workmen realize a complaint of underpayment lodged with public officials would bring about their immediate dismissal by the contractor, and reluctantly accept whatever wage is offered to obtain money to support their families. This practice also places the responsible contractor at a distinct disadvantage, as he is unwilling to meet this unethical competition.

"We have reliable information to the effect that similar infractions of the wage scale occur on many public construction jobs.

"After a trial of more than a year, it is apparent this legislation does not afford wage earners the protection it was intended to provide. It is, furthermore, imposing an unnecessary burden upon the taxpayers, and many are of the opinion the high cost of labor on public works is reacting to the distinct disadvantage of the entire construction industry by discouraging public support of construction programs now being advocated for the relief of the unemployed."

IOWA AIMS TO REGULATING CONTRACTING VIA LICENSE

A license law for contractors in the state of Iowa is being drawn up by a committee of the Central Branch of the Associated General Contractors of America under the chairmanship of W. A. Klinger of Sioux City.

The committee has been carrying on an investigation of the license laws now in effect in other states, and gathering the opinions of contractors, public officials and organizations in those states about their laws. The committee is now preparing to work on the data collected by this investigation.

Suggestions advanced at a preliminary meeting of the committee indicate that a number of entirely new provisions may be incorporated in the proposed law for Iowa.

REVISION OF BIDDING SYSTEM URGED BY BUILDER

(By Enoch Smith, General Contractor, Salt Lake City, Utah.)

The standard of average or correct principle, the religion of America, is a system of high standard. Its foundation is Honesty, Honor, Independence, Progress and Efficiency. The above can be had only by the Golden Rule, "Do unto others as you would have others do unto you." It is impossible to harmonize our present and past system of lowest bid or price for public works or necessary and needed supplies for our government and public needs.

The definition and meaning of low or lowest is inferior, degrading, and diminish and eventually fade away. To reach a correct standard of living we must change our national system, and we must be governed by principle and system. We should adopt a system that would automatically give the nearest possible correct results. The government and public officials should not be permitted to do public works when it can be done by the people, but should be supervised, directed and overseen by public officials to see that fair distributions and proper results are obtained. Competition in labor construction and production and supplies for public needs is the correct system, but it should give the correct price and compensation instead of the lowest bid or price, which is caused by poverty, distress, poor judgment, jealousy and mistakes. For the one that knows the least about the work or material or supplies required will be the highest or lowest in price. The next lowest will be the one that forgets the most, or makes the biggest mistakes. They will be the ones to get the job or supplies. Under our present plan, they above all, should not receive the contract or business.

If we would adopt a system for letting contracts for public labor, material, supplies and other needs, by competition to the bid or price nearest to the average bid or price, after the extreme highest and lowest prices or bids that were unreasonable were discarded—if they appeared excessive they to be judged by commissions, engineers, architects or some public director or body whose duty it would be to decide impartially, if any bid or price should be unreasonable they should be discarded. Then the balance of the bids should be added up, and the total to be divided by the number of bids left, and the bid or price nearest to the average would be the winning bid.

This system would apply only to public bids or prices. This would be a guide and system that the individual and the public could use as a guide which would be largely used. The public does not want the lowest bid or price. They want the correct price, which makes it possible for fair distribution to the people to make progress and improvements and to pay for the same. We should have a system that would give the highest quality and results, and the correct prices.

This plan would apply to contractors, sub-contractors, supply men, producers and would radiate through all requirements and needs of the public's wants that would give fair distribution on a higher standard.

Our public system for letting contracts should be fair and impartial. Our present system could be used with some modification to conceal the bidder's name on the contract, by covering the bidder's signature—the commission to supply plain envelopes and a deposit box similar to a ballot box at the place of opening of bids. The contractor would place his bid in a plain envelope and deposit his bid in the box. When all bids had been received, the commission would proceed to open and consider the bids. They would decide by majority if any bids should be discarded to make the average fair. They would then add the balance of the totals and divide the total by the

number of bids considered and the bid nearest to the average would be the winning bid. This would give it to the nearest to the correct price that it is possible to get. The commissioners or those letting contracts would be sworn to honor that they had not been informed and that they had no knowledge of the bid or price or any contractor's prices. This would protect the parties letting the contract from any criticism or favoritism.

Under the low bid system if a man expects to get the work he must forget the true cost and make a good guess as to what the lowest bid is going to be and then bid under that figure. If he gets the work he must almost of necessity slight the work.

The system places public officials in an embarrassing position which is not likely to produce the best results.

The city, state or government officials or engineer is embarrassed in letting bids whenever the low bidder is rejected. The contractor is disgraced and for self-protection must protest and fight from being declared irresponsible. His friends and sympathizers accuse public officials of partiality, political or otherwise, and even go as far as making accusations of graft. It is unjust to place a public official in the position where he is required to either accept the low bid, which he would otherwise not do, or to disgrace and injure the contractor whose bid is not accepted. In the end, the question of who is or is not responsible is a matter of opinion.

NEW EXPLOSIVES DEVELOPED—A series of explosives of a new type known as "Red Cross Blasting Nos. 2, 3 and 4 F. R.," has been developed by the explosives department of E. I. du Pont de Nemours & Co., Wilmington, Del. These so-called free-running powders actually are dynamite of special grades in loose form. They are particularly designed for use in sprung holes. Detonation by means of an electric blasting cap is recommended.

NEW GASOLINE ENGINE—The Continental Motors Corp. has just announced a new model four-cylinder engine of 74.83 cu. in. displacement for industrial application. The engine is of 2-in. bore and 3 5/23-in. stroke. It develops 10.75 hp. at 1200 r. p. m., the recommended governed speed, and 17.8 hp. at 2000 r. p. m. The complete power unit, including carburetor, magneto, governor, fan, radiator, gasoline tank, controls, etc., weighs 350 lb.

NEW VIBRATOR SCREEN—A new vibrator screen is announced by the Stephens-Adamson Manufacturing Co., Aurora, Ill. The screen is of the positive vibration type, in which a rigid screen body with one or more decks is given a vibration of fixed amplitude by the rapid throw of an eccentric shaft. There are three units, screen body, vibrating mechanism and sub-frame. The vibrating mechanism is a self-contained, factory-adjusted unit.

PORTABLE BELT CONVEYOR—A new portable troughed belt conveyor is announced by the Fairfield Engineering Co., Marion, Ohio. The new conveyor is built in lengths of 20, 25 and 40 feet. It is primarily intended for the handling of sand, gravel, crushed stone and other abrasive materials by contractors in material supply yards, sand and gravel pits, stone quarries, industrial plants, and for handling materials for highway maintenance. The conveyor belt is of rubber, 18 inches wide. Power is furnished by a 3-hp. ball-bearing electric motor or a 4 1/2-hp. gasoline engine. A steel-plate receiving hopper at the foot end serves to center the load onto the conveyor belt.

MARION, OHIO, BUSINESS MEN PROTEST ROAD MACHINERY BAN

Business men of Marion, Ohio, in a protest filed with Governor George White by the Ohio State Chamber of Commerce, condemn the action of the state highway commission in prohibiting the use of machinery on highway projects.

Extracts from the letter of protests follow:

"In connection with those projects for movement of earth the use of power shovels is prohibited. It would seem that if the policy is good in eliminating this machinery in the handling of this material, they should also eliminate the use of trucks and go back to teams or wheelbarrows.

"The state highway department has evidently overlooked the labor situation in its broadest sense. These highway projects give employment to the immediate surrounding district but allow no employment in the manufacturing districts in the production principally of new machinery and the repair parts for machines already built.

"A community such as Marion, for instance, is dependent upon the labor employed in the manufacture of power shovels. With the elimination of wages paid to employes in the manufacturing, this affects practically every one in the community. If this policy is further pursued it will cause financial distress to the merchants, lawyers, doctors and others dependent upon manufacturing employment. It would be much better for the money paid out in highway improvements to be allowed to go through the regular channels without favoring one class at the expense of the other.

"All of this labor must necessarily be paid from taxation of some kind and when you think of the man who is struggling along attempting to retain his home property and take care of his family on the few odd jobs he can pick up here and there, the same man in return must not only take care of himself but take care of the others, through additional taxation, whose labor is used in such projects as these. There is no advantage to workmen in stipulating hand labor and prohibiting the use of machinery on these projects.

"All will agree that the use of so-called labor saving machinery more properly called modern tools, decreases the cost of building a mile of road as compared with hand labor. Why not use the money saved by using these modern improved tools to build additional miles of roads? Ohio still has plenty of roads that need improving.

By this plan we would secure additional miles of improved roads, the same amount would be paid out for common labor, manufacturing employes would have employment in building machinery, stone quarry and cement mill employes would have additional employment, the employes of manufacturing plants supplying machinery to other manufacturers would be employed and in the end the tax payers of Ohio would have more miles of roads to show for the money expended.

"If the use of machinery is the cause of the present condition of labor in this country, then why should not the Chinese and Hindus be rich as they employ no machinery?

"You will also note that the contractors must appeal to the County Relief Committee for employes, preference given to ex-service men with dependents. This is covered in the printed red insert and applied on all proposal forms for federal aid projects and combination federal and state aid projects. This will force those men who have heretofore been able to maintain their families by odd jobs to apply for relief in order to secure employment.

"Ohio would probably be far better off to refuse fed-

eral and state aid projects. This will force those men out the provisions of this act, as it will undoubtedly mean the first step in the dissolution of our present commercial structure. From a political angle you can imagine the frame of mind of those men who were formerly employed in the manufacturing industries, still hold their place, but are now out of work and have used their savings when the great state of Ohio subscribes to an arrangement whereby they cannot secure employment on account of the legislative stipulation laid down."

NO REASON FOR EXCITEMENT IN THE EQUIPMENT TRADE OVER REQUIREMENTS OF EMERGENCY BILL

(Editorial in Engineering News-Record.)

Concern in the equipment trade over requirements for hand labor in spending the \$120,000,000 emergency-loan money for road construction appears in danger of becoming a little hysterical. The conditions are objectionable and represent a reversion to outmoded construction practice, but caution should be exercised not to give them too much importance.

As presented in published texts the requirements for hand labor appear to be more mandatory and inclusive than they are likely to prove in actual practice. Much discretion is left to highway officials in choosing between methods, and most of the operations on which hand labor is specified employ ordinarily very little machinery. Even if drastically enforced, all the hand-labor requirements set forth by the Bureau of Public Roads would put out of commission a very small fraction of the road contractor's normal plant.

Concerted action of the equipment manufacturers, as undertaken in Ohio, in protesting against requirements for hand labor have a salutary purpose in directing attention to retrogressive public-works construction policies. If maintained by presenting factual evidence of the increased cost of hand labor, a positive influence can be exerted that will discourage attempts to perpetuate the practice beyond the justification that wholesale unemployment now offers. Conviction obviously can be carried to the public forcefully only in line with its economic interest; complaint that the manufacturer will lose sales will appeal to unsympathetic ears. On the contrary evidence that by machine construction the taxpayer gets his public improvements sooner and pays less for them and that the spread of labor is greater when the shop laborer and all those behind him are given work may expect an attentive hearing.

Organized equipment interests can perform a needed duty in opposing hand-labor, but action should be based on a broader program. The danger lies less in the loss to machine construction during the ten months that the requirements for emergency-loan road construction will be in force than in the habit of employment established and the disposition created to continue it beyond the immediate needs of the present emergency. These possibilities well warrant organized action.

CEMENT PRICES ON THE INCREASE IN N. Y. STATE

An increase in the price of cement for most points in New York state except New York City has been announced, the increases ranging from 19c to 34c per barrel.

New York state producers have abolished delivery by trucks, and all future quotations will be based on rail delivery. It is reported the change resulted from the unsatisfactory conditions in truck haulage arising from ruinous competition between trucking interests.

HOME FINANCING VIA HOME LOAN BANK TO AID BUSINESS

By WM. E. HAGUE, *Secretary-Manager,*
Alameda County Chapter

Trade indexes seem finally to be "on the up and up." Indications are that the East Bay hit its low building mark in August. Since early this month there has been a distinct increase in the number and size of recorded contracts in Alameda County.

The writer has been making an investigation of the possible direct help which might be received by the building industry from the Home Loan Bank now being formed in San Francisco for this District. It appears that such help will be only of an indirect character through loans which may be secured through the building and loan associations, mortgage companies, banks, etc. However, when this District Bank gets going in the next thirty or forty days, it will prove to be of real value and enable many jobs awaiting financing, to go ahead. More detailed phases of the actual working of the bank can be made after operations have been started.

While it does not look as though the building contractor will be directly benefited, yet the home builder is likely to be materially assisted, and the first real upward movement in building is almost certain to come from the building of homes. An aggressive home building campaign would quickly get the material and supply houses back into activity and increased payroll, and this movement would gradually extend to larger construction

Federal Relief Legislation

During the last several months this Chapter has been corresponding with Washington authorities urging that larger appropriations be made for post office construction in California. It has been pointed out to both Secretary of the Treasury Mills and Postmaster General Brown that this State has so far received only 45 per cent of its total appropriations, against an average of 68 per cent for all other states in the Union.

On Monday, August 29th, President S. G. Johnson, W. G. Thornally, Chairman of Stabilization Committee, and W. E. Lyons, Chairman of the Legislation Committee, accompanied by Manager Hague, held a conference with Senator Hiram W. Johnson at his San Francisco office.

Two points were taken up. First, larger appropriations for post office construction in this State. Second, testing and sampling of materials to be done in the San Francisco office of the U. S. Bureau of Standards. Senator Johnson gave the Committee a hearty welcome and lent a sympathetic ear to its requests. Since then he has given us some active support and results are perhaps partly to be attributed to his good offices.

The original post office building program involved a grand total of \$504,794,000, of which \$340,966,176 has been authorized and appropriated already. The Relief Bill now includes \$100,000,000 additional. Post offices now coming out are under the previous appropriations, but a total of \$8,565,000 has now been appropriated to California from this one hundred million in the Relief Bill. All post offices so far announced are in the \$100,000 class and over, and a number more smaller post offices are

to be taken care of from this same fund and will be announced shortly. This is a more liberal appropriation than in the past.

The Relief Bill provides for "the maximum employment of local labor consistent with reasonable economy of construction." Just how the post office and architectural powers that be are going to interpret this clause cannot well be determined until the first post office to be built with relief funds is out for figures. Some investigations of this feature of the Bill are to be made during the month.

There is a total of approximately \$200,000,000 for building included in the Bill and this money has now been released and construction authorized. This includes a deal of army, navy and other U. S. Governmental department work around the San Francisco Bay.

VARIOUS STATES SET WAGES ON EMERGENCY RELIEF CONSTRUCTION

Minimum wage rates for highway construction work under the provisions of the emergency relief act, in addition to those previously reported, have been set by announcement of several state highway departments. In Massachusetts the Department of Public Works set a minimum rate of 45 cents per hour for unskilled labor and 55 cents for skilled labor.

In Florida the state road department has set a minimum rate of 20 cents an hour for unskilled labor. This is stated to be substantially more than the rate now paid in some parts of the state.

The State Highway Commission of North Carolina, in its current notices to contractors calling for bids on highway construction, sets a minimum wage scale for unskilled labor of 20 cents per hour and for skilled labor of 30 cents per hour. No reference is made to the 30-hour week requirement of the relief act.

Wyoming has set a minimum wage of 50 cents per hour for unskilled and 60 cents for skilled labor and has limited working hours to 30 per week and 8 per day for any one workman. A maximum charge of 75c per day for board and lodging has been set.

Minimum rates have been set by the Montana highway commission as follows: steam shovel runner, and drag-line operators \$1.00; chief mechanics, 87½ c; carpenters, blacksmiths, finishers, grader men (12-ft. and above) 75c; truck drivers (less than 2-ton), teamsters, Fresno men and unskilled labor 50c. Camp charges must not exceed \$1.00 per day.

OPENS S. F. BRANCH—Yates-American Machine Company, of Beloit, Wis., manufacturers of wood-working machinery, announces that the San Francisco branch, located at 725 Bryant street, has been made distribution headquarters for the State of California, and the stock formerly carried in Los Angeles has been transferred to the San Francisco branch.

H. E. Townsend, formerly manager of the Los Angeles branch, is now located in San Francisco in charge of the California branch.

SMITH BROS. TRUCK CO.

"TRANSPORTATION SPECIALISTS"

Portable Crane Service—Rigging

1704 E. 16th St. Los Angeles WEStmore 3271



Super Concrete Emulsions

Limited

—for Better Concrete 3710 S. ALAMEDA ST., Los Angeles
District Offices
46th Ave. and 308 Stock Ex. Bldg. 216 Walker Bldg.,
Clement St. Portland, Ore. Seattle, Wash.
Oakland, Calif.

THE LEGAL PAGE FOR CONTRACTORS

By GEORGE N. CROCKER, Counsel for Associated General Contractors of America, California Branch

Member of the legal firm of Travers, Landels, Weigel and Crocker
Russ Bldg., San Francisco—Central Bank Bldg., Oakland, Calif.

LEGISLATION AND THE CONTRACTOR: A CHALLENGE TO BE MET

IT is being said by contractors today that the manner in which the law now requires them to carry on their business is making it impossible for them to operate profitably. They have numerous grievances. They refer in part to the specifications for work financed wholly or partly by

the Federal emergency appropriation; they refer as well to the labor and other types of legislation, enacted chiefly by the States, to regulate the conduct of the construction industry.

This is indeed an age of feverish law-making. The all-too-common idea is that an undesirable condition of affairs can be invariably cured by passing a new law. Often the new law carries in its train evils which are far more serious than those which it was intended to obviate. A law which favors one group usually harms another group. It is robbing Peter to pay Paul, and the extent to which the process depends upon how strong and energetic



Peter can prove himself to combat it.

The lawyer, being familiar with the ways of legislation and the operation of the law, is in a somewhat advantageous position to view this trend. The paths of legislation are often devious and unsavory. Log-rolling, bartering, the weak-kneed pandering to large blocks of potential votes—all those disreputable but prevalent practices in which our elected legislators indulge—result in the passage of many measures which do not accomplish any real reform, but merely increase public expenditures beyond reason and penalize the unfortunate group which happens to be the victim of the legislation. Not infrequently those whom the measures were meant to protect become in time the most disillusioned.

How is the contractor to meet this challenge? Shall he submit to every new experiment which the politicians see fit to try? I am not referring here to the present Federal emergency appropriation and the stringent regulations therein established. These are undoubtedly temporary only, designed to meet a very acute but abnormal unemployment situation. It is inconceivable that the

wheels of progress will turn backwards and that the construction industry will be compelled to retrace its steps back to the archaic methods of hand labor. Permanent economic adjustment must and will take other forms. But I do refer to other legislation which is intended to be permanent and which has either been passed or will be presented at the next session of the State Legislature for passage. A most strenuous effort will certainly be made to slash the amount of funds available for construction work, and at the same time there will be agitation to regulate the conduct of such work in a way which will inevitably increase its cost. Legislators will be faced by many a haunting dilemma.

This state of affairs constitutes a challenge of the utmost seriousness to the contractor. The contractor is not an enemy of the public; he is not the gouging, inhuman despoiler of the common welfare that he is often represented to be. This idea must be vigorously combated. He is truly a servant of the public, and in these days of keen competition he takes enormous risks that are hardly justified by the meager profits to be anticipated in the event of success.

Concerted action, therefore, was never more necessary than it is now and will be during the coming year. Unwise and unfair legislation, harmful to the public and to the construction industry alike, must be prevented. The sound and constructive efforts of the various chapters of the Associated General Contractors of America, the Building Exchanges, and similar organizations, are deserving of respect and the most active support, for upon them largely rests the burden of preserving the integrity and success of an industry which ranks among the nation's greatest.

OKLAHOMA STATE PROPOSES TO DIVERT GAS TAX MONIES

A bill to ask that more than \$8,000,000 be diverted from the highway funds to help pay off state indebtedness will be proposed to the Oklahoma legislature by Senator E. M. Reed. He will ask that the entire revenue from license tags, amounting to nearly \$5,500,000 yearly, and two cents of the four-cent state gas tax be used in wiping out state debts instead of building roads and maintaining highways.

"All this gasoline money goes into the highway funds; what we have got to do for two or three years is to stop building roads. It's more important to put the state on a sound financial basis than to keep spending money we haven't got on new highways," says Senator Reed.

The proposal would not in any way interfere with the \$7,000,000 road building program which will be launched soon.

Pacific Clay Products

General Offices: 650 Chamber of Commerce Bldg.,
1151 SOUTH BROADWAY
Los Angeles, Calif.

FOR SALE...

110 Horsepower Diesel Engine
at a Bargain

United Commercial Co., Inc.

234 Steuart Street

San Francisco

PACIFIC CONSTRUCTOR

J. P. FARRELL, Editor S. P. McCASLAND, Assoc. Editor
Am. Soc. C. E.

Consolidated with
BUILDING AND ENGINEERING NEWS

H. BAILY BRUNS, Advertising Manager

Publication Office: 545-547 Mission St., San Francisco
Telephones: CArfield 8744-8745

PACIFIC CONSTRUCTOR is the official publication of the Associated General Contractors of America for the eleven Pacific Coast states. Issued on the first and fifteenth of each month. Printed and published by the Stark-Rath Printing and Publishing Co., 545-547 Mission Street, San Francisco. Subscription Price: \$5.00 per year, payable in advance. Single copies, 27c.

LOSS UNDER EMERGENCY RELIEF ACT DONATION TO GOOD CAUSE

Under the Emergency Relief and Construction Act of 1932, contractors are expected to undertake contracts as a part of their public duties and not primarily for personal profit. They must bid with the expectation that the money will be distributed as widely as possible to relieve unemployment and in accordance with the directions of the Federal and State officials. If the contractor bids too low his loss will be a contribution to a good cause.

Such are the views of Guy LeRoy Stevick, vice-president of the Fidelity and Deposit Company of Maryland, who, in a letter to representatives of his organization in the Pacific Coast District, further says:

"Specifications under Emergency Federal Aid Work are intentionally made broad and indefinite so as to allow a wide discretion to the officials to effectuate the benevolent purposes of the Act.

"Under the foregoing conditions a surety bond is more definitely a financial guaranty than it has heretofore been and must be underwritten not in the light of the ability of the contractor to do effective work, or to use the most efficient equipment, or to do the work as cheaply as possible, but must be underwritten as a guaranty that the contractor can afford to contribute any loss which may arise under the beneficent purposes of this Act. It is quite as important to underwrite the superintendent or inspector as it is to underwrite the contractor. If the officials having charge of the work are not fair, it will be just too bad. If the contractor is inclined to cut corners and not strictly observe the rules and regulations of the Bureau, that will be just too bad, also—for punishment will be visited quickly and effectively.

"The Fidelity and Deposit Company has no ambition to guarantee public donations. We must therefore examine very carefully every specification and all physical factors of the work, and the manner of construction, and insist on a clear declaration of purpose by the officials having charge of the work with respect to any uncertain feature of the work. We want the advice of our engineer as to each contract. We are unwilling to authorize bonds on any contract for Emergency work without submission of the contract and specifications to our engineer and ample time for investigation and without a full disclosure of the methods and cost of construction. We are reluctant to write these bonds at all, but very definitely we can only write them with the highest degree of care.

"When submitting any application state specifically what agreement if any exists with respect to the use of equipment, trucks, loading and spreading facilities, and selection of labor, both skilled and unskilled, number of days, hours and shifts during which the labor will be employed. Failure to give this information will cause further correspondence and delay in underwriting."

SPOKANE, WASHINGTON, WILL BAN COSTLY HAND LABOR METHODS

Spokane is finding its system of unemployment relief work too costly and will abandon it this winter.

"I am opposed to the relief employment plan," asserts Mayor Funk.

"So am I," says Commissioner Lambert. "The overhead cost of the work last winter was too high."

"It isn't so much that," countered the mayor, "as that we are trying to get work done by the wrong class of men. We are giving a pick and shovel to men who have never handled one, and the results show it."

"It's the most expensive kind of work," asserted Commissioner Fabian. "I believe we could have more work accomplished for less money in a single month in summer than is accomplished in an entire winter by the unemployed."

NEW PUMP DELIVERS CONCRETE DIRECT TO FORMS ON THE JOB

For the first time in America concrete was pumped to the forms in quantity when the pumpcrete, owned by the Chain Belt Company, went into action on the Thirty-fifth Street Viaduct in Milwaukee, on August 11.

Pumpcrete is a concrete pump, developed in Europe for delivering concrete to the form by direct pumping action, and apparently is the successful solution to a method of placement by direct pumping that has long interested concrete engineers.

The Milwaukee demonstration lasted twelve hours, during which the Pumpcrete handled 125 yards of mixed concrete to forms, including 1½ hours' idle time waiting for delivery. The pump is of the piston type, gasoline or electric motor driven, and has a capacity of 15 to 20 yards of concrete per hour, and is portable. It will transport concrete 500 feet horizontally, or up to 72 feet vertically.

In the Milwaukee test, the concrete of the standard mix being used on the project was delivered in Moto-Mixers to the hopper of the pump, the gasoline motor was started and the Pumpcrete started on its highly successful test that was to run through the full working day and well into the night. The concrete, as it was delivered to the forms, was rigidly inspected, and its quality, if changed at all, was said to be somewhat improved.

Five-inch pipe was employed in the pipe line and the aggregates of relatively large size were moved through it, all day long, without a bobble. The pipe used was in 10-foot lengths, equipped with quick couplings.

At one time the pump was stopped for half an hour while waiting for concrete. The Pumpcrete, however, took up its methodical turnover again, moving the mass thru the pipe line, with no more apparent effort than when the first batch went in.

Although no public announcement of Pumpcrete in action has been made, a crowd quickly assembled, including the officials and construction fraternity of Milwaukee, which grew to such proportions that a squad car was detailed to the operation early in the day.

The Pumpcrete is to be manufactured and distributed in America by the Chain Belt Company of Milwaukee, who have purchased the American manufacturing rights from the German-Dutch combination who developed it and patented it throughout the world.

CO-OPERATIVE CONSTRUCTION CREDIT

CONSTRUCTION INDUSTRIES' CREDIT BUREAU

(A non-profit, membership owned and operated association affiliated with the National Association of Credit Men)

333 MONTGOMERY STREET, SAN FRANCISCO

F. H. Eichler, Chairman

A. J. McGarry, Mgr.

WE are fearfully yet wondrously made, subject always to the ravaging attacks of countless micro-organisms eternally seeking the undermining of our physical being.

Health and happiness—how dependent one is on the other. The slinking snake in the grass alert for the instant of relaxed vigilance of the nature lover to strike with



O. H. WALKER, Secretary-Manager,
Credit Managers' Association of Northern and Central
California, local affiliated unit of the National
Association of Credit Men.

death dealing fangs. Science, from her laboratories, has contributed an antidote. Now, anti venom promptly and properly administered, and the poison of the reptile is comparatively harmless to humanity.

A slight scratch, a broken blister, a neglected sore too insignificant to notice, and frequently the little microbes get us down on our backs with high fever and a dangerous case of bloodpoisoning. Again medical science has developed an antidote. Anti tetanus, used in time, has effected many a cure of this dread malady.

And so we could go on ad infinitum citing the multitude of antidotes prepared to combat the forces attempting to undermine the health and happiness of the world.

Likewise, there are forces equal to the micro-organisms attacking humanity which are constantly at work striving to destroy the health of commerce and industry. Who needs the proof of such a contention after observing what has happened to business the past several years. However, the laboratories of industry are developing antidotes to battle the insidious germs that are responsible for the worldwide epidemic.

Certain remedial formulas are basically applicable to all branches of industry while other cures are restricted to specific types of business.

In the building trades one of the most vital cures prescribed has been the fundamental principles championed by the Construction Industries Credit Bureau or the wholehearted cooperation in the administration of sound credit policies and sane credit practices.

Antidotes are not developed over night, but are the result of long study and experiment. The research laboratory behind the Construction Industries Credit Bureau is the National Association of Credit Men, organized in 1896, whose policies and programs have been formulated from the knowledge and experience of its 30,000 members located in the four corners of our land.

For one-third of a century this National organization has been seeking to impress the nation with the principles of proper credit ethics. This primary objective has been accomplished as not only our nation, but the whole world is now credit conscious with a consciousness born of human suffering.

The National Association of Credit Men has committed itself to fight with all the power and resources at its command credit abuses, mal-practices and ignorance which throw the economic machinery of business out of gear and cause untold distress, damage and misery. It is an indisputable fact that liquid credit means solid business. The individual firm or corporation which pays when due is doing more than keeping its own credit good. It is assisting in the reconstruction of confidence in the backbone of industry—credit.

Paying habits reveal integrity and integrity has never been subject to a discount. The questions every person in business might well ask at present are, "How sound and courageous have I been in evaluating and appraising my accounts receivable? Will there be a rude awakening when an attempt is made to convert these receivables into cash? Have they been placed upon the books only after a careful analysis and appraisal of the integrity and character the customer revealed in his paying habits?"

There was never a time in the history of the nation when the need for accurate appraisal of accounts receivable was as necessary as it is today. From the laboratories of the National Association of Credit Men has come a credit tool to gauge or measure accurately the value of accounts receivable. This yard stick is known as a Ledger Interchange report, acting as a weathervane to indicate the drift of the veering winds of the fortunes of men.

A Ledger Interchange report has been termed many times an analysis of a debtor's accounts payable ledger. There are 142 affiliated Bureaus throughout the country comprising the National Association of Credit Men. Through an inter-association control system every one of these Bureaus contribute their members' experience to each report regardless of the geographical location of the initial inquiry. Thus, the completed report shows at a glance the purchaser's total indebtedness throughout the country and the manner in which the obligations have been paid. Not infrequently it discloses that you are mistaken in the belief that you are the principal creditor.

These reports keep the credit files of the members of the Construction Industries Credit Bureau up-to-date at all times. It has been authoritatively stated that if every wholesale credit man used Interchange service intelligently and consistently, failures would be reduced at least 20 per cent and liabilities in equal amount. This would effect savings of over \$100,000,000 annually. To deny this possibility is to admit almost inconceivable ignorance of the management of credit.

"PRIVILEGE TAX" ON PUBLIC HIGHWAYS LOOMS IN CALIFORNIA

Those industries and merchants in California that have been accustomed to transport their own wares over the highways of California in their private automotive equipment and, as such, have not been subjected to special regulation or taxation, will be interested in legislation proposed for Alabama and aimed at other carriers of all classes, according to F. H. Asbury, recently elected president of Allied Truck Owners.

"Approximately 85 per cent of the motor trucks in California are privately owned and operated," stated Mr. Asbury. "That means they are used primarily in the transportation of merchandise that belongs to or has been sold by the producers or vendors. The use of trucks is incidental to the major business and serves merely as a method of delivery. There is no direct charge to customers for the transportation of the goods.

"The Alabama legislature has before it a bill, which proposes 'privilege taxes' on all commercial users of the highways. This bill describes 'private carriers' as being any one engaged in transporting over the public highways by motor vehicle property sold or to be sold by him in the furtherance of a private commercial enterprise.

"All such carriers must obtain a license from the Public Service Commission and pay the following fees:

- \$5.00 fee with application for license.
- 1c per mile when net weight is under 2 tons and
- 1c per mile additional for each ton or fraction of net weight over 2 tons.
- 100 per cent additional if not fully equipped with pneumatic tires.

"The theory of the proponents of the bill is that all carriers use the public highways and should be made to pay a privilege tax accordingly. The same provision is made for taxing what is known as common and contract carriers. There is no attempt to discriminate between types of highway users, as it is held all are like users and the one whose vehicles travel the most miles should pay the most tax for this privilege.

"It might not be out of place to point out that the 'privilege tax' has been suggested for California. The same arguments that are advocated in Alabama have been advanced in this state. One type of truck operators in California, the common carriers, now pay to the state 5 per cent of their gross revenue in tax. This might be construed as a 'privilege tax.' In numbers, the trucks operated by this class of carriers approximate 5 per cent of all trucks on the highways. It is almost beyond comprehension to believe that the number of highway miles covered by 5 per cent of the trucks in the state can approach the number of highway miles covered by 85 per cent of the trucks, which are classed as private carriers.

"Allied Truck Owners is the only state-wide organization of motor truck owners whose membership includes all types and classes of owners. We have with us representatives of private, common and contract carriers. Our purpose is to serve the best interests of truck owners and users without regard to class. We do not participate in any fractional controversies. We are confident that Allied Truck Owners deserves the support of all truck owners. We know that a strong organization is needed in this state to protect the common interests of commercial transportation on the highways. Private carriers, such as are represented among the readers of *Pacific Constructor*, shippers and all who have the least concern over highway transportation should investigate Allied Truck Owners and the advantages membership in the organization would mean to them."

DEED OF TRUST MEASURE HIT BY CALIFORNIA BUILDING CONGRESS

The Northern Section of the California Building Congress is opposed to the initiative measure to abolish the present California law on the deed of trust, declaring that "serious consequences would follow its adoption, particularly at this time."

The Northern Section of the Congress has adopted the following resolution protesting the adoption of the law and will submit such resolution to the Southern Section of the Congress with a view to having that body assist in preventing passage of the measure:

WHEREAS, an initiative measure, prepared by The Lawyers Club of Los Angeles, relating to the foreclosure of mortgages and trust deeds, is to be upon the ballot at the November election; and,

WHEREAS, this measure has been considered at two meetings of the Northern Section of the Building Congress and has been given particular study by a special committee of the Congress; and,

WHEREAS, an examination of the measure in its relation to the public welfare generally and that of the building industry in particular has compelled the following conclusions, namely:

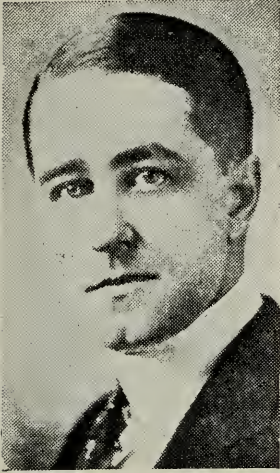
1. That the measure will give no relief whatever to borrowers who have given either mortgages or trust deeds to secure their loans, but, on the contrary will cause embarrassment and hardship to thousands of borrowers by making difficult the renewal of existing loans; and
2. That the measure will delay a revival of building construction and the employment of labor by making difficult and costly the financing of building operations; and,
3. That the measure will depreciate the value of all real estate, by restricting credit for real estate loans, at a time when the efforts of this Congress and other agencies are being directed toward maintaining value and credit; and,
4. That the measure, by compelling a court action in every case for foreclosure and by prohibiting any other arrangement between borrower and lender by which foreclosure costs and loss may be avoided, is indefensible and is class legislation designed to benefit a particular professional group at the expense of the public; and,
5. That the subject of the measure is complicated, highly technical and not appropriate to the initiative process and that the measure contains numerous errors and ambiguities which will not only cause litigation which may necessitate frequent action by the people at future elections.

BE IT RESOLVED by the Northern Section of the California Building Congress that the Northern Section of the California Building Congress go on record as opposed to the enactment of the Initiative Measure relating to Mortgages and Trust Deeds and that every appropriate means be taken to acquaint the public with the sinister character of this proposal and the serious consequences which would follow its adoption, particularly at this time.

24-HOUR CEMENT FOLDER—Pacific Portland Cement Company has issued an eight-page folder telling of the advantages and results gained in the use of the company's 24-hour cement, which, the manufacturers claim, progressively develops increased strength while curing, thereby tightening the interstitial spaces, reducing porosity and increasing the stability and durability of the concrete.

A.G.C. TO PUSH CONSTRUCTION UNDER EMERGENCY RELIEF BILL

Intensification of the drive of the construction industry to have the country take full advantage of the provisions of the recently enacted Emergency Relief and Construction Act, thereby assuring the relief intended, will be one of the major objectives of the fall meetings of the executive cabinet, governing and advisory boards of the Associated General Contractors of America, October 9 to 11, at Washington, Managing Director Edward J. Harding announces.



EDWARD J. HARDING

The executive cabinet of the Association, headed by President Henry J. Kaiser, of Oakland, Calif., is scheduled to meet on October 9, while the governing and advisory boards will meet on the two succeeding days. These meetings will precede those of the policy committee of the Construction League of the United States, on October 12, and the general assembly of the National Conference on Construction, October 13 and 14, both of which will be held at the Nation's Capital. — A. G. C. is a member of both of the latter councils and has been a steadfast advocate of a national construction program as the only means available at this time to create employment, develop purchasing power and receive industry. In cooperation with the Construction League of the United States, which is composed of the outstanding national trade and professional associations of the industry, the local branches and chapters of the Associated General Contractors have been particularly active since passage of the Relief Act in sponsoring through the National Committee on Trade Recovery the immediate undertaking of all worthy self-liquidating construction projects contemplated in the act. The closer coordination and intensification of this activity will constitute one of the principal topics of discussion at both the contractors' and League meetings.

"The Emergency Relief and Construction Act will go for naught," Harding declared, "unless the States and local communities fully avail themselves of its construction provisions and the Reconstruction Finance Corporation acts promptly upon applications for loans so that an adequate self-liquidating construction program may be under way before winter. We are now devoting our full energies to this end, so that there may be definite and early relief for unemployment and business," he stated.

The meetings of the governing bodies of the Associated General Contractors will be attended by outstanding general contractors from every part of the country, while the meetings of the Construction League and the National Conference on Construction will bring representatives of every branch of the industry, intent upon reviving business.

PREVAILING WAGE IS FLEXIBLE— NOT PREVENTIVE FOR LOW WAGES

By Merle Thorpe, *Editor, Nation's Business*

The law now requires that on the construction of federal buildings the "prevailing rate of wages" must be paid, an unjust, inequitable law which is unfair to contractors and of no benefit to workers. At its recent meeting the National Chamber asked that this provision of the law be repealed. Here's how it works as reported by the General Contractors Association:

On a job at Langley Field the contractors found that there was no active union with which to deal and carpenters and bricklayers agreed that 75 cents an hour was fair and was more than they had been getting.

The contractors bid for the job on that basis and got it. Then a hastily reorganized union appeared and demanded \$1.00 an hour. The Secretary of Labor upheld them. Then the union tried again and with the Secretary's backing got \$1.25. On a third effort, \$1.50 an hour was asked and the Secretary ruled that the prevailing rate should be the same as in Washington, 200 miles away.

Not A Preventive For Low Wages

Another point about the "prevailing rate of wages." The Government exercises great solicitude for the man on the construction work. What about the worker in the factory who makes the material? Here's a story a material man told:

"Recently we submitted a bid on a government contract. We wanted the business—wanted it very badly—and we struggled to make it low.

"We had high hopes of getting it, but our hopes were blasted. We learned that a competitor, a little known plant, had not only cut under us but cut very deeply. We started a private inquiry and learned that this successful bidder was paying his men, bench labor, not unskilled manual workers, 17½ cents an hour, \$10.50 a week, for a 60-hour week.

"But, and here's an inequity in your prevailing rate of wages law, the men erecting that material on the job will get probably \$1.50 or more an hour, eight or ten times as much for work no more skilled."

There's an inequity that results when government tries to regulate business.

CONTRACTORS' DIRECTORY ISSUED—

Carlos W. Huntington, Registrar of Contractors, announces the issuance of the latest 1932-33 official list of registered contractors.

This complete and only official listing is given both alphabetically and geographically, as well as a classified listing of contractors, a reprint of the contractor's license law and brief discussion of the functions of the contractors Division of the State department of Professional and Vocational Standards. It also contains important information concerning the various state laws regulating contractors, which is of vital interest to all those closely allied to the construction industry.

The Directory will be supplemented at regular periods with lists of additional licenses issued, as well as notices of suspensions, revocations and reinstatements.

Those desiring a copy or copies of the publication may write to the Registrar of Contractors at Sacramento. The cost is \$3.50 per copy.

ALAMEDA CHAPTER, A. G. C. SEEKS ADDITIONAL P. O. FUNDS

Alameda County Chapter, Associated General Contractors of America, as the result of a recent meeting with Senator Hiram W. Johnson, has addressed a letter to Ogden Mills, Secretary of the Treasury, calling his attention to the fact that the appropriation for post offices in California is far behind that of other States of equal size, in proportion of funds appropriated as against the large amount of funds allocated. The letter urges that the California post office building program be vigorously carried forward from the funds set up in the Relief Bill — one hundred million dollars—and that the shortages of the past be now made up.

Another letter has been addressed to the Supervising Architect of the Treasury Department urging that materials to be used in post offices in this district be tested and sampled in the San Francisco Branch of the Bureau of Standards. Such a plan, if adopted, the Chapter points out, will eliminate many of the delays and expenses now occurring under the present system of sending all samples to the Bureau of Standards at Washington. In discussing this phase of the situation with Senator Hiram W. Johnson he expressed much sympathy with the plan proposed by the A. G. C. and will use his efforts to have it adopted.

A third letter was sent to Postmaster General Brown urging him to cooperate with the Secretary of the Treasury in relieving California's present shortage of post office appropriations.

"A serious joker remains in the proposed post office building program and disbursement of the one hundred million dollars provided in the Relief Bill inasmuch as the Secretary of the Treasury must first certify that the funds are available in the treasury for the work," says Wm. E. Hague, secretary-manager of the East Bay chapter. "This same provision applies to the Army and Navy building appropriations set up in the bill and so far no funds are available and the proposed program remains a political pill. However, we are now informed that at least part of the money will shortly be available."

The following communication addressed to Secretary of the Treasury Mills is self-explanatory:

Hon. Ogden Mills,
Secretary of the Treasury
Washington, D. C.

Dear Mr. Mills:

We are taking the liberty of addressing you on a matter of great importance to the building construction interests of this State, and wish to place before you certain facts which we believe warrant your careful and favorable consideration.

The building business has noted with appreciation that the Relief Bill, sometimes known as the Wagner Bill, provides for the expenditure of one hundred million dollars for new post offices, on certification by you that funds are available in the U. S. Treasury.

The disbursement of this money along the lines set up in Document 788 of the 71st Congress will afford untold relief to buildings which is almost at a standstill, and we believe the bill will provide a proper housing for Federal business such as is very badly needed in many cases.

A study of Document 788 clearly reveals the fact that this State has seemingly been left behind in its proportion of funds actually appropriated for post office construction, and a large amount of the total funds set up for California remains in the "allocated" column than has been appropriated. This is not the case with any other state of equal size.

Other leading States have already received a very much larger percentage of actual appropriations than California, as follows: New York, 73%; Pennsylvania, 71%; Illinois, 81%; Ohio, 66%; and Texas, 56%, while this State received appropriations of only 45%.

In all but a very few of the cities for which funds have been allocated, but not yet appropriated, you will note there is no Federal building at this time, and our Government is paying rent. In fact, there is, and has been for many years, a distinct shortage of Government owned post offices in California.

We feel that so long as this post office building program has been definitely set up and is to be put through there is no time like the present for vigorously pushing forward and getting the balance of the work under way. If it should be decided to expend only part of the amount received to carry on the work set up in Document 788, we trust that in any event you will agree that California should receive a liberal allotment in order to overcome the present shortage of authorized and appropriated funds.

If normal conditions prevailed in the building business the matter would not be so urgent, but the State is doing no building, municipalities have practically ceased building, and pri-

vate capital is doing almost no building at all. The result is a tremendous percentage of idleness in this great business of building, and thousands of mechanics in this State, having reached the end of their resources, are obliged to live on charity. In this situation we are obliged to look to our Government for relief for the immediate future.

We trust these matters may have your favorable consideration and receive some encouraging response from you. We are

Very respectfully yours,
ALAMEDA COUNTY CHAPTER, ASSOCIATED
GENERAL CONTRACTORS OF AMERICA,
S. G. JOHNSON, President.

WAGES PAID ON ELKO, NEVADA, PROTESTED BY SENATOR ODDIE

Declaring that the wages paid by contractors to laborers employed on the new federal building at Elko, Nevada, are less than the prevailing wage scale and that workmen are being imported from the outside by the contractors, Senator Tasker L. Oddie has wired to Secretary of Labor Doak explaining the situation and requesting that the government take steps to have the matter corrected.

It is contended that the Madsen Construction Company of Denver, the contracting company, is paying laborers forty cents an hour, while the prevailing scale in Elko is fifty cents an hour.

A complaint was filed with William Royle, state labor commissioner, and he in turn referred the matter to Senator Oddie.

BALTIMORE OFFICIALS PROPOSE TO EXTEND THE 30-HOUR WEEK

Baltimore municipal officials and members of the Maryland State Roads Commission are considering the advisability of adopting the 30-hour week as a means of helping speed economic recovery. The subject has been placed before them by the Baltimore Federation of Labor, headed by Henry F. Broening.

Mayor Howard W. Jackson, of Baltimore, and Bernard L. Crozier, the chief engineer, will hold a conference on the suggestion in regard to future construction work to be carried on by the city. Members of the State Roads Commission also promised to give the suggestion consideration.

STATE PROVIDES FUNDS FOR WINTER CAMP OPERATION

The State Highway Commission has approved a resolution calling for appropriation of \$300,000 from its general contingency fund for use in establishing winter labor camps between October 1, 1932, and May 15, 1933.

The resolution was introduced by Daniel Blood, director of natural resources; S. R. Black, chairman of the California labor camp committee.

The camps are to be operated similarly to those of last year, with unemployed, destitute men cleaning away slides and building fire trails six hours a day in exchange for food, shelter, tobacco and some clothing.

The location of the camps has not been decided. This matter is expected to be determined in conferences held sometime this month.

OREGON HIGHWAY EXPENDITURES REGISTER A TOTAL \$170,000,000

Oregon has expended approximately \$170,000,000 in connection with its highway system since the state highway department was created.

Of this amount \$137,000,000 was expended for construction and maintenance of highways, \$18,000,000 for payment of interest, and approximately \$14,500,000 toward the retirement of bond issues.

The amount of \$45,399,916 was derived from motor vehicle registration fees and \$37,000,000 from tax on motor fuels. Expenditures grew from \$196,458 in 1914 to \$17,325,560 in 1931.

Annual Safety Congress and Exposition Set for Washington

DURING the week of October 3 to 7, many delegates from companies in the United States engaged in construction work will meet at the Wardman Park and the Shoreham hotels in Washington, D. C., to consider practical cooperative methods for the promotion of health and the reduction of accidents in the industry.

This program for the construction industry will be conducted by the Construction Section of the National Safety Council, as a part of the Twenty-first Annual Safety Congress and Exposition. John Russell, Sr., United Engineers and Constructors, Inc., is general chairman of the Section, and Charles H. Black, Stone and Webster Engineering Corp., is secretary.

The outstanding feature of the 1931 accident experience of the construction industry has been the large reduction in the number of fatalities as compared to previous years. This change has resulted in the lowest accident severity rate in three years. The severity rate of the industry has decreased from 5.81 days lost per 1000 man-hours in 1930, to 4.52 in 1931.

On the other hand, the accident frequency rate of the industry increased from 52.47 per 1,000,000 man-hours in 1930 to 56.71 in 1931. These results leave the construction industry with much yet to do toward the control of accidents. With the exception of the mining industry, no industry among the twenty-eight which reported last year to the National Safety Council has a greater frequency and severity rate.

Among different branches of the industry, accident frequency and severity rates per 1,000,000 man-hours of work was highest among cement workers. The lowest accident frequency rate was among roofing and sheet metal workers, and the lowest accident severity rate was among employees of plumbing and piping contractors. Fatalities were most numerous, in proportion to man-hours worked, in the erection department of allied building metal industries. Permanent partial disabilities were especially high among heating and piping contractors.

In most groups there were conspicuous examples of exceptional safety records, proving that accident control may be achieved. One interesting example was a group of 50 employees in the erection department of a company in the allied building metal industries which went through the entire year without a single lost time accident. This was a sharp contrast to the remaining units of this organization which averaged a frequency rate of 53.82 per 1,000,000 man-hours and a severity rate of 10.62 days lost per 1,000 hours worked.

The initial program of the Construction Section, for Tuesday afternoon, will include "Resume of Year's Activities," by General Chairman John Russell, Jr., J. C. Forester, Chairman, Statistics Committee, will discuss "Construction Statistics—and What They Show." One of the features of the entire program will be an address, at this session, on "Education will do More than Regulation to Promote Safety," by Hon. W. N. Doak, Secretary of Labor of the United States.

The Wednesday morning session will include election of officers and the following addresses: "The Navy and Safety on Its Construction Work," by Commander Wolcott E. Hall, Branch Hydrographic Office, United States Navy; "How to Make the Construction Job Safe," by Edgar N. Goldstine, Construction Superintendent, Barrett & Hilp; "Do Awards to Foremen Stimulate Good

Accident Prevention Records?" by T. W. Piper, Safety Engineer, Stone & Webster Engineering Corporation.

At the Thursday afternoon session, F. A. Davidson will discuss "Hazards of Building Construction" (illustrated); A. E. Horst, secretary-treasurer, H. W. Horst Co., will discuss "Building America's Roads Safely"; and W. A. Dearborn, Chief Engineer, Lumbermen's Mutual Casualty Co., will talk on "Accident Reports and How the Insurance Companies Use Them."

The Annual Safety Congress program as a whole will be broad in scope and will have many new features. There will be 41 general and sectional programs, with 120 different sessions and about 350 speakers of prominence and authority in their respective fields.

Special attention will be given to the problem of industrial health. There will be a number of addresses by specialists before different industrial groups, four half-day sessions of the Industrial Health Section, and one session on Industrial Nursing.

The dust problems in industry, both from the health and the engineering viewpoints, will be considered. There will be an address on "Dust—An Engineering Problem," by Leonard Green, of Yale University, before the Advanced Safety Engineering session. This will be supplemented by a Dust Explosion Demonstration at the U. S. Department of Agriculture Testing Station near Washington, D. C., by Dr. David J. Price, of the Engineering Division of the Bureau of Chemistry and Soils.

The Industrial Health Session will give an afternoon to a "Symposium of the Dust Problem in Industry" by five specialists. There will be another session on "Health Work in the Small Plant"; and still another devoted to a "Symposium on Activities of the Chemical Industry in Preventing Poisoning" from the viewpoints of the chemical manufacturers, the State and Federal Governments.

Another important general feature will be the exhibit of the most modern equipment for the promotion of safety and health in industry and in public places. This will include protective clothing, new developments in mechanical safety devices, motor car control equipment, the latest fire prevention methods, and modern first-aid kits and hospital accessories. There will be first-aid demonstrations by the Red Cross, and safety educational exhibits by the U. S. Bureau of Mines and the U. S. Navy.

Another Congress feature will be four early morning sessions, which are planned as practical demonstrations in the new technique of "Safety in Foremanship by the Conference Method." They will be conducted by M. J. Kane, plant training engineering of the American Telephone & Telegraph Co.

The American Society of Safety Engineers, Engineering Section, will hold several sessions to consider problems relating to new industrial safety codes. These will include the construction safety code, the ladder code, and problems of electrical cut-outs. Special committees on "Woodworking Circular Saws," "Low Voltage Electrical Hazards," and "Portable Blow Torches," will have meetings.

The Street and Highway Traffic Section, with 17 regular and special sessions, will carry through the broadest and most important program ever undertaken. There will be special joint sessions with national conferences of the Institute of Traffic Engineers, State Motor Vehicle Administrators, and Police Officials.

UNIT BID SUMMARY

Compiled from the Daily News Service of Pacific Constructor

WATER & SEWER SYSTEMS—GOVERNMENT ISLAND—ALAMEDA

ALAMEDA, Alameda Co., Cal.—F. W. Snook, 596 Clay St., San Francisco at \$10,650 for combined project, submitted low bid to and was recommended for award by Constructing Quartermaster, Benton Field Air Depot, 33 Pacific Ave., Alameda, to construct a water supply system and sanitary sewer system at Benton Field Air Depot, Alameda, involving:
(I) complete water and sewer system.
(II) water system only.
(IV) sewer system only.

Bids follow:

| | |
|---|----------|
| (A) F. W. Snook, S. F.....(I) | \$10,650 |
| (B) Oakland Sewer Const. Co., Oakland.....(I) | 11,438 |
|(II) | 9,288 |
|(III) | 2,428 |
| (C) C. W. Wood, Stockton.....(I) | 11,500 |
|(II) | 9,000 |
|(III) | 2,500 |
| (D) W. J. Tehln, Oakland.....(I) | 11,510 |
|(II) | 9,864 |
|(III) | 1,675 |
| (E) Herman Lawson, S. F. (I) | 11,350 |
|(II) | 9,950 |
|(III) | 2,570 |

| | | |
|--|--------|--|
| (F) R. B. McNair, Oakland.....(I) | 12,441 | (1) 1in. ft. c. i. pipe 8-in. do in place; |
|(II) | 9,662 | (2) 1in. ft. do, 6-in.; |
|(III) | 2,779 | (3) 1in. ft. do, 4-in.; |
| (G) G. M. Gest, S. F.....(I) | 12,475 | (4) each, 8-in. gate valves with valve boxes; |
|(II) | 10,055 | (5) each, 6-in. do; |
|(III) | 2,445 | (6) each, 4-in. do; |
| (H) Scott Co., Oakland.....(I) | 12,746 | (7) each, hydrants in place; |
|(II) | 9,450 | (8) 1in. ft. 10-in. vit. clay pipe in place; |
|(III) | 3,296 | (9) 1in. ft. 8-in. do; |
| (I) J. A. Fazio, Oakland.....(I) | 12,899 | (10) 1in. ft. 6-in. do; |
|(II) | 10,437 | (11) 1in. ft. 8-in. c.i. pipe, Class A; |
|(III) | 3,100 | (12) each, 10x3-in. vitrified clay wye branches; |
| (J) Jas. Currie, Burlingame (I) | 12,995 | (13) each, 10x6-in. do; |
|(II) | 8,982 | (14) each, 8x6-in. do; |
|(III) | 4,013 | (15) each, 6x6-in. do; |
| (K) G. C. DeGolyer, Oakl'd (I) | 13,000 | (16) cu. yds. concrete inc. forms, in place; |
|(II) | 9,200 | (17) cu. yds. quarry waste in place; |
|(III) | 3,900 | (18) cu. yds. disintegrated rock in place; |
| (L) E. J. Treacy, S. F.....(I) | 14,790 | (19) cu. yd., bank rock gravel; |
|(II) | 8,800 | (20) 100 lbs. reinf. steel in place; |
|(III) | 5,990 | (21) each, concrete manholes, c.i. cover; |
| (M) H. E. Conner, Redwood City.....(I) | 15,011 | (22) each, brick manholes, c.i. cover. |
|(II) | 10,022 | Unit bids follow: |
|(III) | 4,989 | |
| (N) P. L. Burr, S. F.....(I) | 8,785 | |
| (O) S. M. McGaw, St'kton (II) | 10,200 | |

| | | | | | | | | | | | | | | | |
|-----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | |
| (1)..... | \$ 1.35 | \$ 1.05 | \$ 1.00 | \$ 1.21 | \$ 1.20 | \$ 1.26 | \$ 1.55 | \$ 1.16 | \$ 1.21 | \$ 1.10 | \$ 1.22 | \$ 1.10 | \$ 1.28 | \$ 1.03 | \$ 1.10 |
| (2)..... | 1.05 | .90 | .73 | .97 | .90 | 1.00 | 1.31 | .83 | .89 | .76 | .92 | 1.00 | .77 | .80 | .92 |
| (3)..... | .80 | .70 | .57 | .82 | .65 | .80 | 1.16 | .80 | .78 | .60 | .66 | 1.00 | .63 | .57 | .76 |
| (4)..... | 49.00 | 35.00 | 34.00 | 37.00 | 33.50 | 37.00 | 36.75 | 38.00 | 23.50 | 28.00 | 35.00 | 32.00 | 40.00 | 40.00 | 45.00 |
| (5)..... | 35.00 | 25.00 | 25.00 | 30.00 | 30.00 | 26.00 | 27.00 | 28.00 | 21.00 | 18.65 | 25.00 | 25.00 | 30.00 | 27.00 | 25.00 |
| (6)..... | 25.00 | 20.00 | 18.00 | 20.00 | 21.60 | 20.00 | 19.75 | 21.00 | 14.75 | 11.00 | 18.00 | 17.00 | 22.00 | 18.00 | 20.00 |
| (7)..... | 110.00 | 65.00 | 72.00 | 70.00 | 83.80 | 79.00 | 79.50 | 87.00 | 60.00 | 10.00 | 76.00 | 67.00 | 80.00 | 65.00 | 70.00 |
| (8)..... | 1.65 | .85 | .92 | .84 | .80 | 1.74 | 1.05 | 2.00 | .85 | 70.00 | 2.25 | 3.30 | 3.34 | ..... | ..... |
| (9)..... | .85 | .75 | .81 | .70 | .70 | 1.29 | .84 | 1.75 | .73 | 1.70 | 1.86 | 3.00 | 3.22 | ..... | ..... |
| (10)..... | .90 | .63 | .78 | .67 | .55 | .98 | .86 | 1.00 | .57 | 1.55 | 3.58 | 1.75 | .77 | ..... | ..... |
| (11)..... | 1.55 | 1.25 | 1.40 | 1.20 | 1.40 | 2.80 | 1.60 | 2.00 | 1.18 | 1.00 | 5.00 | 3.00 | 1.51 | ..... | ..... |
| (12)..... | 2.75 | 1.50 | 2.50 | 1.00 | 2.25 | 1.90 | 1.61 | 4.50 | 1.25 | 2.00 | 1.50 | 1.50 | 1.00 | ..... | ..... |
| (13)..... | 2.75 | 1.50 | 2.50 | 1.00 | 2.25 | 1.90 | 1.25 | 4.50 | .75 | 1.75 | 1.50 | 1.50 | 1.00 | ..... | ..... |
| (14)..... | 2.40 | 1.10 | 2.10 | 1.00 | 1.75 | 1.35 | 1.10 | 2.65 | .60 | 1.50 | 1.00 | 1.00 | 1.00 | ..... | ..... |
| (15)..... | 2.00 | .75 | 1.70 | 1.00 | 1.45 | .95 | 1.00 | 2.30 | .50 | 1.25 | .75 | 1.00 | 1.00 | ..... | ..... |
| (16)..... | 15.00 | 20.00 | 18.00 | 18.00 | 18.00 | 20.00 | 16.00 | 12.00 | 16.00 | 15.00 | 18.00 | 12.00 | 32.50 | ..... | ..... |
| (17)..... | 1.50 | 1.50 | 1.40 | ..... | 2.40 | 2.15 | 1.95 | 2.40 | 1.50 | 1.75 | 1.50 | 1.40 | 1.75 | 1.15 | 1.35 |
| (18)..... | 1.50 | 1.55 | 1.60 | 1.50 | 2.50 | 2.25 | 1.90 | 2.40 | 1.50 | 1.75 | 2.00 | 1.50 | 1.75 | 1.15 | 1.15 |
| (19)..... | 1.65 | 2.00 | ..... | ..... | 2.00 | 3.50 | 1.95 | 2.40 | 1.50 | 2.00 | 2.50 | 1.75 | 2.00 | ..... | ..... |
| (20)..... | 9.00 | 5.00 | 5.00 | 5.00 | 7.50 | 5.00 | 4.00 | 4.00 | 4.00 | 6.15 | 6.00 | 4.00 | 8.00 | ..... | 5.00 |
| (21)..... | 115.00 | 60.00 | 70.00 | 56.00 | 105.00 | 60.00 | 85.00 | 80.00 | 80.00 | 75.00 | 65.00 | 95.00 | 120.00 | ..... | ..... |
| (22)..... | 90.00 | 50.00 | 70.00 | 50.00 | 65.00 | 65.00 | 70.00 | 52.00 | 58.00 | 60.00 | 60.00 | 90.00 | 105.00 | ..... | ..... |

BIDS OPENED

COCONINO COUNTY, Arizona.—As previously reported, Leo Frost, Snowflake, Ariz., submitted low bid to U. S. Bureau of Public Roads, Phoenix, Sept. 27 at \$38,446.95 for 8.73 miles of grading, a portion of Sec. J of Route 12, Globe - Holbrook National Forest Highway in Coconino and Tonto National Forests, involving:

- (1) 43 acres clearing;
 - (2) 7500 cu. yds. unclass. excav.;
 - (3) 170 cu. yds. unclass. excavation, structure;
 - (4) 34,000 cu. yds. borrow;
 - (5) 35,000 sta. yds. overhaul;
 - (6) 6.693 miles finish earth graded rd.
 - (7) 11 cu. yds. cement rubble masonry;
 - (8) 868 lin. ft. 18-in. corr. metal pipe
 - (9) 108 lin. ft. 24-in. do;
 - (10) 104 lin. ft. 36-in. do;
 - (11) maintain existing roads and sections accepted for traffic;
 - (12) 9200 lin. ft. protection ditch;
 - (13) 1 cattle guard.
- Total bids follow:
- (A) Leo Frost, Snowflake, Arizona, \$38,446.95.

| | | | | | |
|--|--|----------|----------|----------|--|
| (B) Lewis Bros., Winslow, \$40,599.30. | (2) 322 cu. yds. Class A cement concrete (footing blocks); | | | | |
| (C) H. J. Hagen, Globe, \$41,642.30. | (3) 942 cu. yds. Class A do (struc.); | | | | |
| (D) Engineer's estimate, \$35,081.95. | (4) 157,000 lbs. reinf. steel; | | | | |
| Unit bids follow: | (5) 465,000 lbs. struc. steel; | | | | |
| (1)..... | \$160.00 | \$200.00 | \$100.00 | \$150.00 | (6) 2500 lbs. cast steel; |
| (2)..... | 1.00 | .80 | 1.50 | .97 | (7) 1750 lin. ft. solid timber rail; |
| (3)..... | 1.50 | 3.00 | 1.50 | 1.50 | (8) 1 lot misc. items of work. |
| (4)..... | .50 | .50 | .60 | .45 | Complete bids follow: |
| (5)..... | .05 | .03 | .03 | .03 | (A) Utah Const. Co., San Francisco, \$57,891.00. |
| (6)..... | 150.00 | 100.00 | 100.00 | 150.00 | (B) J. P. Brennan, Redding, \$58,348. |
| (7)..... | 18.00 | 30.00 | 20.00 | 16.00 | (C) F. J. Maurer & Sons, Eureka, \$59,332.50. |
| (8)..... | 1.40 | 4.00 | 1.50 | 1.35 | (D) Kuckenburg & Witman, Yosemite, \$62,338.00. |
| (9)..... | 2.09 | 5.00 | 2.00 | 1.95 | (E) Rocca & Caletti, San Rafael \$72,076.00. |
| (10)..... | 3.45 | 6.00 | 5.00 | 3.40 | |
| (11)..... | 200.00 | 200.00 | 200.00 | 200.00 | |
| (12)..... | .10 | .10 | .05 | .08 | |
| (13)..... | 650.00 | 484.00 | 600.00 | 600.00 | |

BIDS OPENED

SHASTA COUNTY, Cal.—Utah Construction Co., 1 Montgomery St., San Francisco, at \$57,891 submitted low bid to State Highway Commission, Sacramento, to construct two steel stringer bridges with concrete decks on concrete bents, one across Hat Creek and the other across Pit River, involving:

(1) 2,65 cu. yds. struc. excav.;

Unit bids follow:

| | | | | | |
|----------|---------|---------|---------|---------|---------|
| (1)..... | \$ 4.00 | \$ 4.00 | \$ 3.50 | \$ 2.00 | \$ 5.00 |
| (2)..... | 15.00 | 22.00 | 16.00 | 20.00 | 18.00 |
| (3)..... | 19.00 | 19.00 | 20.00 | 22.00 | 30.00 |
| (4)..... | .04 | .04 | .044 | .045 | .045 |
| (5)..... | .046 | .041 | .045 | .05 | .045 |
| (6)..... | .14 | .13 | .15 | .15 | .15 |
| (7)..... | 1.10 | 1.20 | 1.00 | 1.00 | 1.50 |
| (8)..... | 200.00 | 575.00 | 1000.00 | 250.00 | 750.00 |

GRADE-SURFACE—MONTEREY COUNTY—STATE

MONTEREY COUNTY, Cal.—Meyer Rosenberg, 1755 San Bruno Ave., San Francisco, at \$123,836.42 submitted low bid to State Highway Commission, Sacramento, to grade and surface with selected material and treat with bituminous binder, 3.7 miles between San Remo Divide and Carmel River, involving:

- (1) 73 sta. clear and grub right of way;
- (2) 173,500 cu. yds. rdwy. excavation, unclassified;
- (3) 3,112,000 sta. yds. overhaul;
- (4) 8,500 cu. yds. struc. excav.;
- (5) 310 cu. yds. Class A cement concrete structures;
- (6) 48 cu. yds. Class A cement concrete (curbs and sidewalks);
- (7) 29,000 lbs. bar reinf. steel (struc.)
- (8) 264 lin. ft. 8-in. corr. metal pipe
- (9) 298 lin. ft. 12-in. do;
- (10) 772 lin. ft. 18-in. do;
- (11) 714 lin. ft. 24-in. do;
- (12) 372 lin. ft. 30-in. do;
- (13) 586 lin. ft. 36-in. do;

- (14) 2,065 lin. ft. 8-in. perf. metal pipe underdrains;
- (15) 2,015 cu. yds. rubble masonry;
- (16) 765 lin. ft. masonry parapet;
- (17) 2,900 sq. yds. paved gutters and spillway inlet aprons;
- (18) 4.7 miles new property fence;
- (19) 10 fence gates;
- (20) 6,200 lin. ft. timber guard rail;
- (21) 220 timber guide posts;
- (22) 64 culvert markers;
- (22) 6 MFBM redwood timber, select all-heart struc. grade;
- (24) 12 MPFBM redwood timber, dense select all-heart struc. grade;
- (25) 930 lin. ft. furnish redwood piles;
- (26) 30 drive redwood piles;
- (27) 1 remove existing timber bridge;
- (28) 150 barrels of heavy fuel oil;
- (29) 525 tons cut-back asphalt;
- (30) 450 tons screenings (seal coat);
- (31) 215 cu. yds. move and rebuild ornamental stone walls and posts;
- (32) 1.2 move and reset special property fences;
- (33) 500 M. gals. water applied to rough grade;

- (34) 194 stations finish roadway;
- (35) 157 monuments complete in place. State will furnish corrugated metal pipe, perforated metal pipe, drainage gates, cast steel frames and covers for drop inlet sand spillway assemblies. Complete bids follow:
- (A) Meyer Rosenberg, San Francisco, \$123,836.42.
- (B) Merritt-Champan-Scott Corp., San Pedro, \$127,361.60.
- (C) Von der Hellen & Pierson, Castaic, \$129,954.35.
- (D) E. C. Coats, Sacramento, \$130,357.20.
- (E) M. J. Bevanda, Stockton, \$132,417.70.
- (F) D. MacDonald, Sacramento, \$134,844.85.
- (G) S. H. Palmer and J. P. Holland, San Francisco, \$139,179.20.
- (H) C. W. Wood, Stockton, \$147,219.40.
- (I) Force Const. Co., Piedmont, \$158,649.90.
- (J) F. W. Nighbert, Bakersfield, \$163,043.05.

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) |
|------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| | \$ 30.00 | \$ 10.00 | \$ 40.00 | \$ 50.00 | \$ 20.00 | \$ 20.00 | \$ 50.00 | \$ 35.00 | \$ 30.00 | \$ 75.00 |
| (1) | .29 | .32 | .27 | .23 | .28 | .26 | .29 | .32 | .46 | .365 |
| (2) | .004 | .0025 | .005 | .004 | .005 | .005 | .008 | .005 | .003 | .005 |
| (3) | .70 | .75 | .90 | .80 | 1.00 | 1.25 | .75 | .50 | .90 | 1.00 |
| (4) | 15.50 | 16.00 | 15.00 | 18.00 | 15.00 | 18.00 | 15.00 | 17.00 | 16.50 | 20.00 |
| (5) | 15.50 | 16.00 | 14.00 | 16.00 | 15.00 | 14.00 | 14.00 | 12.00 | 18.00 | 20.00 |
| (6) | .04 | .035 | .04 | .04 | .05 | .042 | .04 | .05 | .04 | .06 |
| (7) | .22 | .15 | .25 | .25 | .30 | .25 | .15 | .25 | .25 | .25 |
| (8) | .35 | .20 | .25 | .30 | .30 | .30 | .20 | .25 | .25 | .30 |
| (9) | .42 | .20 | .30 | .40 | .40 | .45 | .25 | .25 | .30 | .40 |
| (10) | .45 | .20 | .30 | .50 | .40 | .40 | .30 | .35 | .30 | .50 |
| (11) | .50 | .20 | .40 | .70 | .60 | .60 | .35 | .50 | .40 | .60 |
| (12) | .50 | .30 | .50 | .90 | .75 | 1.00 | .35 | .50 | .50 | 1.00 |
| (13) | .60 | .60 | .75 | 1.00 | 1.00 | 1.00 | .65 | .60 | .70 | .65 |
| (14) | 7.50 | 10.00 | 8.00 | 10.00 | 9.00 | 9.50 | 8.75 | 12.00 | 10.00 | 11.25 |
| (15) | 1.50 | 2.50 | 1.50 | 2.00 | 1.50 | 2.00 | 2.00 | 5.00 | 1.50 | 2.25 |
| (16) | .90 | .90 | 1.00 | .90 | .85 | 1.00 | .80 | 1.00 | .90 | 1.00 |
| (17) | 350.00 | 500.00 | 400.00 | 400.00 | 400.00 | 500.00 | 300.00 | 350.00 | 360.00 | 600.00 |
| (18) | 10.00 | 10.00 | 15.00 | 15.00 | 16.00 | 18.00 | 15.00 | 10.00 | 14.00 | 15.00 |
| (19) | .85 | .80 | .70 | .90 | .80 | .85 | .70 | 1.00 | .90 | 1.00 |
| (20) | 2.25 | 1.50 | 2.50 | 2.80 | 2.75 | 2.50 | 2.40 | 2.00 | 2.40 | 3.00 |
| (21) | 1.75 | 1.50 | 1.50 | 1.80 | 2.50 | 1.80 | 1.60 | 2.00 | 1.70 | 2.40 |
| (22) | 90.00 | 70.00 | 85.00 | 85.00 | 80.00 | 85.00 | 70.00 | 100.00 | 78.00 | 76.00 |
| (23) | 95.00 | 70.00 | 90.00 | 90.00 | 80.00 | 90.00 | 80.00 | 100.00 | 84.00 | 80.00 |
| (24) | 1.00 | .55 | .90 | .4 | .40 | .50 | .42 | .60 | .50 | .56 |
| (25) | 9.00 | 20.00 | 10.00 | 20.00 | 15.00 | 14.00 | 10.00 | 10.00 | 10.00 | 30.00 |
| (26) | 200.00 | 100.00 | 225.00 | 200.00 | 200.00 | 150.00 | 100.00 | 100.00 | 125.00 | 500.00 |
| (27) | 2.30 | 2.50 | 2.50 | 2.50 | 3.00 | 3.10 | 2.00 | 2.00 | 2.50 | 3.10 |
| (28) | 12.50 | 12.00 | 17.00 | 26.00 | 16.00 | 16.00 | 14.00 | 19.00 | 16.00 | 16.00 |
| (29) | 3.00 | 3.25 | 2.50 | 2.50 | 3.50 | 3.00 | 3.00 | 2.50 | 2.70 | 3.25 |
| (30) | 12.50 | 10.00 | 15.00 | 10.00 | 11.00 | 9.00 | 11.50 | 12.00 | 10.50 | 14.00 |
| (31) | 225.00 | 300.00 | 250.00 | 300.00 | 100.00 | 500.00 | 200.00 | 300.00 | 250.00 | 300.00 |
| (32) | 1.25 | 2.00 | 1.50 | 1.50 | 1.00 | 1.00 | 1.50 | 1.00 | 1.25 | 2.00 |
| (33) | 3.00 | 2.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 |
| (34) | 2.50 | 2.50 | 3.00 | 3.00 | 2.50 | 2.75 | 2.50 | 3.00 | 2.50 | 3.00 |

TWENTY-ONE MILES OF HIGHWAY—ARIZONA STATE

ARIZONA STATE.—As previously reported, Jack Cason, 319 Warren St., Hayward, Calif., awarded contract by State Highway Commission at \$68,862.14 for construction on Blythe-Wickenburg Highway, E-98-F (A.F.E. 6010) and E-98-F (A.F.E. 7402) beginning 15 miles east of Quartzite and extending east about 21 miles to a point near Salome, consisting of oil processing by the road mix method, involving:

- (1) 88 M. gals. water applied to roadway (C.I.P.);

- (2) 344,850 sq. yds. prepare subgrade or road surface;
- (3) 2466 cu. yds. subgrade stabilizer;
- (4) 3034 cu. yd. do haul;
- (5) 31,315 cu. yds. mineral aggregate;
- (6) 140,683 cu. yd. do haul;
- (7) 530,659 gals. oil applied to roadway (C.I.P.);
- (8) 21,202 miles mix, lay down and finish;
- (9) 1667 cu. yds. screening for seal coat (C.I.P.);
- (10) 3768 cu. yds. shoulder material;
- (11) 17,040 cu. yd. do haul;

- (12) 400 cu. yd. special mineral aggregate for stockpile;
- (13) 800 cu. yd. haul of special mineral aggregate for stockpile.

Complete bids follow:

- (A) Jack Cason \$8,862.14
- (B) Lee Moor Cont. Co. 73,424.56
- (C) R. Pleasant Cont. Co. 77,167.79
- (D) L. E. Dixon Co. 82,713.21
- (E) New Mexico Const. Co. 83,213.36
- (F) Pearson & Dickerson 84,785.49
- (G) Packard & Tanner 93,180.44
- (H) Phoenix-Tempe Stone. 101,265.16

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) |
|-----|--------|--------|--------|------|--------|--------|--------|----------|--------|--------|--------|--------|--------|
| | \$2.00 | \$0.05 | \$4.00 | .09 | \$0.48 | \$0.07 | \$0.45 | \$450.00 | \$2.00 | \$5.00 | \$0.07 | \$1.00 | \$0.07 |
| (A) | 2.50 | .0025 | .60 | .09 | .48 | .09 | .65 | 450.00 | 2.00 | .40 | .09 | 1.00 | .08 |
| (B) | 4.50 | .005 | .75 | .095 | .48 | .095 | .64 | 450.00 | 2.00 | .25 | .095 | .75 | .095 |
| (C) | 3.00 | .005 | .60 | .15 | .55 | .12 | .05 | 450.00 | 2.25 | .75 | .10 | .75 | .12 |
| (D) | 3.00 | .01 | .70 | .08 | .70 | .065 | .05 | 495.00 | 2.60 | .70 | .12 | 1.00 | .08 |
| (E) | 5.00 | .05 | .55 | .12 | .55 | .12 | .05 | 500.00 | 3.00 | .55 | .12 | 1.20 | .12 |
| (F) | 3.00 | .01 | .50 | .10 | .58 | .10 | .06 | 500.00 | 4.50 | .50 | .10 | 5.00 | .25 |
| (G) | 5.00 | .01 | .75 | .15 | .75 | .12 | .055 | 600.00 | 4.00 | .85 | .15 | .75 | .15 |

GRADING—2.4 MILES—MONO COUNTY

AWARD

MONO COUNTY, Calif.—Oil Fields Trucking Co., Taft, submitted low bid to Department of Public Works, Division of Highways, at the office of the District Engineer, Bishop, August 26, at \$8516.70 for highway construction in Mono County, between West Walker River Canyon and two miles south of Coleville, about 2.4 miles to be graded. The quantities are:

- (1) 11,000 cu. yds. rdwy. excav. without class;
- (2) 22,000 sta. yds. overhaul;
- (3) 11,200 cu. yds. imported borrow;
- (4) 350 cu. yds. struc. excavation;
- (5) 46 cu. yds. Class A Portland cement concrete (structures);

- (6) 3450 lbs. bar reinf. steel (struc.);
 - (7) 552 lin. ft. 18-in. corr. metal pipe
 - (8) 38 lin. ft. 24-in. do;
 - (9) 42 lin. ft. 30-in. do;
 - (10) 125 sta. finish roadway.
- The total bids were:
- (A) Oil Fields Trucking Co. \$8,516.70
 - (B) Larsen Brothers 9,229.10
 - (C) Harms Brothers 9,721.75
 - (D) F. G. Smith and F. D. O'Neal 11,279.60
 - (E) Tiffany, McReynolds 11,717.20
 - (F) Isbell Const. Co. 12,246.00
 - (G) Robinson-Roberts Co. 13,573.30
 - (H) Geo. Herz & Co. 15,681.50

Unit bids follow:

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
|-----------|------|-------|------|--------|---------|--------|--------|--------|--------|--------|
| (A) | \$14 | \$0.1 | \$30 | \$1.25 | \$14.00 | \$0.06 | \$6.00 | \$6.85 | \$6.85 | \$5.00 |
| (B) | 28 | .02 | 34 | .60 | 20.00 | .06 | .25 | .30 | .35 | 4.00 |
| (C) | 26 | .01 | 38 | .70 | 26.00 | .07 | .50 | .60 | .70 | 3.00 |
| (D) | 31 | .005 | 45 | 1.00 | 25.00 | .06 | .60 | .60 | .80 | 5.00 |
| (E) | 30 | .01 | 48 | 1.00 | 27.00 | .08 | .50 | .60 | .70 | 5.00 |
| (F) | 37 | .01 | 47 | 1.00 | 26.00 | .07 | .75 | 1.00 | 1.25 | 4.00 |
| (G) | 36 | .02 | 59 | .80 | 25.00 | .05 | .45 | .75 | 1.45 | 5.00 |
| (H) | 58 | .01 | 47 | 2.00 | 38.00 | .06 | 1.00 | 1.25 | 1.50 | 4.00 |

- ARIZONA STATE—As previously reported, C. G. Willis & Sons, 2119 East 25th St., Los Angeles, awarded contract by State Highway Commission at \$228,334.70, for the construction on Globe-Showlow Highway, E-90-D, A. F. E. 6651. The work, which begins at Seven Mile Draw nineteen miles northeast of Globe and extends northeasterly about 11 miles, consists of grading and draining, involving:
- (1) 211,095 cu. yds. rdwy. excav. (unclass.);
 - (2) 9632 cu. yds. drainage excav. (unclass.);
 - (3) 10,000 cu. yds. slides and over-breakage (unclass.);
 - (4) 2270 cu. yds. struc. excav. (unclass.);
 - (5) 84,614 cu. yds. borrow excav. (unclass.);
 - (6) 1,160,542 sta. yds. earthwork overhaul;
 - (7) 371 cu. yds. Class A concrete (including cement);
 - (8) 231 cu. yds. Class B do;
 - (9) 30,742 lbs. reinf. steel (C.I.P.);
 - (10) 2310 lin. ft. 24-in. C.M.P. (C.I.P. inc. bands);
 - (11) 702 lin. ft. 30-in. do;
 - (12) 2148 lin. ft. 36-in. do;
 - (13) 185 cu. yds. plain rip rap (C.I.P.);
 - (14) 2 cattle guards (C.I.P. except excav. and concrete);
 - (15) 17,450 lin. ft. cable road guard (C.I.P.);
 - (16) 1126 lin. ft. standard guard fence (C.I.P.);
 - (17) 400 cu. yds. drainage excav. (unclass.);
 - (18) 135 cu. yds. struc. excav. (unclass.);
 - (19) 118 cu. yds. Class A concrete (including cement);
 - (20) 10,825 lbs. reinf. steel (C.I.P.).

The bids were:

- (A) C. G. Willis & Sons, Inc., Los Angeles, \$228,334.70.
- (B) L. E. Dixon Co., Los Angeles and 15 E Monroe St., Phoenix, \$235,567.94.
- (C) Ralph Pleasant Contracting Co., Phoenix, \$327,463.26.

The unit bids were:

| | (A) | (B) | (C) |
|------------|--------|--------|--------|
| (1) | \$.60 | \$.63 | \$.90 |
| (2) | 1.00 | .40 | .90 |
| (3) | .45 | .4725 | .675 |
| (4) | 1.25 | 1.50 | 1.50 |
| (5) | .325 | .43 | .50 |
| (6) | .01 | .01 | .02 |
| (7) | 21.00 | 21.00 | 24.00 |
| (8) | 22.00 | 22.00 | 24.00 |
| (9) | .05 | .05 | .06 |
| (10) | 2.00 | 2.00 | 2.50 |
| (11) | 2.40 | 2.50 | 3.00 |
| (12) | 4.00 | 3.25 | 4.50 |
| (13) | 4.50 | 2.00 | 5.00 |
| (14) | 450.00 | 350.00 | 400.00 |
| (15) | .60 | .50 | .70 |
| (16) | .08 | .50 | 1.00 |
| (17) | 1.00 | .40 | .90 |
| (18) | 1.50 | 1.50 | 1.50 |
| (19) | 20.00 | 21.00 | 24.00 |
| (20) | .05 | .05 | .06 |

AWARD

ARIZONA STATE—Hodgman & McVicar, 714 Plymouth Road, Pasadena, Box 162, Flagstaff, Ariz., awarded contract by State Highway Commission, Sept. 26, at \$53,730.66, for construction on Holbrook-Lurton Highway, E-53-F (A.F.E. 6657). The work begins at the north city limits of Holbrook and extends northeast approximately 1 1/4 miles. The work consists of grading, draining and placing of subgrade stabilizer. The principal items are:

- (1) 21,422 cu. yds. rdwy. excav. (unclass.);
- (2) 8480 cu. yds. drainage excav. (unclass.);

CONCRETE PAVE.—FIRESTONE BLVD.—LOS ANGELES

LOS ANGELES, Cal.—L. A. Paving Co., 2900 E. Vernon Ave., submitted low bid to County Supervisors, Sept. 19 at \$49,912.16, for the improvement of Firestone Blvd. from the end of the existing cement concrete pavement 150 ft. east of Atlantic Blvd., in South Gate, to College Ave., in Downey, 15,937 ft. or 3.02 miles, Cash Contract No. 445, involving:

- (2) 30,295 sq. ft. 8-6-6-8-in. concrete pavement;
- (3) 11,593 sq. ft. 8-in. concr. pavement (including thickened edge);
- (4) 238,694 sq. ft. 2-in. asphalt concr. wearing surface;
- (5) 237,554 sq. ft. 3-in. asphalt concr. base;
- (6) 23 tons variable asphalt concrete base;
- (7) 104 ft. certain wall.

(Geo. W. Jones, County Road Commissioner. The bids follow:

- (1) 229,404 sq. ft. 9-7-7-0-in. concrete pavement;
- | | (1) | (2) | (3) | (4) | (5) | (6) | (7) | Totals |
|-------------------------------|-------|------|------|------|--------|--------|---------|--------------|
| L. A. Paving Co. | \$122 | \$12 | \$13 | \$13 | \$,895 | \$,045 | \$28.50 | \$49,912.16 |
| Orwald Bros. | 135 | 118 | 135 | 135 | 9255 | 941 | 2.00 | 67 51,547.11 |
| Griffith Co. | 13 | 115 | 14 | .03 | 945 | 2.00 | .25 | 52,852.22 |
| Kovacovich & Price. | 126 | 136 | .15 | .027 | 939 | 3.00 | 1.00 | 52,940.33 |
| John Pappas. | 1375 | 1375 | 1375 | 1375 | 9245 | 941 | 2.75 | 55,109.63 |
| J. E. Haddock, Ltd. | 14 | 13 | .10 | .325 | 945 | 3.00 | .70 | 54,708.87 |
| J. L. McClain. | 154 | 126 | 16 | .025 | 9375 | 2.00 | .75 | 55,999.83 |
| Hall-Johnson Co. | 15 | 13 | .15 | .027 | 945 | 2.20 | .75 | 57,467.10 |
| G. R. Curtis Paving Co. | 153 | 134 | .16 | .025 | 952 | 3.00 | .50 | 60,651.12 |
| Southern Calif. Rds. Co. | 135 | 14 | 165 | .94 | 916 | 2.40 | 1.00 | 60,914.95 |
| United Conc. Pipe Corp. | 135 | 135 | .15 | .04 | 971 | 2.50 | 2.00 | 63,240.36 |

WILDCAT CREEK BRIDGE—MONTEREY CO.—STATE

MONTEREY COUNTY, Cal.—L. C. Seidel, 650 14th St., Oakland, at \$32,617.20 submitted low bid to State Highway Commission, Sacramento, to construct a reinforced concrete arch bridge across Wildcat Creek about 3 1/2 mi. south of Carmel, consisting of one 57-ft. span and two 39-ft. spans on concrete piers and abutments, involving:

- (1) 3 trees, remove and dispose of;
- (2) 2,650 cu. yds. struc. excav.;
- (3) 2,300 cu. yds. Class A Port. cem. concrete;
- (4) 146,000 lbs. bar reinf. steel;
- (5) 70 sq. yds. masonry slope paving;
- (6) 60 lin. ft. temporary timber guard-rail;
- (7) 16 cu. yds. sand fill;

- (8) 68 lin. ft. 12-in. corr. metal pipe;
 - (9) 1 lot miscel. items of work.
- Complete bids follow:
- (A) L. C. Seidel, Oakland, \$32,617.20.
 - (B) Carl M. Swenson, San Jose, \$33,719.
 - (C) Rocca & Caletti, San Rafael, \$34,854.50.
 - (D) Neves & Harp, Santa Clara, \$44,681.50.
 - (E) Bodenhamer Constr. Co., \$45,617.
 - (F) Kuckenburger & Wittman, Yosemite, \$48,870.
 - (G) Ward Engineering Co., San Francisco, \$52,456.
 - (H) W. E. Lyons, Oakland, \$53,936.
 - (I) Nelson & Wallace, Escalon, \$59,968.50.

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
|-----------|---------|--------|---------|--------|---------|-------|--------|-------|----------|
| (A) | \$10.00 | \$1.20 | \$10.00 | \$.028 | \$ 2.20 | \$.60 | \$2.20 | \$.50 | \$660.00 |
| (B) | 50.00 | 2.40 | 9.00 | .035 | 6.00 | 1.00 | 3.00 | 1.00 | 800.00 |
| (C) | 5.00 | 1.22 | 10.70 | .94 | 4.00 | 1.00 | 3.00 | 1.00 | 590.00 |
| (D) | 25.00 | 1.75 | 14.50 | .035 | 12.00 | .60 | 2.00 | 1.00 | 500.00 |
| (E) | 30.00 | 2.50 | 14.00 | .04 | 2.00 | 1.00 | 1.50 | 1.00 | 500.00 |
| (F) | 25.63 | 1.50 | 16.00 | .045 | 12.00 | 1.00 | 3.00 | .50 | 590.00 |
| (G) | 25.00 | 1.80 | 18.00 | .039 | 1.80 | 1.00 | 2.00 | .50 | 295.00 |
| (H) | 15.00 | 2.00 | 18.25 | .04 | 4.00 | 1.00 | 2.00 | .50 | 370.00 |
| (I) | 16.00 | 2.85 | 20.00 | .04 | 5.00 | .75 | 1.50 | .50 | 590.00 |

TIMBER BRIDGE—MENDOCINO COUNTY—STATE

- (3) 1066 cu. yds. structural excav. (unclass.);
- (4) 77,979 cu. yds. borrow excav. (unclass.);
- (5) 38,428 sta. yds. earthwork over-haul;
- (6) 25,499 cu. yds. subgrade stabilizer
- (7) 103,560 cy. mi. subgrade stabilizer haul;
- (8) 155 cu. yds. class A concr. (incl. cement);
- (9) 187 cu. yds. class B concr. (incl. cement);
- (10) 15,855 lbs. reinf. steel (C.I.P.);
- (11) 842 lin. ft. 24-in. C.M.P. (C.I.P. except excavation);
- (12) 498 lin. ft. 30-in. C.M.P. (C.I.P. except excavation);
- (13) 363 lin. ft. 36-in. C.M.P. (C.I.P. except excavation);
- (14) 147,902 lin. ft. standard line fence
- (15) 2 each, metal fence gates (C.I.P.)

STRUCTURES OVER 20 FT. CLEAR SPAN

- (16) 3846 cu. yds. drainage excav. (unclass.);
 - (17) 463 cu. yds. structural excav. (unclass.);
 - (18) 27 cu. yds. subgrade stabilizer;
 - (19) 115 cy. mi. subgrade stabilizer, haul;
 - (20) 237 cy. mi. class A concr. incl. cement;
 - (21) 13 cy. mi. class B concr. (incl. cement);
 - (22) 23,375 lbs. reinf. steel (C.I.P.);
 - (23) 35 M.B.M. treated timber (C.I.P.)
 - (24) 2 M.B.M. untreated timber (C.I.P.);
 - (25) 329 lin. ft. treated timber piling (C.I.P.);
 - (26) 200 cu. yds. plain rip rap (C.I.P.)
 - (27) 285 sq. yds. sand asphalt wearing surf. (C.I.P.);
 - (28) 2 each water barrels (C.I.P.)
- ALTERNATE REDWOOD TIMBER**
(In lieu of Items Numbers 23 and 24)
39 M.B.M. redwood (C.I.P.)

NON-FEDERAL AID

- (29) 1940 lin. ft. standard line fence (C.I.P.)
- The total bids were:
- (A) Holzman & McVicar—(1) using treated and untreated timber, \$85,730.66, (2) using alternate redwood timber, \$86,340.66.
 - (B) Pearson & Dickerson, Riverside—(1) \$87,136.18, (2) \$87,394.68.
 - (C) O. P. Fisher, Phoenix—(1) \$90,504.82, (2) \$90,889.83.
 - (D) Whiting Bros., St. Johns, Ariz.—(1) \$93,154.31, (2) \$93,435.31.
- The unit bids were:

| | (A) | (B) | (C) | (D) |
|------|-------------|-------------|-------------|-------------|
| (1) |\$.35 |\$.33 |\$.35 |\$.39 |
| (2) |20 |35 |30 |25 |
| (3) |75 | 1.00 | 1.00 | 1.00 |
| (4) |20 |23 |20 |25 |
| (5) |02 |02 |01 |05 |
| (6) |10 |57 |60 |79 |
| (7) |10 |09 |11 |10 |
| (8) |23.00 | 21.50 | 24.00 | 25.00 |
| (9) |26.00 | 27.50 | 24.00 | 24.00 |
| (10) |05 |05 |05 |06 |
| (11) |2.50 | 2.25 | 2.45 | 2.00 |
| (12) |3.50 | 3.00 | 3.50 | 2.50 |
| (13) |5.06 | 4.00 | 4.45 | 3.50 |
| (14) |05 |05 |07 |06 |
| (15) |25.00 | 30.00 | 20.00 | 20.00 |
| (16) |20 |35 |30 |25 |
| (17) |75 | 1.09 | 1.00 | .79 |
| (18) |40 |57 |60 |75 |
| (19) |10 |09 |11 |10 |
| (20) |22.00 | 21.50 | 24.00 | 25.00 |
| (21) |22.00 | 27.50 | 24.00 | 25.00 |
| (22) |05 |05 |05 |05 |
| (23) |90.00 | 100.00 | 85.00 | 82.00 |
| (24) |70.00 | 106.00 | 75.00 | 82.00 |
| (25) |1.25 | 1.00 | .90 | .90 |
| (26) |2.00 | 2.50 | 3.00 | 2.00 |
| (27) |50 |69 |20 |50 |
| (28) |10.00 |5.00 | 15.00 | 20.00 |
| (29) |100.00 | 101.50 | 90.00 | 85.00 |
| (30) |05 |05 |07 |06 |

- (5) 36,000 ft. b.m. redwood select all-heart struc. grade;
 - (6) 1 lot misc. items of work.
- Complete bids follow:
- (A) Utah Const. Co., San Francisco, \$14,301.00.
 - (B) Helwig Const. Co., Sebastopol, \$14,910.40.
 - (C) N. M. Bail, Porterville, \$14,998.50.
 - (D) Smith Bros. Co., Eureka, \$15,425.
 - (E) Sami Sciarino, San Jose, \$16,187.50.
 - (F) Whited & Whited, Santa Rosa, \$16,683.00.
 - (G) A. T. Howe, Santa Rosa, \$17,365.
 - (H) Neves & Harp, Santa Clara, \$17,648.25.

- (1) 75 cu. yds. struc. excavation;
- (2) 3,200 lin. ft. furnish redwood piles, including test piles;
- (3) 123 drive redwood piles, including test piles;
- (4) 125,000 ft. b.m. redwood timber dense select all-heart struc. grade;

| | (1) | (2) | (4) | (4) | (5) | (6) |
|-----|-------------|-------------|---------|---------|----------|----------|
| (A) |\$.60 |\$.45 | \$10.00 | \$70.00 | \$ 76.00 | \$100.00 |
| (B) |1.00 |33 | 13.50 | 71.30 | 78.65 | 375.00 |
| (C) |1.50 |40 | 11.00 | 75.00 | 73.00 | 250.00 |
| (D) |1.00 |50 | 13.00 | 71.00 | 71.00 | 720.00 |
| (E) |2.00 |40 | 16.50 | 80.00 | 73.00 | 100.00 |
| (F) |5.00 |32 | 13.00 | 80.00 | 90.00 | 450.00 |
| (G) |1.00 |35 | 15.00 | 84.00 | 100.00 | 225.00 |
| (H) |75 |36 | 10.00 | 97.00 | 85.00 | 325.00 |

Unit bids follow:

CONCRETE PAVE.—PLACER COUNTY—STATE

- PLACER COUNTY, Calif.—L. C. Seidel, 680 14th St., Oakland, at \$5606.75** submitted low bid to District Engineer, the State Highway Commission, Sacramento, to pave with cement concrete 0.03 mile near Auburn and construct reinforced concrete arch culvert, involving:
- (1) 70 cu. yds. rdwy. excav., unclass.;
 - (2) 500 cu. yds. struc. excav.;
 - (3) 200 cu. yds. imp. backfill;
 - (4) 340 sq. yds. subgrade for pave.;
 - (5) 75 cu. yds. Port. cem. concrete pavement;
 - (6) 150 cu. yds. do. struc.;
 - (7) 9000 lbs. bar reinf. steel pave. and structure;

- (8) 75 tons untreated crushed gravel and stone surfacing;
- (9) 65 cu. yds. salvage surfacing, borders and shoulders;
- (10) 25 cu. yds. concrete in existing struc. remove and dispose of;
- (11) 35 lin. ft. solid timber guard rail;
- (12) 2 stations finish, roadway.

- Complete bids follow:
- (A) L. C. Seidel, Oakland, \$5606.75.
 - (B) S. M. McGaw, Stockton, \$6353.00.
 - (C) Holderner Const. Co., Sacramento \$6355.75.
 - (D) E. G. Ritchie, San Jose, \$6640.75.
 - (E) Neves & Harp, Santa Clara, \$6,712.75.
 - (F) A. F. Anderson, Chico, \$6933.40.

| | (A) | (B) | (C) | (D) | (E) | (F) |
|------|--------------|--------------|---------|-------------|--------------|--------------|
| (1) |\$ 1.50 |\$ 1.50 | \$ 1.10 |\$.95 |\$ 1.00 |\$ 1.12 |
| (2) |1.50 | 1.50 | 2.50 | 2.40 | 1.50 | 2.30 |
| (3) |1.00 | 1.50 | .05 | .75 | 1.00 | .60 |
| (4) |10 | .20 | .15 | .20 | .10 | 1.00 |
| (5) |13.50 | 15.00 | 15.05 | 17.00 | 16.00 | 15.00 |
| (6) |16.50 | 20.00 | 19.00 | 19.00 | 23.20 | 16.48 |
| (7) |06 | .05 | .035 | .045 | .06 | .053 |
| (8) |3.25 | 4.00 | 3.25 | 3.25 | 3.00 | 3.00 |
| (9) |1.30 | 1.00 | 1.10 | 1.25 | 1.50 | 1.00 |
| (10) |4.00 | 4.00 | 2.90 | 3.25 | 5.00 | 5.00 |
| (11) |1.20 | 2.00 | 1.25 | 1.00 | .75 | 5.00 |
| (12) |10.00 | 10.00 | 10.00 | 5.00 | 10.00 | 5.00 |

GRADE-SURFACE—MARIPOSA COUNTY—STATE

- MARIPOSA COUNTY, Calif.—Delta Dredging Co., Pittsburg (an irregular bid) at \$11,580.10** submitted low bid to State Highway Commission, Sacramento, to grade and surface with bituminous treated crushed gravel or stone 0.2 mile at Lorene's, involving:
- (1) 19,600 cu. yds. rdwy. excav., unclass.;
 - (2) 24,000 sta. yds. overhaul;
 - (3) 40 cu. yds. struc. excav.;
 - (4) 150 cu. yds. salvaged base course;
 - (5) 390 tons bit. treated crushed gravel or stone surfacing;
 - (6) 62 lin. ft. 18-in. corr. metal pipe;
 - (7) 3 cu. yds. rubble masonry;

- (8) 300 lin. ft. laminated timber guard rail;
 - (9) 10 sta. finish roadway.
- Bids follow:
- (A) Delta Dredging Co., Pittsburg, \$11,580.10.
 - (B) F. W. Nighbert, Bakersfield, \$11,832.90.
 - (C) C. W. Wood, Stockton, \$12,981.
 - (D) J. R. Reeves, Sacramento, \$13,995.50.
 - (E) Willard, Biasotti and Lovatti, Stockton, \$14,384.
 - (F) Chas. Harlowe, Jr., Cathay, \$14,923.50.
 - (G) John J. Jurkovich, Fresno, \$15,741.00.

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) |
|-----|--------------|-------------|-------------|-------------|-------------|-------------|-------------|
| (1) |\$.445 |\$.42 |\$.50 |\$.54 |\$.55 |\$.57 |\$.60 |
| (2) |005 |02 | .01 | .01 | .02 | .01 | .01 |
| (3) |1.00 | 1.00 | 1.00 | 2.00 | 1.50 | 1.00 | 2.00 |
| (4) |1.25 | 2.00 | 1.00 | 1.30 | 1.00 | 3.50 | 1.50 |
| (5) |5.40 | 5.91 | 6.00 | 6.15 | 6.25 | 6.50 | 7.00 |
| (6) |80 | .50 | .50 | 1.00 | .75 | .25 | .50 |
| (7) |15.00 | 15.00 | 10.00 | 12.00 | 10.00 | 12.00 | 5.00 |
| (8) |80 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 5.00 |
| (9) |7.00 | 10.00 | 5.00 | 10.00 | 10.00 | 6.00 | 6.00 |

SURFACING—COLUMBIA NAT'L FOREST—WASH.

BIDS OPENED

SKAMANIA COUNTY, Wash. — As previously reported, Portland Sand & Gravel Co., Portland, Ore., at \$32,801 for timber guardrail and E. O. Dahl, Aberdeen, Wash., at \$32,957 for metal guardrail, submitted low bids to U. S. Bureau of Public Roads, Portland, for 3,8154 mi. surfacing on the North Rank Highway, Project E18-A2, National Forest Road Project in Columbia National Forest. Project involves:

(A) 1000 cu. yds. unclass. excav.;
 (B) 80 cu. yds. unclass. excav., struc.;
 (C) 500 cu. yds. unclass. excav., borrow
 (D) 10,000 sta. yds. overhaul;
 (E) 3,8154 mi. fine grading;
 (F) 6000 tons cr. st. bottom course;
 (G) 4000 tons cr. st. top course;
 (H) 425 tons suppl. cr. st. bot. course;
 (I) 2000 mi. yd. binder haul;
 (J) providing water plant;
 (K) 3,000,000 gal. watering, per M. gals.;
 (L) 425 tons suppl. cr. st., top course;

(M) 900 cu. yds. binder;
 (N) 20 cu. yds. rubble masonry;
 (O) 3,350 cu. yds. suppl. cr. stone;
 (P) 700 cu. yds. suppl. cr. stone, 1½-
 ¼-inch;
 (Q) 750 cu. yds. suppl. cr. stone, ¾-
 ¼-inch;
 (R) 100 cu. yds. suppl. cr. stone, ¾-
 inch-0;
 (S) 17,200 lin. ft. timber guard rail;
 (T) 17,200 lin. ft. metal guard rail.
 Complete bidders follow (bidders not listed according to amounts bid):
 (1) Interstate Constr. Co., Portland.
 (2) Gentmann, Mt. Angel.
 (3) Joplin & Elgon, Portland.
 (4) F. J. Kernan, Portland.
 (5) Fred G. Redmon, Yakima.
 (6) Portland Sand & Gravel Co., Portland.
 (7) R. O. Dahl, Aberdeen.
 (8) A. C. Greenwood, Portland.
 (9) A. Milne, Portland.
 (10) Knute Lien, Portland.
 Unit bids follow:

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| (A) | \$.40 | \$.25 | \$.40 | \$.70 | \$.25 | \$.40 | \$.30 | \$.50 | \$.50 | \$.59 |
| (B) | 1.00 | 1.50 | 1.50 | 2.00 | .60 | .10 | .60 | 1.50 | 1.00 | 1.50 |
| (C) | .40 | .25 | .30 | .70 | .40 | .30 | .30 | .50 | .50 | .50 |
| (D) | .03 | .02 | .02 | .04 | .02 | .02 | .02 | .03 | .05 | .02 |
| (E) | 150.00 | 200.00 | 300.00 | 500.00 | 200.00 | 400.00 | 125.00 | 300.00 | 300.00 | 200.00 |
| (F) | 1.00 | 1.15 | 1.05 | 1.50 | 1.20 | .90 | .90 | 1.25 | 1.44 | 1.45 |
| (G) | 1.00 | 1.15 | 1.05 | 1.50 | 1.20 | .90 | .90 | 1.25 | 1.44 | 1.50 |
| (H) | 1.00 | .96 | .95 | 1.50 | 1.00 | .90 | .90 | 1.10 | 1.34 | 1.30 |
| (I) | .30 | .15 | .15 | .12 | .35 | .20 | .20 | .30 | .40 | .15 |
| (J) | 150.00 | 200.00 | 300.00 | 500.00 | 250.00 | 200.00 | 100.00 | 250.00 | 150.00 | 150.00 |
| (K) | 1.50 | 2.00 | 1.50 | 2.00 | 1.50 | 2.00 | 1.50 | 2.00 | 1.50 | 1.75 |
| (L) | 1.00 | .96 | .95 | 1.50 | 1.00 | .90 | .90 | 1.10 | 1.34 | 1.40 |
| (M) | .50 | .35 | .30 | .75 | .40 | .30 | .35 | .40 | .30 | .40 |
| (N) | 10.00 | 12.00 | 12.00 | 20.00 | 15.00 | 15.00 | 13.50 | 12.00 | 12.00 | 15.00 |
| (O) | 1.25 | 1.20 | 1.10 | 1.67 | 1.20 | 1.00 | 1.24 | 1.10 | 1.50 | 1.30 |
| (P) | 1.25 | 1.20 | 1.10 | 1.67 | 1.20 | 1.00 | 1.24 | 1.10 | 1.50 | 1.40 |
| (Q) | 1.25 | 1.25 | 1.10 | 1.67 | 1.20 | 1.00 | 1.24 | 1.10 | 1.50 | 1.50 |
| (R) | 1.25 | 1.25 | .80 | 1.67 | 1.20 | 1.00 | 1.20 | 1.10 | 1.50 | .50 |
| (S) | .90 | 1.10 | .80 | 1.50 | .85 | .80 | .85 | 1.00 | 1.50 | .81 |
| (T) | .30 | .30 | .85 | 1.00 | .85 | .85 | .83 | .85 | .90 | .90 |

SECTION B—ORTEGA HIGHWAY—ORANGE COUNTY

SANTA ANA, Orange Co., Cal.—As previously reported, J. L. Connor, P. O. Box 86, Monterey, and K. Kristich, Serra Hotel, Monterey, awarded contract by directors of Joint Highway District No. 15 at \$78,835.44, for grading and other work on Section B of the Ortega Highway bet. 1.5 miles east of San Juan Capistrano and San Juan Hot Springs, 10.38 miles. A. C. Fulmore, county surveyor of Riverside County is chief engineer. The work is to be completed by May 15, 1933. The approximate quantities are:

(1) 215,000 cu. yds. excavation;
 (2) 5000 cu. yds. imported borrow;
 (3) 2000 cu. yds. channel change;
 (4) 3000 cu. yds. structure excav.;
 (5) 205,000 sta. yds. overhaul;
 (6) 3048 lin. ft. 18-in. C.M.P. (pure iron);
 (7) 520 lin. ft. 24-in. do;
 (8) 306 lin. ft. 30-in. do;
 (9) 54 lin. ft. 48-in. do;
 (10) 7 concrete drop inlets;

(11) 140 M. bd. ft. lumber in place, in cattle passes;
 (12) 160 cu. yds. Class A concrete in place;
 (13) 2500 lbs. reinf. wire mesh in place
 (14) 24 mi. stand. wire fence in place;
 (15) 100 cu. yds. light riprap;
 The total bids were:
 (A) J. L. Connor, P. O. Box 86, and K. Kristich, Serra Hotel, Monterey, \$78,835.44.
 (B) Sharp & Fellows Const. Co., Los Angeles, \$89,020.30.
 (C) Yglesias Bros., San Diego, \$90,-986.60.
 (D) C. G. Willis & Son, Los Angeles, \$91,584.
 (E) Herbert M. Baruch Corp. and Robinson - Roberts Co., Los Angeles, \$92,406.20.
 (F) Daley Corp., San Diego, \$92,891.80.
 (G) Larsen Bros., Galt, \$93,840.
 (H) Ray Schweitzer Los Angeles, \$106,514.24.
 Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) |
|------|--------|--------|--------|---------|--------|--------|--------|--------|
| (1) | \$.23 | \$.25 | \$.26 | \$.27 | \$.245 | \$.27 | \$.26 | \$.329 |
| (2) | .23 | .24 | .25 | .30 | .245 | .19 | .25 | .349 |
| (3) | .23 | .24 | .20 | .20 | .245 | .25 | .25 | .20 |
| (4) | .50 | .60 | .75 | .80 | .70 | .75 | .70 | .60 |
| (5) | .0075 | .015 | .01 | .015 | .012 | .005 | .02 | .01 |
| (6) | 1.67 | 1.60 | 1.65 | 1.00 | 2.10 | 1.85 | 2.00 | 1.67 |
| (7) | 2.46 | 2.30 | 2.60 | 2.50 | 3.00 | 2.80 | 3.00 | 2.51 |
| (8) | 3.04 | 3.00 | 3.40 | 3.50 | 3.90 | 3.50 | 4.00 | 3.14 |
| (9) | 8.21 | 8.00 | 10.00 | 7.75 | 10.50 | 9.00 | 10.00 | 8.76 |
| (10) | 10.00 | 40.00 | 35.00 | 25.00 | 35.00 | 40.00 | 30.00 | 20.00 |
| (11) | 60.00 | 67.00 | 70.00 | 17.00 | 71.50 | 84.00 | 70.00 | 73.50 |
| (12) | 10.00 | 9.50 | 13.00 | 16.00 | 13.00 | 10.00 | 16.00 | 20.00 |
| (13) | .05 | .045 | .10 | .075 | .08 | .05 | .05 | .09 |
| (14) | 250.00 | 400.00 | 350.00 | 6600.00 | 450.00 | 300.00 | 320.00 | 325.00 |
| (15) | 8.00 | 4.00 | 4.00 | 5.00 | 4.00 | 5.00 | 2.00 | 3.00 |

FRESNO COUNTY, Calif.—Union Paving Co., Call Bldg., San Francisco, at \$83,526.80 submitted low bid to the State Highway Commission, Sacramento, to grade and pave with asphalt concrete 2.7 miles between Fancher Creek and Fresno, involving:

(1) 200 trees remove and dispose of;
 (2) 25,600 cu. yds. rdwy. excav. without class.;
 (3) 53,700 sta. yds. overhaul;
 (4) 35,700 cu. yds. imported borrow;
 (5) 2800 sq. yds. subgrade for pave.;
 (6) 2,260 tons crusher run base;
 (7) 10,250 sq. yds. asph. paint binder;
 (8) 20,150 tons asphalt concrete;
 (9) 120 cu. yds. Class A cem. conc. (sidewalks, curbs, driveways);
 (10) 600 tons oil treated crushed stone or gravel surfacing (road approaches);
 (11) 1,163 barrels fuel oil;
 (12) 550 cu. yds. cem. conc. removed from existing pave. and struc. and disposed of;
 (13) 3 mi. property fences moved and reset;
 (14) 141 sta. finish subgrade;
 (15) 13 monuments complete in place.
 Complete bids follow:

(A) Union Paving Co., San Francisco \$83,526.80
 (B) Hanrahan Co., San Francisco \$88,602.50.
 (C) Peninsula Paving Co., San Francisco, \$88,925.50.
 (D) Griffith Co., Los Angeles, \$99,-400.50.
 (E) Valley Paving & Const. Co., Fresno, \$104,113.65.
 Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) |
|------|--------|--------|--------|---------|--------|
| (1) | \$.300 | \$.700 | \$.500 | \$15.00 | \$.600 |
| (2) | .15 | .16 | .16 | .30 | .25 |
| (3) | .01 | .005 | .01 | .01 | .005 |
| (4) | .25 | .25 | .35 | .30 | .40 |
| (5) | .06 | .09 | .09 | .10 | .10 |
| (6) | 1.75 | 2.00 | 2.50 | 2.00 | 2.35 |
| (7) | .01 | .02 | .01 | .03 | .02 |
| (8) | 2.75 | 2.95 | 3.23 | 2.90 | 3.25 |
| (9) | 14.00 | 15.00 | 12.00 | 15.00 | 15.00 |
| (10) | 3.00 | 2.75 | 3.00 | 4.00 | 3.00 |
| (11) | 1.50 | 1.50 | 1.50 | 2.00 | 1.55 |
| (12) | 2.00 | 1.50 | 2.00 | 3.50 | 2.50 |
| (13) | 300.00 | 100.00 | 150.00 | 200.00 | 150.00 |
| (14) | 7.00 | 5.00 | 5.00 | 15.00 | 5.00 |
| (15) | 3.00 | 3.00 | 3.00 | 5.00 | 3.00 |

BIDS OPENED

OAKLAND, Cal.—Healey-Moore Co., 344 High St., Oakland, at \$5,658.47 submitted low bid to city council to improve 73rd Ave. bet. Outlook Ave. and Hillmont Drive, involving:

(1) 115 lin. ft. concrete curb with steel curb guard;
 (2) 1,125 lin. ft. concrete curb without steel curb guard;
 (3) 26,385 sq. ft. concrete pavement, in preparation of subgrade;
 (4) 3 storm water inlets, 21-in. opening;
 (5) 95 lin. ft. 10-in. vit. pipe conduit;
 (6) 15 lin. ft. 12-in. do;
 (7) 7 lin. ft. 8x24-in. corr. iron and concrete culvert;
 (8) 1 concrete hand hole.
 Complete bids follow:
 (A) Healey-Moore, Oakland, \$5,658.47
 (B) L. J. Immel, Berkeley, \$6,548.70
 (C) Nat Lena, Oakland, \$7,577.83
 Unit bids follow:

| | (A) | (B) | (C) |
|-----|-------|-------|-------|
| (1) | \$.60 | \$.60 | \$.75 |
| (2) | .40 | .40 | .45 |
| (3) | .185 | .22 | .255 |
| (4) | 35.00 | 25.00 | 40.00 |
| (5) | 1.00 | 1.00 | .45 |
| (6) | 1.35 | 1.00 | .80 |
| (7) | 4.00 | 4.00 | 8.20 |
| (8) | 10.00 | 12.00 | 25.00 |

Bids held under advisement.

C. I. PIPE—FILLMORE, CALIF.—BIDS OPENED

BIDS OPENED

FILLMORE, Ventura Co., Cal.—Bids for furnishing cast iron pipe, opened by city council Sept. 13 and taken under advisement, follow:

- (1) 1000 ft. more or less, B. & S. cast iron water pipe, Class B 10-inch diameter.
- (1a) first alternate, same specifications, 12-in. dia.; second alternate, each size, Class 150;
- (2) 300 ft. B. & S. cast iron water pipe, Class B, 6-in. dia. Alternate bid, same size, Class 150;
- (3) 300 ft. B. & S. cast iron water pipe Class B, 4-in. dia. Alternate bid, same size, Class 150;

Fittings, Class B, as follows:

- (4) 4 only, 10x6 bell tees;
 - (5) 2 only, 10x4 bell tees;
 - (6) 3 only, 4x4 bell tees;
 - (7) 1 only, 10x4 cross.
- The bidders were:
- (A) U. S. Pipe & Foundry Co.
 - (B) American C. I. Pipe Co., Class 150.
 - (C) Hercules Foundry Co.
 - (D) Central Foundry Co.
 - (E) National C. I. Pipe Co., Class 150.
 - (F) C. G. Claussen & Co., Class B.
 - (G) Utilities Supply Co., Class 150.

The bids, showing the prices f.o.b. trenchside, were:

| | (1) | (1a) | (2) | (3) | (4) | (5) | (6) | (7) |
|-----------|-------|--------|-------|--------|---------|---------|---------|---------|
| (A) | \$.92 | \$1.20 | \$.48 | \$.325 | \$14.04 | \$13.52 | \$ 5.12 | \$15.08 |
| (B) | .935 | 1.22 | .49 | .34 | 14.96 | 14.37 | 6.08 | 16.07 |
| (C) | | | | | 15.05 | 14.27 | 5.30 | 17.63 |
| (D) | .787 | 1.028 | .426 | .296 | 24.40 | 23.52 | 7.00 | 25.84 |
| (E) | .855 | 2.245 | .506 | .344 | *85.00 | 85.00 | 85.00 | 85.00 |
| (F) | .9178 | | .5636 | .3278 | | | | |
| (G) | .9804 | 1.2787 | .5166 | .3957 | | | | |

*Fittings, per ton.

SURFACING—COLVILLE NAT'L FOREST—WASH.

FERRY COUNTY, Wash.—As previously reported, Joslin & McAllister, Spokane, Wash., submitted low bid to U. S. Bureau of Public Roads, Portland, August 26, at \$61,411.85 for Inland Empire Highway Surfacing Project E-21-B2, National Forest Road Project, in Colville National Forest.

Complete list of bidders follows (not listed according to amounts bid):

- (1) F. R. Hewett, Spokane.
- (2) May Kunej, Spokane.
- (3) H. G. Johnson, Portland.
- (4) Triangle Const. Co., Spokane.
- (5) Joslin-McAllister, Spokane.
- (6) R. O. Dial & Warren Bros., Aberdeen.

(7) Fred G. Redmon, Yakima.

- The quantities were:
- (A) 1000 cu. yds. unclass. excav.
 - (B) 1000 cu. yds. unclass. excav., borrow;
 - (C) 11,197 mcs. grading for subgrade;
 - (D) 38,000 tons crusher run bottom course;
 - (E) 10,500 tons crusher run top course
 - (F) maintaining water plant;
 - (G) 1,400,000 watering per 1000 gals;
 - (H) 12,300 cu. yds. crush. rock stockpiled;

- (I) 2500 cu. yds. binder;
- (J) 5000 mi. yds. binder haul.

The unit prices follow:

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
|-----------|--------|---------|--------|--------|--------|--------|--------|
| (A) | \$.25 | \$30.00 | \$.75 | \$.40 | \$.50 | \$.50 | \$.25 |
| (B) | .40 | .30 | .40 | .40 | .50 | .50 | .25 |
| (C) | 100.00 | 50.00 | 150.00 | 100.00 | 50.00 | 300.00 | 400.00 |
| (D) | 1.00 | .90 | .95 | 1.10 | .88 | 1.065 | 1.40 |
| (E) | 1.10 | .90 | .95 | 1.20 | .88 | 1.065 | 1.40 |
| (F) | 200.00 | 500.00 | 200.00 | 150.00 | 100.00 | 200.00 | 250.00 |
| (G) | 2.50 | 1.50 | 2.00 | 1.50 | 1.00 | 1.75 | 2.00 |
| (H) | 1.30 | 1.20 | 1.30 | 1.10 | 1.14 | 1.20 | 1.50 |
| (I) | .25 | .30 | .30 | .30 | .50 | .50 | .25 |
| (J) | .20 | .15 | .20 | .15 | .08 | .15 | .10 |

TIMBER AND STEEL BRIDGE—LOS ANGELES COUNTY

LOS ANGELES, Cal.—E. S. McKittrick Co., Inc., 5905 Pacific Boulevard, Huntington Park, submitted low bids to county supervisors at (1) Douglas fir crosscut at \$47,600; (2) untreated Redwood at \$42,400 for construction of timber and steel bridge on Del Amo

Ave. over the Los Angeles river near North Long Beach west of Virginia Country Club. Proposed bridge will consist of eleven 60-ft. Howe truss spans with 30-ft. roadway, paving not included in present contract. Bids follow:

| | (1) | (2) | (3) | (4) | (5) | (6) |
|--|----------|----------|----------|---------|---------|---------|
| E. S. McKittrick Co., Inc..... | \$47,600 | \$42,400 | \$42,000 | \$65.10 | \$14.45 | \$15.55 |
| Christian Fischer | 49,157 | 45,257 | 50.00 | 80.00 | 1.00 | 1.00 |
| Lynch-Cannon Eng. Co..... | 49,600 | 44,500 | 55.00 | 65.00 | 1.00 | 1.00 |
| Lindgren & Swinerton, Inc..... | 49,824 | 43,900 | 47.00 | 75.00 | 1.00 | 1.15 |
| E. G. Berham & Schelling Co..... | 50,000 | 44,500 | 60.00 | 50.00 | .75 | .90 |
| John Strona | 50,821 | 45,727 | 60.00 | 60.00 | 1.00 | 1.125 |
| Johnson Const. Co..... | 50,892 | 45,849 | 51.00 | 53.00 | .80 | .90 |
| Chas. W. Pettifer Co..... | 51,835 | 46,960 | 45.00 | 66.00 | .85 | .85 |
| J. F. Knapp | 51,689 | 49,480 | 33.00 | 65.00 | .75 | .88 |
| Oberg Brothers | 52,270 | 46,449 | 50.00 | 60.00 | .75 | .87 |
| G. A. Giebisch | 52,300 | 46,000 | 52.00 | 60.00 | 1.00 | .75 |
| R. R. Bishop | 53,300 | 48,000 | 60.00 | 60.00 | 1.00 | 1.00 |
| Shuck Const. Co., Ltd..... | 53,320 | 47,020 | 52.00 | 53.00 | 1.02 | .98 |
| Nead Const. Co..... | 53,380 | 48,437 | 70.00 | 70.00 | .85 | .35 |
| Wm. T. Loesch & Son..... | 56,105 | 49,515 | 50.00 | 59.00 | .72 | .71 |
| Willard-Brent Co..... | 58,083 | 49,950 | 48.60 | 72.33 | .957 | .95 |
| Merritt-Chapman & Scott..... | 58,373 | 51,756 | 60.00 | 72.00 | .50 | .60 |
| Wm. Simpson Const. Co..... | 62,946 | 55,786 | 33.00 | 71.50 | .87 | .87 |
| H. M. Baruch Corp. Ltd., and Robinson-Roberts Co..... | 64,485 | 59,198 | 36.00 | 65.00 | .65 | .75 |
| Atlas Const. Co..... | | 43,200 | 35.00 | 60.00 | .75 | 1.00 |
| J. & B. Const. Co..... | | 43,360 | 38.00 | 65.00 | .90 | 1.00 |

EL DORADO COUNTY, Cal.—Clyde Wood, Country Club Drive, Stockton, at \$4,086.50 submitted low bid to the Dist. Engineer, State Highway Commission, Sacramento, to treat with fuel oil and cut-back asphalt 1.7 miles between Placerville and the railroad crossing. Project involves:

- (1) 185 tons. light fuel oil in place;
- (2) 168 tons cut-back asphalt in place;
- (3) 92 sta. mix bit, binder and mineral aggregate.

Clyde Wood, Stockton, \$4,086.50; (1) \$2.50; (2) \$15.00; (3) \$12.00.

Tiffany, McReynolds & Tiffany, San Jose, \$4,223.30 ;(1) \$2.58; (2) \$16.00; (3) \$12.00.

Hemstreet & Bell, Marysville, \$4,792.25; (1) \$2.25; (2) \$14.00; (3) \$22.00.

AWARD

ARIZONA STATE — As previously reported Jack Casson, 319 Warren St., Hayward, awarded contract by State Highway Commission, at \$97,076.24, for construction on St. Johns-Springerville highway, E-68-B (A.F.E. 2620). The work, which begins at a point (9.6) miles north of Springerville and extends south to Springerville, consists of the grading and draining in part, the placing of subgrade stabilizer and oil processing by the Road Mix Method, including:

- (1) 25,000 cu. yds. clearing and stripping pit;
- (2) 17,703 cu. yds. haul, place, shape and compact stripped mat.;
- (3) 20 cu. yds. drainage excavation (unclass.);
- (4) 40 cu. yds. structural excavation (unclass.);
- (5) 22,057 cu. yds. subgrade stabilizer
- (6) 82,319 cu. yds. mi. subgrade stabilizer haul;
- (7) 10 cu. yds. class B concrete (including cement);
- (8) 65 lbs. reinf. steel;
- (9) 16 lin. ft. 24-in. C.M.P.;
- (10) 28 lin. ft. 30-in. C.M.P.;
- (11) 123,894 sq. yds. preparing of subgrade or road surface;
- (12) 14,172 cu. yds. mineral aggregate;
- (13) 240,914 gal. oil applied to rdwy.;
- (14) 9,649 mi. mixing, laying down and finishing;
- (15) 742 cu. yds. screenings for seal coat;
- (16) 1362 cu. yds. shoulder material;
- (17) 5082 cu. yd. mi. shoulder material haul;
- (18) 240 cu. yds. special mineral aggregate for stockpile;

The total bids were:

- (A) Jack Casson, Hayward, Calif., \$97,076.24.
- (B) A. J. Hagen, Globe, Ariz., \$135,429.72.

The unit bids were:

| | (A) | (B) |
|------------|--------|--------|
| (1) | \$.45 | \$.50 |
| (2) | .35 | .80 |
| (3) | 1.00 | 1.50 |
| (4) | 2.00 | 3.75 |
| (5) | .60 | .68 |
| (6) | .12 | .135 |
| (7) | 30.00 | 30.00 |
| (8) | .10 | .10 |
| (9) | 3.00 | 3.00 |
| (10) | 4.00 | 4.00 |
| (11) | .01 | .02 |
| (12) | 1.30 | 3.00 |
| (13) | .12 | .125 |
| (14) | 600.00 | 675.00 |
| (15) | 5.00 | 4.25 |
| (16) | .60 | .60 |
| (17) | .12 | .15 |
| (18) | 3.00 | 4.00 |

STRUCTURES—GOVERNMENT WORK—IDAHO STATE

AWARD

BURLEY, Idaho.—Gabbey & McNeil, Boise, at \$8,111 submitted low bid (under Alt. B) to U. S. Bureau of Reclamation, Denver, Colo., to construct structures on laterals, Gooding Division, Minidoka Project, Idaho, located near Shoshone, Idaho, involving:

- (1) 1,000 cu. yds. excav. for Struc. C1.1;
- (2) 200 cu. yds. do for Struc. C1.2;
- (3) 30 cu. yds. do for Struc. C1.3;
- (4) 650 cu. yds. backfill;
- (5) 520 cu. yds. puddling or tamping backfill;
- (6) 230 cu. yds. rubble masonry in checks, drops and headwalls;
- (7) 130 cu. yds. concrete in checks, drops and culverts;
- (8) 290 cu. yds. concrete in other structures;
- (9) 8,000 lbs. placing reinf. bars in checks, drops and culverts;
- (10) 18,000 lbs. do in other structures;
- (11) 370 lin. ft. lay 12-in. corr. metal pipe;
- (12) 140 lin. ft. 18-in. do;
- (13) 50 lin. ft. 24-in. do;
- (14) 6 M. ft. b. m. erecting timber in wiers, orifices, checks, flumes;

(15) 20 lin. ft. erect No. 48 metal flume
 (16) 10,000 lbs. install gates and gate lifts.

Complete bids follow (total A exclusive of Item 6; total B exclusive of Items 7 and 9):

- (A) Gabbey & McNeil, Boise (A) \$ 8,481.00 (B) 8,111.00
- (B) Anderson & Tilly, Jerome (A) 9,452.00 (B) 8,363.00
- (C) Long & Ramsey, Gooding (A) 9,373.00 (B) 8,498.00
- (D) Wm. H. Kloefer, Rupert (A) 9,694.00 (B) 9,111.00
- (E) F. Jankins, Scotts Bluff, Nebraska (A) 9,942.00 (B) 9,452.00
- (F) Bell and Morgan, Rupert (A) 12,249.00 (B) 12,112.00
- (G) Union Concrete Pipe Co., Yakima, Wash. (A) 16,530.00 (B) 16,420.00

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) |
|-----------|-------|-------|-------|-------|-------|--------|--------|
| (1)..... | \$.50 | \$.75 | \$.40 | \$.95 | \$.60 | \$1.00 | \$1.25 |
| (2)..... | 1.00 | 1.10 | .75 | 1.25 | 2.00 | 1.25 | 1.25 |
| (3)..... | 5.00 | 3.00 | 4.00 | 1.50 | 5.00 | 3.00 | 5.00 |
| (4)..... | .30 | .25 | .25 | 1.00 | .50 | .75 | .75 |
| (5)..... | .50 | .75 | .40 | 1.25 | .35 | .25 | .75 |
| (6)..... | 7.00 | 5.00 | 6.50 | 6.50 | 7.50 | 12.00 | 17.00 |
| (7)..... | 14.00 | 16.00 | 17.00 | 14.75 | 15.50 | 21.00 | 29.00 |
| (8)..... | 14.00 | 16.00 | 17.00 | 14.75 | 16.50 | 21.25 | 29.00 |
| (9)..... | .02 | .02 | .02 | .02 | .025 | .02 | .03 |
| (10)..... | .02 | .02 | .02 | .02 | .025 | .02 | .03 |
| (11)..... | .20 | .15 | .25 | .20 | .30 | .40 | .50 |
| (12)..... | .30 | .25 | .25 | .25 | .30 | .50 | .75 |
| (13)..... | .40 | .30 | .40 | 1.00 | .35 | .50 | 1.25 |
| (14)..... | 20.00 | 30.00 | 30.00 | 10.00 | 40.00 | 30.00 | 25.00 |
| (15)..... | 1.00 | .75 | 1.00 | .75 | 1.25 | 1.00 | 2.00 |
| (16)..... | .05 | .03 | .03 | .02 | .04 | .04 | .05 |

HANFORD, Kings Co., Cal.—Valley Paving & Construction Co., P. O. Box 1349, Fresno, at \$70,549.50 awarded contract by county supervisors to widen and resurface Highway No. 1, Division No. 2, and Highway, No. 1, Division No. 3 between Lemoore and Stratford, involving:

- (1) 250 cu. yds. earth work on curves;
 - (2) 54,115 lin. ft. grading for shoulder work and headboards;
 - (3) 300 tons asphalt concrete base on curves;
 - (4) 8,140 tons asphalt concrete base material in shoulders and leveling course;
 - (5) 13,450 tons asphalt concrete top;
- Complete bids follow:
- (A) Valley Paving Co., Fresno, \$70,549.50.
 - (B) Griffith Co., Los Angeles \$71,176.50.
 - (C) Hanrahan Co., S. F., \$72,738.50.
 - (D) Union Paving Co., S. F., \$74,334.50.
 - (E) Hartman Const. Co., Bakersfield, \$75,779.90.
 - (F) Thompson Bros., Fresno, \$77,827.10.
 - (G) A. J. Raisch, S. F., \$83,188.65.

Unit bids follow:

| | (1) | (2) | (3) | (4) | (5) |
|----------|-------|--------|--------|--------|--------|
| (A)..... | \$.50 | \$1.10 | \$2.87 | \$2.87 | \$2.97 |
| (B)..... | .50 | .10 | 2.90 | 3.00 | 3.00 |
| (C)..... | .50 | .10 | 3.07 | 3.07 | 3.07 |
| (D)..... | .40 | .10 | 2.75 | 3.00 | 3.24 |
| (E)..... | .50 | .16 | 2.95 | 2.95 | 3.13 |
| (F)..... | 1.00 | .14 | 3.10 | 3.10 | 3.26 |
| (G)..... | .50 | .17 | 3.19 | 3.19 | 3.49 |

AWARD

ARIZONA STATE—As previously reported, Skeels & Graham Co., Tucson, Ariz., awarded contract by State Highway Commission, at \$29,845.23 for construction on Tucson-Nogales Highway, E-86-D and F. A. 25-B, Br. No. 13 (A.F.E. 8919) beginning at the Pimas-Santas Cruz Line and extend south nine miles; work consists of placing subgrade stabilizer and oil processing the road by the road mix method.

- method, involving:
- (1) 8851 cu. yds. subgrade stabilizer;
 - (2) 24,964 cy. mi. subgrade stabilizer, haul;
 - (3) 63,616 sq. yd. preparation of subgrade or road surface;
 - (4) 13,622 cu. yds. mineral aggregate;
 - (5) 36,794 cy. mi. mineral aggregate, haul;
 - (6) 231,573 gal. oil applied to roadway (C.I.P.);
 - (7) 9,219 mi. mixing, laying down and finishing;
 - (8) 713 cy. yds. screenings for seal coat;
 - (9) 2,673 cu. yds. shoulder material;
 - (10) 6246 cy. mi. shoulder material, haul;
 - (11) 214 M. gal. water applied to roadway;
 - (12) 225 cu. yds. special mineral aggregate for stockpile;

The total bids were:

- (A) Skeels & Graham Co., \$29,845.23.
- (B) Pearson & Dickerson, Riverside, \$44,250.48.
- (C) Phoenix-Tempe Stone Co., Phoenix, \$45,005.70.

The unit bids were:

| | (A) | (B) | (C) |
|-----------|--------|--------|--------|
| (1)..... | \$.53 | \$.61 | \$.58 |
| (2)..... | .10 | .12 | .12 |
| (3)..... | .005 | .005 | .01 |
| (4)..... | .53 | .63 | .58 |
| (5)..... | .10 | .12 | .12 |
| (6)..... | .055 | .05 | .06 |
| (7)..... | 485.00 | 500.00 | 500.00 |
| (8)..... | 2.00 | 2.50 | 3.00 |
| (9)..... | .53 | 1.10 | .58 |
| (10)..... | .10 | .12 | .12 |
| (11)..... | 2.50 | 2.50 | 3.50 |
| (12)..... | 1.00 | 1.50 | 1.00 |

SAN GABRIEL RIVER BRIDGE—LOS ANGELES CO.

LOS ANGELES COUNTY, Calif.—Clark & Campbell, 1355 E Manchester Ave., Los Angeles, at \$50,993 submitted low bid to U. S. Bureau of Public Roads, San Francisco, to construct the San Gabriel River Bridge on Section B of Route 62, San Gabriel National Forest Highway, involving:

- (1) 1,250 cu. yds. unclass. excavation, structure;
- (2) 381 cu. yds. Class A concrete;
- (3) 270 cu. yds. Class B concrete;
- (4) 462 cu. yds. Class C concrete;
- (5) 59 cu. yds. Class D concrete;
- (6) 106,000 lbs. reinf. steel;
- (7) 483,000 lbs. steel steel;
- (8) 38,000 lbs. strc. cylinders;
- (9) 350 cu. yds. wired riprap;

Complete bids follow:

- (A) Clark & Campbell, Los Angeles, \$50,993.
- (B) H. M. Baruch Corp., Los Angeles, \$51,200.

- (C) Myers Bros., Los Angeles, \$52,498.
- (D) Oberg Bros., Los Angeles, \$53,228.
- (E) MacDonald & Kahn, San Francisco, \$53,822.
- (F) R. H. Travers, Los Angeles, \$53,901.
- (G) Sharp & Fellows Const. Co., Los Angeles, \$55,100.
- (H) Allen Bros., Inc., Los Angeles, \$57,540.
- (I) Eross Const. Co., Pasadena, \$57,799.
- (J) Wm. C. Crowell, Pasadena, \$58,457
- (K) Floyd Shofner, Los Angeles, \$60,422.
- (L) Lynch-Cannon Eng. Co., Los Angeles, \$63,056.
- (M) Chas. Montague, Huntington Pk., \$63,315.
- (N) L. U. Hauser, Glendale, \$63,825.
- (O) Guy P. Atkinson, San Francisco, \$67,741.
- (P) Engineer's estimate, \$59,636.

Unit bids follow:

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
|----------|--------|---------|--------|---------|---------|--------|--------|--------|--------|
| (A)..... | \$2.00 | \$13.50 | \$7.00 | \$19.00 | \$16.00 | \$3.06 | \$3.52 | \$3.05 | \$3.00 |
| (B)..... | 4.96 | 13.60 | 6.14 | 14.69 | 11.60 | .04 | .049 | .05 | 2.94 |
| (C)..... | 3.00 | 13.10 | 12.75 | 13.46 | 14.00 | .035 | .055 | .0545 | 3.00 |
| (D)..... | 2.53 | 15.35 | 8.45 | 20.83 | 8.00 | .035 | .0505 | .0504 | 5.90 |
| (E)..... | 2.50 | 16.00 | 15.00 | 17.00 | 20.00 | .032 | .05 | .06 | 5.00 |
| (F)..... | 3.15 | 14.86 | 12.42 | 19.50 | 8.00 | .0392 | .05 | .04 | 4.90 |
| (G)..... | 3.50 | 16.10 | 7.50 | 20.20 | 10.50 | .4358 | .0436 | .045 | 4.00 |
| (H)..... | 4.65 | 17.28 | 14.59 | 20.15 | 11.75 | .035 | .0488 | .03 | 4.23 |
| (I)..... | 2.00 | 14.00 | 14.00 | 19.00 | 14.00 | .05 | .06 | .05 | 1.50 |
| (J)..... | 4.73 | 14.12 | 12.63 | 16.50 | 16.95 | .0388 | .0542 | .066 | 7.10 |
| (K)..... | 6.60 | 16.00 | 14.00 | 18.75 | 7.12 | .05 | .053 | .05 | 4.50 |
| (L)..... | 10.00 | 12.00 | 10.00 | 22.50 | 16.20 | .035 | .0515 | .06 | 4.50 |
| (M)..... | 4.53 | 17.00 | 12.00 | 23.50 | 16.20 | .0327 | .0504 | .055 | 5.00 |
| (N)..... | 7.50 | 10.15 | 10.15 | 18.50 | 15.70 | .04 | .052 | .185 | 5.00 |
| (O)..... | 6.00 | 20.00 | 17.00 | 22.00 | 15.00 | .04 | .059 | .06 | 6.00 |
| (P)..... | 2.50 | 20.00 | 16.00 | 22.00 | 20.00 | .04 | .0525 | .045 | 6.00 |

RECONSTRUCTION—WHITE PINE COUNTY, NEVADA.

WHITE PINE COUNTY, Nevada.—As previously reported, A. D. Drumm Jr., Fallon, Nev., at \$73,129.40 awarded contract by State Highway Department, Carson City, to reconstruct 13.62 mi. of highway between West county line and Pancake Summit, Route 2, Section A, involving:

- (1) \$1,000 cu. yds. r.c.wy. excav.;
- (2) 1420 cu. yds. struc. excav.;
- (3) 41,866 cu. yds. sel. borrow excav.;
- (4) 68,195 yd. sta. overhaul;
- (5) 13,62 mi. subgrade;
- (6) 128 demolish headwalls;
- (7) 43,000 cu. yds. crushed gravel or crushed rock surf. in place;
- (8) furnish water equipment;
- (9) 3144 M. gals. supply water;
- (10) 101 cu. yds. class A concrete;
- (11) 126 cu. yds. class B concrete;
- (12) 268 lin. ft. 15-in. corr. metal pipe in place;
- (12) 814 lin. ft. 18-in. do;
- (14) 1600 lin. ft. 24-in. do;
- (15) 242 lin. ft. 30-in. do;
- (16) 136 lin. ft. 36-in. do;

- (17) 96 lin. ft. 48-in. do;
- (18) 466 lin. ft. remove pipe culvert;
- (19) 102 lin. ft. remove and reset pipe culverts;
- (20) 52 monuments;
- (21) 2 F. A. marker posts;
- (22) 13.62 mi. finish roadway;
- (23) 14,345 lbs. reinf. steel;

- Complete bids follow:
- (A) A. D. Drumm Jr., Fallon, \$73,129.40.
 - (B) Wheelwright Constr. Co., Ely, \$75,737.15.
 - (C) Nevada Rock & Sand Co., Reno, \$86,922.75.
 - (D) J. N. Tedford, Fallon, \$87,533.90.
 - (E) Dodge Bros., Inc., Fallon, \$87,914.50.
 - (F) Utah Constr. Co., Ogden, Utah, \$88,528.58.
 - (G) Nevada Contracting Co., Fallon, \$109,361.25.
 - (H) Engineer's estimate, \$87,549.90.

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) |
|-----------|---------|---------|---------|--------|--------|---------|---------|---------|
| (1)..... | \$.25 | \$.25 | \$.25 | \$.30 | \$.25 | \$.40 | \$.40 | \$.25 |
| (2)..... | 1.00 | .75 | 1.00 | 1.00 | 1.60 | .80 | .75 | 1.00 |
| (3)..... | .30 | .30 | .45 | .30 | .40 | .28 | .40 | .30 |
| (4)..... | .02 | .02 | .02 | .02 | .02 | .02 | .05 | .02 |
| (5)..... | 50.00 | 40.00 | 75.00 | 75.00 | 75.00 | 100.00 | 100.00 | 100.00 |
| (6)..... | 5.00 | 5.00 | 2.50 | 2.00 | 5.00 | 3.00 | 5.06 | 3.00 |
| (7)..... | .44 | .50 | .52 | .60 | .55 | .48 | .60 | .65 |
| (8)..... | 1000.00 | 1000.00 | 1500.00 | 500.00 | 500.00 | 1000.00 | 1000.00 | 1000.00 |
| (9)..... | .50 | .50 | .50 | 1.00 | 1.00 | 1.00 | 2.00 | 1.50 |
| (10)..... | 25.00 | 26.00 | 27.00 | 30.00 | 25.00 | 22.00 | 35.00 | 30.00 |
| (11)..... | 20.00 | 24.00 | 27.00 | 30.00 | 25.00 | 22.00 | 35.00 | 28.00 |
| (12)..... | 1.25 | 1.00 | 1.25 | 1.25 | 1.25 | 1.00 | 1.25 | 1.25 |
| (13)..... | 1.50 | 1.35 | 1.50 | 1.50 | 1.50 | 1.25 | 2.00 | 1.50 |
| (14)..... | 1.75 | 2.00 | 2.25 | 2.00 | 2.60 | 1.75 | 2.50 | 2.25 |
| (15)..... | 2.50 | 2.50 | 2.75 | 2.50 | 2.50 | 2.50 | 4.00 | 2.75 |
| (16)..... | 3.50 | 3.75 | 3.75 | 3.50 | 3.50 | 3.75 | 5.00 | 3.50 |
| (17)..... | 3.50 | 3.00 | 6.00 | 6.50 | 5.50 | 6.50 | 6.00 | 6.00 |
| (18)..... | .50 | .40 | .50 | .50 | .50 | .60 | .50 | .50 |
| (19)..... | .50 | .75 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| (20)..... | 3.00 | 5.00 | 2.50 | 2.50 | 3.00 | 3.00 | 3.00 | 3.00 |
| (21)..... | 5.00 | 3.60 | 5.00 | 5.00 | 5.00 | 10.00 | 5.00 | 5.00 |
| (22)..... | 100.00 | 40.00 | 200.00 | 160.00 | 100.00 | 100.00 | 10.00 | 50.00 |
| (23)..... | .06 | .09 | .07 | .06 | .06 | .08 | .08 | .06 |

AWARDS RECOMMENDED

LOS ANGELES, Calif.—Awards of five contracts for the construction of San Gabriel Dam No. 1, based on Alternative Proposals Nos. 3, 4, 6, 7 and 8, has been recommended by the flood control committee of the Los Angeles County Board of Supervisors. The awards will probably be adopted at the meeting Sept. 26. They are:

Alternative No. 3, all open cut excavation to George Pollock Co., Sacramento, at \$684,730. Engineer's estimate, \$957,450.

Alternative No. 4, driving all tunnels and inclined shaft to S. H. Palmer and J. P. Holland, Inc., San Francisco, at \$279,490. Engineer's estimate \$303,825.

Alternative No. 6, furnish and place all concrete and Gunite, to American Concrete and Steel Pipe Co., 4635 Firestone Blvd., South Gate, at \$990,847. Engineer's estimate, \$984,800.

Alternative No. 7, drilling all grout holes and grouting thereof, to Halliburton Grouting Co., 810 S Spring St., Los Angeles, at \$103,742.50. Engineer's estimate, \$135,350.

Alternative No. 8, place all metal, to Los Angeles Contracting Co., 4816 W Pico St., Los Angeles, at \$117,262.75. Engineer's estimate, \$132,725.

The complete list of amended quantities as called for in the complete proposal and in the segregated contracts are:

- PROPOSAL NO. 1**
- (1) 400,000 cu. yds. class A excavation on west abutment above elevation 1190;

- (2) 125,000 cu. yds. class B excavation on east abutment above elevation 1190;
- (3) 659,000 cu. yds. class C excavation, streambed below elevation 1190 in vicinity of cut-off;
- (4) 632,000 cu. yds. class D excavation, streambed below elevation 1190 downstream from cut-off;
- (5) 15,000 cu. yds. class E excavation, cut-off trenches;
- (6) 24,000 cu. yds. class F excavation, miscellaneous open cut;
- (7) 1750 cu. yds. class G excavation, inclined outlet shaft;
- (8) 62,700 cu. yds. class H excavation, main outlet tunnel;
- (9) 735 cu. yds. class J excavation, spillway pilot tunnel;
- (10) 55,000 cu. yds. backfill;
- (11) 4,100,000 cu. yds. class A rockfill in body of dam;
- (12) 643,000 cu. yds. class B rockfill below streambed downstream from cut-off;
- (13) 470,000 cu. yds. class C rockfill, large rock on downstream face;
- (14) 349,000 cu. yds. class D rockfill, packed on upstream face;
- (15) 19,100 cu. yds. class A concrete, main cut-off wall;
- (16) 725 cu. yds. class B reinf. conc.;
- (17) 3300 cu. yds. class C concrete, trash racks and tunnel outlet;
- (18) 400 cu. yds. class D concrete, lining in outlet shaft;
- (19) 13,800 cu. yds. class E concrete, lining in outlet tunnel;
- (20) 35,500 cu. yds. class F concrete, plain concrete;

- (21) 325 cu. yds. class G concrete, tunnel plug;
- (22) 6603 cu. yds. class H concrete, floater slabs;
- (23) 2,167,000 sq. ft. placing 6-in. Gunite facing slabs;
- (24) 4500 lin. ft. drilling grout holes, Class A, less than 10 ft.;
- (25) 11,300 lin. ft. drilling grout holes, class B, greater than 10 ft. and less than 50 ft.;
- (26) 34,900 lin. ft. drilling grout holes, class C, greater than 50 ft. and less than 150 ft.;
- (27) 8500 lin. ft. drilling grout holes, class D, redrilling through grout;
- (28) 17,500 lin. ft. drilling grout holes, class E, less than 20 ft., in shaft tunnels only;
- (29) 2500 holes, placing fittings on grout holes;
- (30) 6650 lin. ft. placing grout pipe;
- (31) 620 cu. yds. pressure grouting;
- (32) 36,000 lin. ft. placing metal seals;
- (33) 230,000 lbs. placing gates and valves;
- (34) 154,000 lbs. placing steel trash racks;
- (35) 3000 lbs. placing iron pipe hand-railing;
- (36) 5350 lbs. placing structural steel;
- (37) 143,000 lbs. installing pipe for valve operation;
- (38) 1000 lbs. placing operating machinery;
- (39) 7,675,000 lbs. placing reinf. steel;
- (40) 1500 lbs. placing iron pipe conduit
- (41) 3100 lbs. placing miscellaneous metal;
- (42) 2040 lin. ft. placing tile drains;
- (43) 1120 lin. ft. placing steel dowels.

PROPOSAL NO. 2

Same as No. 1, except:

- (2) 2,167,000 sq. ft. placing 6-in. concrete facing slabs.

ALTERNATIVE PROPOSAL NO. 3

- FOR ALL OPEN CUT EXCAVATIONS
- (1) 400,000 cu. yds. excav. class "A" on west abutment above elevation 1190;
 - (2) 125,000 cu. yds. excav. class "B" on east abutment above elevation 1190;
 - (3) 659,000 cu. yds. excav. class "C" streambed below elevation 1190 in vicinity of cutoff;
 - (5) 15,000 cu. yds. excav. class "E" cutoff trenches;
 - 6a) 3000 cu. yds. excav. class "F-1," miscellaneous open cut;
 - (4) 633,000 cu. yds. excav. class "D," streambed below elevation 1190 downstream from cutoff;
 - (10) 55,000 cu. yds. backfill.

ALTERNATIVE PROPOSAL NO. 4

- FOR THE DRIVING OF ALL TUNNELS AND INCLINED SHAFT.
- (6-B) 21,000 cu. yds. excav. class "F-2," miscellaneous open cut;
 - (7) 1750 cu. yds. excav. class "G," inclined outlet shaft;
 - (8) 62,700 cu. yds. excav. class "H," main outlet tunnel;
 - (9) 735 cu. yds. excav. class "J," spillway pilot tunnel.

ALTERNATIVE PROPOSAL NO. 5

- FOR FURNISHING AND PLACING COMPLETE OF ALL ROCK FILL
- (1) 4,100,000 cu. yds. rockfill, class "A," in body of dam;
 - (2) 643,000 cu. yds. rockfill class "B," heavy streambed, downstream from cutoff;
 - (13) 470,000 cu. yds. rockfill, class "C,"
 - (14) 349,000 cu. yds. rockfill, class "D," packed rock on upstream face;
 - (14-A) construct diversion works complete, lump sum.
- ALTERNATIVE PROPOSAL NO. 6**
- FURNISHING AND PLACING OF ALL CONCRETE AND GUNITE
- (15) 19,100 cu. yds. concrete, class "A" main cutoff wall;

- (16) 725 cu. yds. concrete class "B," reinforced concrete;
- (17) 3300 cu. yds. concrete, class "C," trash racks and tunnel outlet;
- (18T) 400 cu. yds. concrete, class "D," lining in outlet shaft;
- (19) 13,800 cu. yds. concrete, class "E" lining in outlet tunnel;
- (20) 35,500 cu. yds. concrete, class "F" plain concrete;
- (21) 325 cu. yds. concrete, class "G," tunnel plug;
- (22) 6600 cu. yds. concrete, class "H," floater slab;
- (23) 2,167,000 sq. ft. placing 6-in. gunite facing slabs;
- (42) 2040 lin. ft. placing tile drain.

ALTERNATIVE PROPOSAL NO. 6-A FOR THE PLACING OF ALL CONCRETE

Items 15, 16, 17, 18, 19, 20, 21, 22 and 42, as in Proposal No. 6, with alternative as follows:
Item (23) 2,167,000 sq. ft. placing 6-in. concrete facing slabs.

ALTERNATIVE PROPOSAL NO. 7 FOR THE DRILLING OF ALL GROUT HOLES AND THE GROUTING THEREOF

- (24) 4500 lin. ft. drilling grout holes, class "A," less than 10 ft.;
- (25) 11,300 lin. ft. drilling grout holes, class "B," greater than 10 ft., less than 50 ft.;
- (26) 34,000 lin. ft. drilling grout holes, class "C," greater than 50 ft., less than 150 ft.;
- (27) 8500 lin. ft. drilling grout holes, class "D," re-drilling through grout;
- (28) 17,500 lin. ft. drilling grout holes, class "E," less than 20 ft. in shaft and tunnels only;
- (29) 2500 holes placing fittings on grout holes;
- (30) 650 lin. ft. placing grout pipe;
- (31) 620 cu. yds. pressure grouting.

ALTERNATIVE PROPOSAL NO. 8 PLACING OF ALL METAL

- (32) 36,000 lin. ft. placing metal seals;
- (33) 220,000 lbs. placing gates and valves;
- (34) 154,000 lbs. placing steel trash racks;
- (35) 3000 lbs. placing iron pipe hand-railing;
- (36) 5850 lbs. placing structural steel;
- (37) 148,000 lbs. installing pipe for valve operation;
- (38) 1000 lbs. placing operating machinery;
- (39) 7,675,000 lbs. placing reinf. steel;
- (40) 1500 lbs. placing iron pipe conduit;
- (41) 3100 lbs. placing miscellaneous metal;
- (43) 1120 lin. ft. placing steel dowels.

A complete list of unit prices on the various proposals follow:

- (A) Constructors, Inc., (Proposal No. 1) \$11,268,978.55; (Proposal No. 2) \$11-236,473.55.
- (B) Engineer's estimate, (Proposal No. 1) \$9,734,380; (Proposal No. 2) \$9,-691,040.

PROPOSAL NO. 1

| (A) | (B) |
|-----------|--------------|
| (1)..... | \$.85 \$.50 |
| (2)..... | .80 .75 |
| (3)..... | .56 .50 |
| (4)..... | .37 .40 |
| (5)..... | 7.00 4.00 |
| (6)..... | 1.86 1.50 |
| (7)..... | 10.00 6.00 |
| (8)..... | 6.50 4.00 |
| (9)..... | 9.56 15.00 |
| (10)..... | .36 .30 |
| (11)..... | 1.45 1.15 |
| (12)..... | .86 .80 |
| (13)..... | 1.55 1.50 |
| (14)..... | 3.10 3.50 |
| (15)..... | 5.06 5.00 |
| (16)..... | 15.49 10.00 |
| (17)..... | 14.00 10.00 |

| | | |
|-----------|-------|-------|
| (18)..... | 13.46 | 15.00 |
| (19)..... | 15.00 | 14.00 |
| (20)..... | 5.89 | 6.00 |
| (21)..... | 8.10 | 6.00 |
| (22)..... | 6.30 | 10.00 |
| (23)..... | .15 | .17 |
| (24)..... | .41 | .50 |
| (25)..... | 1.42 | 1.00 |
| (26)..... | 2.33 | 2.25 |
| (27)..... | 1.21 | 1.00 |
| (28)..... | .71 | 1.00 |
| (29)..... | .62 | 1.00 |
| (30)..... | .36 | .20 |
| (31)..... | 29.94 | 25.00 |
| (32)..... | .26 | .25 |
| (33)..... | .023 | .015 |
| (34)..... | .023 | .015 |
| (35)..... | .17 | .015 |
| (36)..... | .04 | .015 |
| (37)..... | .04 | .015 |
| (38)..... | .16 | .015 |
| (39)..... | .015 | .015 |
| (40)..... | .13 | .015 |
| (41)..... | .10 | .015 |
| (42)..... | .83 | .25 |
| (43)..... | .56 | .50 |

PROPOSAL NO. 2

(23)..... 145 .15

ALTERNATE PROPOSAL NO. 3

- (A) George Pollock Co., \$684,730.
- (B) S. H. Palmer and J. P. Holland, Inc., \$884,250.

(C) Mitty Bros. Const. Co., \$893,000.
(D) J. E. Haddock and J. G. Donovan & Sons, \$920,020.

The unit prices were:

| | (A) | (B) | (C) | (D) |
|-----------|-------|-------|-------|-------|
| (1)..... | \$.37 | \$.56 | \$.55 | \$.60 |
| (2)..... | .40 | .56 | .70 | .67 |
| (3)..... | .35 | .40 | .50 | .40 |
| (4)..... | .26 | .40 | .25 | .34 |
| (5)..... | 4.00 | 3.70 | 5.00 | 6.00 |
| (6a)..... | 5.00 | 1.40 | 3.00 | 3.65 |
| (10)..... | .30 | .25 | .25 | .30 |

ALTERNATE PROPOSAL NO. 4

- (A) S. H. Palmer and J. P. Holland, Inc., \$279,490.
- (B) H. M. Baruch Corp. and Robinson-Roberts Co., \$336,537.
- (C) Lindgren & Swinerton, \$398,270.
- (D) Floyd Shofner, \$460,970.
- (E) Mundo Engineering Co., \$471,610.

The unit bids were:

| | (A) | (B) | (C) | (D) | (E) |
|-----------|-------|--------|--------|--------|--------|
| (6b)..... | \$.85 | \$1.63 | \$1.00 | \$1.80 | \$1.20 |
| (7)..... | 10.00 | 8.45 | 8.00 | 8.00 | 10.00 |
| (8)..... | 3.80 | 4.45 | 5.70 | 6.35 | 6.70 |
| (9)..... | 8.09 | 11.00 | 8.00 | 15.00 | 12.00 |

ALTERNATE PROPOSAL NO. 5

Constructors, Inc., \$9,068,050.

The unit bids were:
Item (11), \$1.50; (12) \$1.10; (13) \$1.60
(14) \$3.75; (14a) \$150,000.

ALT. PROPOSALS 6 and 6A

American Concrete & Steel Pipe Co.
(6) \$990,847 (6a) \$969,177.

The unit bids were:

| | Prop. 6 | Prop. 6A |
|-----------|---------|----------|
| (15)..... | \$ 5.89 | \$ 5.80 |
| (16)..... | 13.52 | 13.52 |
| (17)..... | 10.72 | 10.72 |
| (18)..... | 15.17 | 15.17 |
| (19)..... | 14.18 | 14.18 |
| (20)..... | 6.77 | 6.77 |
| (21)..... | 8.00 | 8.00 |
| (22)..... | 6.81 | 6.81 |
| (23)..... | .16 | .15 |
| (24)..... | .90 | .90 |

ALTERNATE PROPOSAL NO. 7

(A) Halliburton Grouting Co., \$103,-742.50.

(B) Emco Concrete Cutting Co., \$132,-595.

(C) D. G. Longtin, \$132,895.

The unit bids were:

| | (A) | (B) | (C) |
|-----------|-------|-------|-------|
| (24)..... | \$.50 | \$.40 | \$.52 |
| (25)..... | 1.00 | 1.15 | 1.80 |
| (26)..... | 1.50 | 2.10 | 1.88 |
| (27)..... | .50 | .60 | 1.37 |
| (28)..... | .80 | 1.00 | .72 |
| (29)..... | .75 | .75 | .60 |
| (30)..... | .35 | .50 | .20 |
| (31)..... | 27.00 | 30.00 | 31.00 |

ALTERNATE PROPOSAL NO. 8

- (A) L. A. Contracting Co., \$117,262.75.
- (B) C. M. Hill, \$120,909.
- (C) American Concrete & Steel Pipe Co., 139,319.50.

(D) Soule Steel Co., \$154,498.
The unit bids were:

| | (A) | (B) | (C) | (D) |
|-----------|--------|-------|-------|--------|
| (32)..... | \$.23 | \$.25 | \$.24 | \$.30 |
| (33)..... | .021 | .05 | .025 | .05 |
| (34)..... | .017 | .023 | .025 | .022 |
| (35)..... | .15 | .02 | .10 | .15 |
| (36)..... | .02 | .02 | .03 | .10 |
| (37)..... | .04 | .025 | .03 | .035 |
| (38)..... | .20 | .10 | .15 | .05 |
| (39)..... | .01225 | .012 | .015 | .01584 |
| (40)..... | .14 | .10 | .10 | .05 |
| (41)..... | .09 | .10 | .12 | .10 |
| (43)..... | .50 | .75 | .60 | 1.00 |

UNIT BID LISTING

HUMBOLDT COUNTY, Calif. — As previously reported, Smith Bros., Eureka, at \$11,634.15 submitted low bid to H. S. Conly, district engineer, State Highway Commission, Eureka, to construct a bridge across Mad river about three miles northeast of Arcata, consisting of one 285-ft. through steel truss span to be moved and four 19-ft. timber approach spans to be constructed, involving:

- (1) 2300 lin. ft. redwood piling, including test piles;
- (2) 50 each drive piles;
- (3) move existing steel truss and erect same (timber deck accepted);
- (4) remove existing timber deck of span;
- (5) remove 1 lot of existing timber approach spans;
- (6) 73 MBM redwood timber (struc.);
- (7) place timber deck on re-erected steel truss;
- (8) 38 MBM timber in approach spans, place new or old timber;
- (9) 4000 lbs. struc. metal.

Complete bids follow:
(A) Smith Bros., Eureka..... \$11,634.15
(B) F. J. Maurer, Eureka..... 39,802.00

Unit bids follow:

| | (A) | (B) |
|----------|---------|---------|
| (1)..... | \$.31 | \$.25 |
| (2)..... | 20.00 | 18.00 |
| (3)..... | 4995.00 | 4320.00 |
| (4)..... | 472.00 | 400.00 |
| (5)..... | 196.00 | 150.00 |
| (6)..... | 41.25 | 49.00 |
| (7)..... | 550.00 | 1050.00 |
| (8)..... | 9.20 | 750.00 |
| (9)..... | .085 | .080 |

BIDS OPENED

SAN FRANCISCO — C. L. Harney, 443 Call Bldg., San Francisco, at \$5081.25 submitted low bid to S. J. Hester, Secretary, Department of Public Works, to extend Glen Park sewer redwood box culvert in Glen Park Playground, involving:

- (1) 475 ft. 5½x6-ft. redwood box culvert including excav. and backfill;
- (2) 1 redwood intake;
- (3) 3000 cu. yds. embankment.

Complete bids follow:
(A) C. L. Harney, \$5081.25.

- (B) MacDonald & Kahn, \$5124.00.
- (C) E. J. Treacy, \$5482.95.
- (D) Healy-Tibbitts Co., \$5620.00.
- (E) Theo. Cohn, \$5862.50.
- (F) Empire Constr. Co., \$6280.00.
- (G) Eaton & Smith, \$6462.50.

Unit bids follow:
(A)..... \$6.75 \$300.00 .30
(B)..... 7.28 398.00 .18
(C)..... 8.146 200.00 .20
(D)..... 7.60 500.00 .25
(E)..... 7.90 510.00 .27
(F)..... 8.40 760.00 .23
(G)..... 9.50 250.00 .25

Bids held under advisement.

BIDS OPENED

LOS ANGELES, Cal.—Clark and Campbell, 1358 E Manchester Avenue, submitted low bid to county supervisors Sept. 26 at \$29,304.50 to construct unit No. 3 of the San Gabriel River Outlet at Alamitos Bay, as follows:

PROPOSAL NO. 1

District to pay freight on rock from quarry to point nearest site of work to which railroad company will quote a rate:

- (1) 375 lin. ft. construct r.r. trestle, including laying of track;
- (2) 325 lin. ft. construct wooden bulkhead;
- (3) 4300 tons furnish and place Class B rock, exclu. of freight;
- (4) 8200 tons do, Class A rock;
- (5) 770 tons do, Class C rock.

No bids were submitted on proposal No. 2, which contemplated the contractor paying all transportation costs on rock from quarry to site of work.

Total bids follow:

- (A) Clark & Campbell.....\$29,304.50
- (B) Lewis Const. Co..... 30,703.00
- (C) Merritt-Chapman & Scott Corporation 32,805.00
- (D) Shannahan Bros., Inc..... 35,510.00
- (E) Karl B. Kumpfe, Ltd..... 36,961.00
- (F) H. M. Baruch Corp., Ltd. 41,744.50

Unit bids follow:

| | (1) | (2) | (3) | (4) | (5) |
|-----------|---------|---------|--------|--------|--------|
| (A) | \$27.00 | \$13.50 | \$1.05 | \$1.35 | \$1.10 |
| (B) | 27.00 | 10.00 | 1.30 | 1.30 | 1.40 |
| (C) | 8.30 | 9.70 | 2.00 | 2.00 | 2.00 |
| (D) | 20.00 | 18.00 | 1.67 | 1.67 | 1.67 |
| (E) | 6.80 | 17.00 | 2.20 | 2.20 | 1.80 |
| (F) | 28.70 | 30.00 | 1.60 | 1.60 | 1.60 |

BIDS OPENED

FFRESNO, Fresno Co., Cal.—All bids rejected Sept. 23 by city council, and new bids will be received October 7 to furnish cast iron pipe as follows:

- (1) 2,048 ft. 4-in. Class 150;
- (2) 1,392 ft. 6-in., Class 250;
- (3) 896 ft. 8-in., Class 250;
- (4) 6,000 ft. 10-in., Class 250.

All above to be E&S type, in 16-ft. lengths.

Complete bids follow:

- (A) Intercontinental Pipe & Mining Co., San Francisco, \$7,154.16.
- (B) United States Pipe & Foundry Co. San Francisco, \$9,221.97.
- (C) American Cast Iron Pipe Co., San Francisco, \$9,541.26.
- (D) Pacific States Cast Iron Pipe Co., San Francisco, \$9,984.63.
- (E) Utilities Supply Co., Los Angeles, \$10,146.19.
- (F) Grinnell Co., San Francisco, \$10,251.85.

Unit bids follow:

| | (1) | (2) | (3) | (4) |
|-----------|-------|-------|-------|---------|
| (A) | \$.33 | \$.52 | \$.63 | \$.8650 |
| (B) | .326 | .54 | .84 | 1.175 |
| (C) | .338 | .56 | .87 | 1.215 |
| (D) | .3530 | .5862 | .9109 | 1.2725 |
| (E) | .3703 | .6035 | .9364 | 1.3024 |
| (F) | .3703 | .6035 | .9364 | 1.3024 |

Owing to many irregularities, all bids were rejected.

BIDS OPENED

SACRAMENTO, Cal.—Pacific Coast Const. Co., 1400 Front St., Sacramento, at \$10,547.50 submitted low bid to U. S. Engineer Office, California Fruit Bldg., Sacramento, for placing three new retards and two additional bankheads and one 12 ft. extension on extension of existing retards along the banks of the Yuba River between the Moran Ranch and Rubke Road, involving:

- (1) 200 lin. ft. bankhead in place;
- (2) 1,000 3/2"x3 1/2"x1/2-in. angle bar in place in retard sections;
- (3) 200 log foundation in place;
- (4) 200 brush filling in place in steel

- sections;
- (5) 9 steel H column anchor piles in place;
- (6) 34,000 lin. ft. 1/2-in. dia. cables in place;
- (7) 10,000 lin. ft. 1/2-in. do;
- (8) 500 1/2-in. cable clamps in place;
- (9) 120 3/4-in. do;
- (9a) 115 1-in. do;
- (10) 1,200 lbs. 5-in. staples in place.

Complete bids follow:
(A) Pacific Coast Const. Co., Sacramento, \$10,547.50; (alternate) without three anchor piles, \$10,300.00.

(B) E. L. Rubke, Marysville, \$11,261.25.

Unit bids follow:

| | (A) | (B) |
|------------|----------|----------|
| (1) | \$ 14.00 | \$ 15.00 |
| (2) | 1.30 | 1.30 |
| (3) | 8.50 | 10.00 |
| (4) | 2.00 | 2.00 |
| (5) | 150.00 | 120.00 |
| (6) | .05 | .06 |
| (7) | .08 | .10 |
| (8) | .30 | .25 |
| (9) | .42 | .30 |
| (9a) | .50 | .35 |
| (10) | .20 | .20 |

Bids held under advisement.

BIDS OPENED

MONTEREY COUNTY, Cal.—Granite Const. Co., Bin No. 9, Watsonville, at \$13,547 submitted low bid to State Highway Commission, Sacramento, to improve 4.6 miles between San Ardo and San Lucas, involving bituminous surface treatment to be applied, involving:

- (1) 3,610 tons screenings;
- (2) 190 tons emulsified asphaltic road oil.

Complete bids follow:

- (A) Granite Const. Co., Watsonville, \$13,547.
- (B) C. W. Wood, Stockton, \$15,390.
- (C) U. E. Lee, San Leandro, \$15,561.
- (D) M. J. Bevanda, Stockton, \$15,903.
- (E) F. W. Nighbert, Bakersfield, \$16,843.50.
- (F) Peninsula Paving Co., San Francisco, \$16,904.30.
- (G) H. E. Cox & Sons, Pasadena, \$17,632.00.
- (H) Oilfields Trucking Co., Taft, \$18,929.70.
- (I) W. A. Dontanville, Salinas, \$19,013.30.

Unit bids follow:

| | (1) | (2) |
|-----------|--------|---------|
| (A) | \$2.70 | \$20.00 |
| (B) | 3.00 | 24.00 |
| (C) | 3.10 | 25.00 |
| (D) | 3.30 | 21.00 |
| (E) | 3.35 | 25.00 |
| (F) | 3.53 | 21.90 |
| (G) | 3.70 | 22.50 |
| (H) | 3.45 | 34.08 |
| (I) | 4.03 | 23.50 |

COMPLETE BIDS LISTING

ARIZONA STATE — As previously reported, O. F. Fisher Co., 516 E. Seventh St., Phoenix, awarded contract by State Highway Commission on Sept. 2, at \$28,372.33, for highway construction on the Ashcroft-Flagstaff Highway, F. A. 89-F. The work, which begins at the end of the pavement on Williams Ave., near First St. in the town of Williams and extends easterly approximately 1 1/2 miles, consists of the grading, draining and placing of subgrade stabilizer, involving:

ROADWAY

- (1) 2822 cu. yds. roadway excav. (unclass.);
- (2) 504 cu. yds. drainage excav. (unclass.);
- (3) 405 cu. yds. structural excav. (unclass.);

- (4) 8148 cu. yds. borrow excav. (unclass.);
- (5) 45,183 sta. yds. earthwork overhaul;
- (6) 4194 cu. yds. subgrade stabilizer;
- (7) 33,696 cu. yd. nil. subgrade stabilizer, haul;
- (8) 171 cu. yds. class A concr. (incl. cement);
- (9) 34 cu. yds. class B concr. (incl. cement);
- (10) 12,013 lbs. reinf. steel (C.I.P.);
- (11) 36 lin. ft. 24-in. C.M.P. (C.I.P. except excav. and concr.);
- (12) 156 lin. ft. 36-in. C.M.P. (C.I.P. except excav. and concr.);
- (13) 180 lin. ft. part circle M.M.P.;
- (14) 310 lin. ft. reconstructing fence (C.I.P.);
- (15) 360 lin. ft. angle iron for part circle galv. (C.I.P.);

STRUCTURES OVER 20 FT. CLEAR SPAN

- (16) 4150 cu. yds. excav. R. R. fill (unclass.);
- (17) 73 cu. yds. subgrade stabilizer;
- (18) 597 cu. yds. ml. subgrade stabilizer, haul.

The bids were opened August 31.

The total bids were:

- (A) O. F. Fisher, Phoenix, \$28,372.33.
- (B) H. J. Hagen, Globe, Ariz., \$29,959.22.

The unit bids were:

| | (A) | (B) |
|------------|-------|-------|
| (1) | \$.65 | \$.75 |
| (2) | .60 | .60 |
| (3) | 1.20 | 2.00 |
| (4) | .45 | .60 |
| (5) | .085 | .03 |
| (6) | .55 | 1.00 |
| (7) | .12 | .15 |
| (8) | 28.00 | 25.00 |
| (9) | 28.00 | 24.00 |
| (10) | .07 | .06 |
| (11) | 2.45 | 2.50 |
| (12) | 4.45 | 5.00 |
| (13) | 1.95 | 3.00 |
| (14) | .15 | .10 |
| (15) | .10 | .15 |
| (16) | 1.40 | 1.00 |
| (17) | .53 | 1.00 |
| (18) | .12 | .15 |

BIDS OPENED

MARYSVILLE, Yuba Co., Cal.—California Corrugated Culvert Co., 5th and Parker, Berkeley, at \$153.49 submitted low bid to U. S. Engineer Office, Sacramento, to furnish f.o.b. railroad cars or trucks at Marysville:

- (1) 225 lin. ft. 16-gauge corrug. galv. iron culvert pipe, 8-in. dia. in 25-ft. lengths.

- (2) 36 lin. ft. 16-gauge corrug. galv. iron culvert pipe, 8-in. dia. in 4-ft. lengths.

- (3) 8 drop inlets to be made on 10-16-gauge corrug. galv. iron pipe.

- (4) 8 hand couplers, each 12 1/2-in. long, complete, for connecting the 8-in. dia. stubs of drop inlets to 8-in. dia. corrug. iron culverts.

Complete bids follow:

- (A) California Corrugated Culvert Co. Berkeley, \$153.40.
- (B) Western Pipe & Steel Co., S. F., \$157.74.

Unit bids follow:

| | (1) | (2) | (3) | (4) |
|-----------|-------|-------|--------|-------|
| (A) | \$.44 | \$.44 | \$4.00 | \$.82 |
| (B) | .46 | .46 | 3.79 | .92 |

Bids held under advisement.

Consideration of a national tax program for real estate will be the principal matter to come before the Board of Directors of the National Association of Real Estate Boards at their coming fall meeting to be held at the Congress Hotel, Chicago, November 18 and 19, 1932.

ENGINEERING NEWS

BRIDGES

LOS ANGELES COUNTY, Cal.—Until October 13, 2 P. M., bids will be received by State Highway Commission to construct a reinforced concrete bridge across Topanga Creek, about 5 miles north of Santa Monica, consisting of two slab spans each approximately 33 ft. long. Project involves:

- (1) 2500 cu. yds. struc. excav.;
- (2) 540 cu. yds. gravel and sand backfill;
- (3) 113,000 lin. ft. furnish Douglas fir piles, incl. test piles;
- (4) 412 drive Douglas fir piles, incl. test piles;
- (5) 950 cu. yds. Class "A" cem. conc. (footing blocks);
- (6) 1200 cu. yds. Class "A" cem. conc. (structure);
- (7) 225 cu. yds. Class "A" cem. conc. (channel pave.);
- (8) 306,000 lbs. reinf. steel;
- (9) 15,000 lbs. galv. reinf. steel;
- (10) 12,000 lbs. struc. steel (railing);
- (11) 1 lot misc. items of work.

KERN COUNTY, Cal.—Until October 13, 2 P. M., bids will be received by State Highway Commission to construct a bridge over the Kern River near Ekersfield, consisting of steel stringer spans with concrete deck on concrete pile bents and concrete piers with timber pile foundations and timber trestle spans with concrete deck on timber pile bents. Project involves:

- (1) 3800 cu. yds. struc. excav.;
- (2) 36,000 lin. ft. furnish redwood piles incl. test piles;
- (3) 1167 drive redwood piles incl. test piles;
- (4) 2585 lin. ft. reinf. conc. piles incl. test piles;
- (5) 936 cu. yds. Class "A" cem. conc. (footing blocks);
- (6) 3715 cu. yds. Class "A" cem. conc. (struc.);
- (7) 697 cu. yds. Class "A" cem. conc. (pave.);
- (8) 278 cu. yds. sand fill;
- (9) 509,000 lbs. bar reinf. steel;
- (10) 1,855,000 lbs. struc. steel (deck);
- (11) 123,500 lbs. struc. steel (railing);
- (12) 650 lbs. cast steel;
- (13) 117,300 lbs. cast iron;
- (14) 372 M. ft. b. m. redwood timber, dense sel. all-heart struc. grade;
- (15) 189 M. ft. b. m. redwood timber, sel. all-heart struc. grade;
- (16) 1 lot lighting equipment;
- (17) 6880 lin. ft. traffic stripe;
- (18) 1 lot misc. items of work.

LOS ANGELES COUNTY, Calif.—Weymouth-Crowell Co., 2104 E 15th St., Los Angeles, at \$154,611.55 awarded contract by State Highway Commission to construct four deck plate girder bridges across Piru Creek at points bet. 13 $\frac{1}{2}$ and 15 miles north of Castaic: the first consisting of three 80-ft. spans and two 50-ft. spans, the second consisting of three 80-ft. spans and one 50-ft. span, the third consisting of three 80-ft. spans and two 60-ft. spans, and the fourth consisting of two 80-ft. spans and two 60-ft. spans. Sept. 11, 1935.

LOS ANGELES, Cal.—E. S. McKittick Co., Inc., 5905 Pacific Boulevard, Huntington Park, awarded contract by County Supervisors at \$42,400, bidding on creosoted Douglas fir to construct timber and steel bridge on Del Amo Ave. over the Los Angeles river

near North Long Beach west of the Virginia Country Club. The proposed bridge will consist of eleven 60-foot Howe truss spans with a 30-ft. roadway, the paving of which will not be included in the present contract.

UKIAH, Mendocino Co., Cal.—Carl Whited, Willits, at \$380 for labor, and W. S. Melville, Laytonville, at \$419.60 for piling and \$861.61 for lumber, awarded contract by county supervisors to construct bridge and two wings to same over Mill Creek in Round Valley, 1 $\frac{1}{2}$ miles north of Covelo, involving:

- (1) 963 lin. ft. piling;
 - (2) 26,628 ft. b. m. lumber.
- Chas. Hammonway submitted a bid of \$746.23 for labor and the Willits Lumber Co., Willits, bids of \$425.92 for piling and \$1051.81 for lumber.

LOS ANGELES, Cal.—Until 2 P. M. October 17, bids will be received by County Supervisors to construct an A-frame truss bridge on Water St. over San Jose Creek; will be timber and pile construction and consists of two 35-ft. spans with a 21-ft. roadway. Bids will be taken on both creosoted Douglas fir and on untreated redwood. W. D. Armstrong, County Bridge Engineer.

OAKLAND, Cal.—Until October 18, 10:30 A. M., bids will be received by Geo. E. Gross, County Clerk, to construct a reinforced concrete bridge over County Road No. 6618, known as the Calaveras Road, involving:

- (1) 520 cu. yds. excav. for structures above elevation 245;
- (2) 100 cu. yds. excav. for structure below elevation 245;
- (3) 440 cu. yds. concrete in structure;
- (4) 105,000 lbs. reinf. steel in place;
- (5) remove existing bridge and clean site.

Plans and specifications obtainable from County Clerk's office on deposit of \$25.

SAN JOSE, Santa Clara Co., Cal.—Until October 10, 11 A. M., bids will be received by Henry A. Pfister, County Clerk, to construct two reinforced concrete retaining walls on Penetencia Creek Road in Supervisor District No. 3. Certified check 10% payable to clerk required with bid. Plans obtainable from Robt. Chandler, county surveyor.

EUREKA, Humboldt Co., Calif.—F. J. Maurer & Son, Eureka, at \$11,100 awarded contract by county supervisors to rebuild the Mad River Slough

bridge in Road District No. 5. Complete bids published in issue of Sept. 20th.

YOLO COUNTY, Cal.—Until Oct. 19, 2 P. M., bids will be received by State Highway Commission, Sacramento, to widen existing causeway about 5 miles west of Sacramento by constructing approximately 16,435 feet of timber trestle and a double leaf bascule span approximately 85-ft. long, involving:

- (1) 470 cu. yds. struc. excav.;
- (2) 2,024 lin. ft. furnish Douglas fir piles;
- (3) 153,100 lin. ft. furnish redwood piles, inc. test piles;
- (4) 3,551 drive Douglas fir and redwood piles, inc. test piles;
- (5) 190 cu. yds. Class A cem. conc., (footing blocks);
- (6) 530 cu. yds. Class A cem. conc. (structure);
- (7) 42,000 lbs. reinf. steel;
- (8) 330,000 lbs. struc. steel;
- (9) 23,000 lbs. cast iron;
- (10) 16,900 lin. ft. galv. sheet metal strip;
- (11) 4,730 M. ft. b. m. redwood timber, dense sel. all-heart structural grade;
- (12) 690 M. ft. b. m. redwood timber, sel. all-heart struc. grade;
- (13) 250 M. ft. b. m. Douglas fir timber, struc. grade;
- (14) 1 lot temporary timber railing & barricades;
- (15) 14,000 lin. ft. remove and reset pipe railing;
- (16) 2,480 lin. ft. remove and reset timber railing;
- (17) 248 M. ft. b. m. timber in existing floor to be removed;
- (18) 8 concrete bents to be lowered;
- (19) 67 timber bents to be lowered;
- (20) 1 bascule span to be removed;
- (21) 435 sq. yds. asphalt plank;
- (22) 9,800 tons asphalt conc. pave.;
- (23) 1 lot machinery;
- (24) 1 lot painting timber railing and wheel guard;
- (25) 1 lot misc. items of work.

SAN FRANCISCO—Until October 14, 12 noon, bids will be received by W. W. Felt, Jr., secretary, Golden Gate Bridge and Highway District, 714 Financial Center Bldg., to construct the Golden Gate Bridge across the Golden Gate Strait and the entrance to the San Francisco Harbor, together with approaches, approach road's and certain accessory structures.

The contracts which will be let under the foregoing call for bids are as follows:

CONTRACT I-B—Fabrication and erection of cables, suspenders and accessories.

CONTRACT II—Main Piers.

CONTRACT III—Anchorages.

CONTRACT IV—San Francisco and Marin approach spans.

CONTRACT V—Presidio Road.

CONTRACT VI—Sausalito Road.

CONTRACT VII—Paving of main and approach spans.

CONTRACT VIII—Electric Work.

Plans obtainable from secretary of the district on deposit of \$50, checks for same to be made payable to the Golden Gate Bridge and Highway District.

Contract for steel superstructure has been awarded to McClintic-Marshall Co., 2050 Bryant St., San Francisco at \$10,494,000.

CAPITAL CITY TITLE COMPANY

J. C. PALEN,
Manager

914 Seventh Street
Sacramento :: California

CONTRACT 1-B

Cable, Suspenders and Accessories, Involving the Following:

- For Cables, Suspenders and Accessories, lump sum;
Any additions to or deductions from the quantities as shown;
- (1) Cable wire, price per lb.;
 - (2) Suspender and stay ropes, per ft.;
 - (3) Hand ropes, price per ft.;
 - (4) Cast steel, price per lb.;
 - (5) Forged steel, price per lb.

CONTRACT 2—MARIN PIERS

- (1) Pender complete in place, 10,600 cu. yds., concrete above elevation 35,300 cu. yds. concrete below excavation.
- (2) San Francisco pier complete in place involving 22,000 cu. yds. excavation, 60,000 cu. yds. concrete;
- (3) Marin Pier complete in place involving 13,000 cu. yds. excavation, 22,900 cu. yds. concrete.

Lump Sum Bid, Items 1 to 3 inclusive;

- Addition to or deductions from the quantities in place as shown;
- (4) Variation from elevation (-65), per vertical foot of average increases or decreases;
 - (5) Addition or deduction for excavation San Francisco Pier above elevation (-100) per cu. yd.;
 - (6) Addition for excavation San Francisco Pier between elevations (-103 and -110) per cu. yd.;
 - (7) Addition for excavation S.F. Pier between elevations (-110 and -120) per cu. yd.;
 - (8) Addition for excavation S.F. Pier between elevations (-120 and -130) per cu. yd.;
 - (9) Addition for excavation Marin Pier between elevations (-20 and -30) or deductions between elevations (-20 and -10) per cu. yd.;
 - (10) Addition for excavation Marin Pier between elevations (-30 and -40) per cu. yd.;
 - (11) Addition or deduction in quantity concrete S.F. Pier, per cu. yd.;
 - (12) Addition or deduction in quantity concrete, Marin Pier, per cu. yd.;
 - (13) Addition or deduction reinforcing steel, per lb.;

CONTRACT 3—ANCHORAGE

- (1) Excavation (unclass.) above elevation zero (102,000 cu. yds.) per cu. yd.;
- (2) Excavation (unclass.) below elevation zero (25,000 cu. yds.) per cu. yd.;
- (3) Concrete in base blocks (25,120 cu. yds.) per cu. yd.;
- (4) Concrete in anchor blocks (33,300 cu. yds.) per cu. yd.;
- (5) Concrete in weight blocks (9,900 cu. yds.) per cu. yd.;
- (6) Erection of eyebar chain in anchor blocks and anchorage steel in Pylon S-1 (1,700 tons) per ton;
- (7) Removal and reconstruction of seawall (540 lin. ft.) per lin. ft.;
- (8) Concrete in cable housing, etc., (22,400 cu. yds.) per cu. yd.;
- (9) Concrete stairway (360 cu. yds.) per cu. yd.;
- (10) Cast stone balustrade on stairway, benches included (750 lin. ft.) per lin. ft.;
- (11) Backfilling and dressing slopes around weight blocks, etc. (13,000 cu. yds.) per cu. yd.;
- (12) Reinforcing steel in all structures (2,981,000 lbs.) per lb.;

MARIN SIDE

- (13) Excavating (unclass.) under side span (50,000 cu. yds.) per cu. yd.;
- (14) Excavation (unclass.) for anchor blocks, etc., including all backfilling (48,000 cu. yds.) per cu. yd.;
- (15) Concrete in base blocks of anchor (15,810 cu. yds.) per cu. yd.;
- (16) Concrete in piers, etc. (11,820 cu. yds.) per cu. yd.;

- (17) Concrete in anchor blocks (37,450 cu. yds.) per cu. yd.;
- (18) Erection of eyebar chains in anchor blocks and anchorage steel in Pylon N-1 (1,700 tons) per ton;
- (19) Concrete in weight blocks (5,719 cu. yds.) per cu. yd.;
- (20) Reinforcing steel in all structures (2,319,600 lbs.) per lb.;
- (21) Cast stone balustrades (700 lin. ft.) per lin. ft.;
- (22) Ornamental iron work, stairs and miscellaneous items on both San Francisco and Marin sides, lump sum.

Lump Sum, items 1 to 22 inclusive, CONTRACT 4—S. F. AND MARIN APPROACH SPANS

- (1) For the steel superstructure of the San Francisco approach, except railing, lump sum;

CLARK COUNTY, Nevada—James J. Burke, Salt Lake City, Utah, at \$26,543.30 awarded contract by State Highway Department to construct a steel and concrete bridge over the Muddy River near Glendale, Route 6 Sections P1 and P2, a length of .42 mi., involving:

- (1) 6500 cu. yds. rdwy. excav.;
- (2) 156 cu. yds. struc. excav.;
- (3) 29 mile subgrade;
- (4) 1200 cu. yds. crushed rock or crushed gravel surface in place;
- (5) 266 cu. yds. Class A concrete;
- (6) 170 cu. yds. Class D concrete;
- (7) 32 lin. ft. remove and reset corr. metal pipe;
- (8) 2 corr. metal pipe culvert extensions;
- (9) 832 lin. ft. stand. timber guard rail;
- (10) 20 monuments;
- (11) 1 furnish and install post for F. A. markers;
- (12) .42 mile finish rdwy.;
- (13) 190,000 lbs. struc. steel;
- (14) 47,000 lbs. reinf. steel;
- (15) 2150 lin. ft. furnish untreated piling;
- (16) 1780 lin. ft. drive timber piles;
- (17) 200,200 lbs. sheet piling;
- (18) remove present timber bridge.

- (2) For the steel superstructure of the Marin approach, except railing, lump sum;
- (3) For railing San Francisco and Marin approaches, lump sum;

Lump Sum, items 1 to 3 inclusive.

- (4) Structural carbon steel, Items 1 & 2, per lb.;
 - (5) Cast steel, Items 1 and 2, price per lb.;
 - (6) Forged steel, Items 1 and 2, price per lb.;
- Alt. Bid.—Copper bearing steel.** Items 1 and 2, inclusive for the addition, price per pound.

CONTRACT 5—PRESIDIO ROAD

- (1) Grading, unclass., 110,000 cu. yds.;
 - (2) Concrete paved roadway, etc., 4,862 lin. ft.;
- Alternate of Item No. 2:
- (3) Asphalt concrete, etc., 4,862 lin. ft.
 - (4) Underpass bridge, etc., lump sum;
 - (5) High viaduct, complete, etc.," ;
 - (6) Low viaduct and retaining walls at each end and 30,000 lin. ft. concrete pile foundations;
- Alternate for copper bearing steel.
- (7) Low viaduct with 5,200 lin. ft. cylinder foundation substituted for concrete piles and spread footings; concrete pile;
 - (8) Property fence, 10,000 lin. ft.;
 - (a) Total lump sum bid, excluding Items Nos. 3 and 7;
 - (b) Total lump sum bid, excluding Items Nos. 3 and 6;
 - (c) Total lump sum bid, excluding Items Nos. 2 and 7;
 - (d) Total lump sum bid, excluding Items Nos. 2 and 6;
 - (9) Structural concrete (superstructure of viaducts) per cu. yd.

- (10) Mass concrete (piers and footings) per cu. yd.;
- (11) Reinforcing steel, per lb.;
- (12) Fabricated steel, per lb.;
- (13) Concrete piles, per lin. ft. of piles in place;
- (14) Cylinder foundations, per lin. ft. in place;
- (15) Concrete roadway paving, including reinf. steel, per sq. ft.;
- (16) Asphalt concrete pave., per sq. ft.
- (17) Lincoln Blvd. paving, per sq. ft.

CONTRACT 6—SAUSALITO ROAD

- (1) Excavation (unclass., 140,000 cu. yds.) per cu. yd.;
- (2) Paving roadway (235,000 sq. ft.) per sq. ft.;
- (3) Corrugated metal pipe (800 lin. ft.) per lin. ft.;
- (4) Concrete headwalls, retaining walls and electroliter bases (190 cu. yds.) per cu. yd.;
- (5) Reinforcing steel (16,000 lbs.) per pound;
- (6) Road guard fence (800 lin. ft.) per per lin. ft.;

Lump Sum, Items 1 to 6 inclusive. CONTRACT 7—PAVING OF MAIN APPROACH SPANS.

- (1) Concrete paving main span, side spans, San Francisco and Marin Approach spans (14,000 cu. yds.) per cu. yd.;
- (2) Reinforcing steel in above (4,800,000 lbs.) per lb.

Lump Sum, Items 1 and 2.

CONTRACT 8—ELECTRICAL WORK

- (1) The Navigation signaling system, lump sum;
 - (2) Roadway lighting system for the bridge and approach spans, lump sum;
 - (3) Roadway lighting system Presidio road, lump sum;
 - (4) Roadway lighting system North lateral (Sausalito) Road, lump sum;
 - (5) Private telephone system complete, lump sum;
- Lump Sum, items 1 to 5 inclusive.**
- (6) Each 22-ft. cast iron light standard, complete;
 - (7) Each 20-ft. do;
 - (8) For each 10-ft. 4-in. do;
 - (9) For each 20-ft. conc. light standard complete;
 - (10) For 1 1/2-in. conduit, per ft.;
 - (11) For 1 1/2-in. conduit per ft.;
 - (12) For 1 1/2-in. pipe per ft.;
 - (14) For No. 8 S. C. lead covered cable for road lighting, per ft.;
 - (15) For each single conductor pot-head.

Under the previous advertisement for bids, separate proposals were asked for furnishing 100,000 bbls. of Portland cement, f.o.b. San Francisco. Under all the above contracts, cement is to be furnished by the contractors.

DREDGING, HARBOR WORKS & EXCAVATIONS

SONOMA COUNTY, Calif.—Puget Sound Bridge & Dredging Co., 2929 16th S. W., Seattle, at \$71,835 submitted low bid to U. S. Engineer Office, Custom House, San Francisco, for dredging in Petaluma Creek, involving 513,625 cubic yards dredging. Complete bids follow:

Puget Sound Bridge & Dredging Co., Seattle, \$1,139; total, \$71,393.

American Dredging Co., San Francisco, \$2,294; \$117,825.

Hydraulic Dredging Co., Oakland, \$26; no total.

San Francisco Bridge Co., San Francisco, \$25; \$124,046.

Standard Dredging Co., Los Angeles \$29; \$148,951.

Engineer's estimate, \$1,9455; \$99,925. Bids held under advisement.

SUISUN, Solano Co., Cal.—Dutton Dredging Co., 547 Mills Bldg., San Francisco, at \$14,702 awarded contract by U. S. Engineer Office, for dredging in the Suisun Slough near Suisun, involving 150,000 cu. yds. of dredging. Complete bids published in issue of Sept. 12.

DOUGLAS COUNTY, Ore.—Until October 27, 3 P. M., bids will be received by U. S. Engineer Office, Portland, to construct 2500 ft. of rubble mound jetty on the south side of the Umpqua river in Douglas county about 1 1/2 miles south of the river's mouth. Estimated cost \$450,000. The work includes the construction of a receiving wharf, approach tramway and a jetty tramway. Project involves:

- (1) 150,000 tons of stone in place;
- (2) 115,000 lin. ft. piling;
- (3) 1500 M. FBM lumber;
- (4) 50,000 lbs. drift bolts;
- (5) 300 tons rails;
- (6) 22,000 lbs. railroad spikes;
- (7) 15,000 lbs. wire and ship spikes;
- (8) 32,000 lbs. machine bolts with nuts and washers;
- (9) 20,000 hn. ft. cable wire;
- (10) 200 piling points.

Plans obtainable from U. S. Engineer Office at Portland.

LOS ANGELES, Cal.—Until 3 P. M., Nov. 1, bids will be received by U. S. Engineer office, 751 S. Figueroa St., Los Angeles, for constructing a section of rubble mound breakwater enrockment about 1400 ft. long in Los Angeles-Long Beach Harbor. The specifications provide for the placing of rock as follows:

- (1) 103,000 tons Class A rock, 8 tons or over for top surface, running 160 lbs. to the cu. ft.;
- (2) 120,000 cu. yds. Class B rock, lighter or under stone.

Specifications obtainable from the U. S. Engineer, Major W. H. Lanagan, 751 S. Figueroa St., Los Angeles.

PORTLAND, Oregon.—Until October 11, 3 P. M., bids will be received by U. S. Engineer Office, Portland, for constructing pile dikes on the Columbia river at two sites 96 and 72 miles below Portland. Estimated cost \$45,000. Specifications obtainable from engineer.

DINUBA, Tulare Co., Cal.—Until October 10, 10 A. M., bids will be received by E. Sibley, secretary and superintendent, Alta Irrigation District, for removal of sand from that portion of channel of the "Traver Canal" running between the North line and the South line of Sec. 12 in Township 16 South of Range 23 East, involving 12,000 cu. yds. Specifications obtainable from Secretary.

PORTLAND, Ore.—Ostrander Railway and Lumber Co., Astoria, Oregon, at \$0,855 cu. yd., submitted low bid to U. S. Engineer Office, Portland, for dredging 9,830 cu. yds. of material from Clatskanie river. Pacific Bldg., Material Co., second low at \$10; Portland Dredging Company, third low at \$115. Brookfield Co., Astoria, only other bidder at \$155.

SANTA MONICA, Los Angeles Co., Cal.—Dudley-Thomas Lbr. Co., Santa Monica, awarded contract by Puget Sound Bridge & Dredging Co. and W. F. Way, contractors for Santa Monica Breakwater, for furnishing 250,600 ft. lumber for use in connection with the construction of the breakwater.

J. H. Baxter & Co., Edison Bldg.,

Los Angeles, awarded the contract for furnishing all required piling.

SACRAMENTO, Cal.—Until Oct. 10, 3 P. M., under Circular Proposal No. 33-90, Specifications No. 4601, bids will be received by U. S. Engineer Office, California Fruit Bldg., for removing and disposing of the remains of 12 vessels which burned and sank on Aug. 28, 1932, and which are located in the west side of the Sacramento river between the "I" street and "M" street bridges. Specifications obtainable from above office.

SAN DIEGO, Calif.—Until 3 P. M., Oct. 18, bids will be received by the U. S. Engineer Office, 751 S. Figueroa St., Los Angeles, for repairing the dike diverting San Diego River from San Diego Bay to Mission (False) Bay, Calif. The work will involve:

- (1) 11,000 cu. yds. earth work;
- (2) 500 cu. yds. stone for rip-rap in front of dike.

Specifications obtainable from above office.

SAN FRANCISCO.—Fred O. Henderson, 1133 20th St., San Pedro, at \$11,750 submitted low bid to U. S. Engineer Office, San Francisco, for removing the sunken and abandoned schooner barge Simla, lying in Oakland harbor. Previous bids were rejected. Complete bids follow:

| | |
|--|----------|
| F. O. Henderson, San Pedro..... | \$11,750 |
| E. J. Cottrell, Highland Park, New Jersey | 12,500 |
| R. C. Porter, Oakland..... | 14,800 |
| Crowley Launch & Tugboat Co. San Francisco | 16,295 |
| Merritt-Chapman & Scott, San Pedro | 18,250 |
| Engineer's estimate | 9,900 |

PORT CHICAGO, Contra Costa Co., Cal.—Bids are being received by A. H. Feasey, 170 Sutter St., San Francisco, for 300,000 cu. yds. dredging for a yacht harbor in the Lido Canal, foot of Main St. Harbor to be 3000 ft. long, 180 ft. wide and to be dredged to a depth of 10-ft. below lower low water. Project involves 6700 pieces of 20- to 30-ft. piling. Specifications obtainable from above office.

SONOMA COUNTY, Cal.—P. uge t Sound Bridge & Dredging Co. 2929 16th S. W., Seattle, at \$71,393 recommended for award by U. S. Engineer Office, San Francisco, for dredging in Petaluma Creek, involving 513,625 cu. yds. dredging.

MACHINERY AND EQUIPMENT

SAN FRANCISCO.—Until Oct. 10, bids will be received from a selected list of manufacturers by the National Park Service, 409 Underwood Bldg., to furnish road machinery and equipment, including one pull grader.

PANAMA CANAL ZONE.—Until October 12, under Schedule No. 2793, bids will be received by General Purchasing Office, Panama Canal, Washington, D. C., to furnish one electrically operated revolving crane, 75-short ton capacity. Specifications on file at office of Assistant Purchasing Agent, Fort Mason, San Francisco.

STOCKTON, San Joaquin Co., Cal.—Automatic Transportation Co., Inc., 613 Howard St., San Francisco, at a total cost of \$11,520 recommended for award by City Port Commission to furnish 4 lift trucks for cargo handling at the municipal wharf; 2 trucks at \$2320 each, and two at \$2840 each, both

36-inch fork. Final award will be made Sept. 19, at 8 P. M. Complete list of bids on file in office of Daily Pacific Builder and may be inspected by those interested.

SAN FRANCISCO.—Edward R. Bacon Co., 17th and Folsom Sts., awarded contract by National Park Service to furnish three power shovels as follows: Two Byers Model 40, enclosed cab, f.o.b. factory, Ravenna, Ohio, at \$3690 each; one Byers 70 f.o.b. Ravenna, at \$4540.

SACRAMENTO, Cal.—Until Oct. 24, 10 A. M., under Quotation No. 9256, Requisition No. HS 2913, bids will be received by State Purchasing Agent, Sacramento, for furnishing:

- (1) 1 or more 7-ft. leaning wheel rubber tired grader;
- (2) 2 more or less 7-ft. rubber tired leaning wheel grader with independent scarifier attachment
- (3) 12 more or less 8-ft. rubber tired leaning wheel graders;
- (4) 9 more or less 8-ft. rubber tired leaning wheel graders with independent scarifier attach.

Graders to be delivered in carload lots knocked down at Sacramento, San Luis Obispo, and San Bernardino. The State reserves the right to divide the order but no order will be placed for less than one carload of graders. Graders shall be of standard make leaning wheel type and of a model that is now in current production. Weights desired of complete machines approximate:

- 7-ft. without scarifier, 4500 lbs.
- 7-ft. with scarifier, 5500 lbs.
- 8-ft. with scarifier, \$7500 lbs.
- 8-ft. without scarifier, 6000 lbs.
- 8-ft. without scarifier high lift, 6000.

RAILROADS

SUNNYVALE, Santa Clara Co., Cal.—United Commercial Co., 234 Stewart St., San Francisco, awarded contract by Bureau of Yards and Docks, Navy Department, at \$63,375 to construct railroad tracks at the Naval Air Station, Sunnyvale, under Specifications No. 7933.

BELMONT, San Mateo Co., Calif.—Directors of the Belmont Water District contemplate a bond issue to finance construction of a storage reservoir and extensions to water distributing system. An election for \$80,000 held last spring was defeated.

SUNNYVALE, Santa Clara Co., Cal.—United Commercial Co., 234 Stewart St., San Francisco, submitted low bid to Bureau of Yards and Docks, Navy Department, Sept. 28, at \$63,375 to construct railroad tracks at the Naval Air Station, Sunnyvale, under Spec. No. 7933. M. E. McGowan, San Francisco, submitted the second low bid at \$76,305 and Shannahan Bros., Los Angeles, were third at \$87,200.

PASADENA, Los Angeles Co., Cal.—Consolidated Steel Corp., 5701 East Slauson Ave., Los Angeles, awarded contract by city council at \$39,493 to furnish gates and other equipment for the Pine Canyon Dam, as follows:

- (1) one Caterpillar gate for 8x10-ft. opening, complete with 100-ton hoist, cable and appurtenances;
- (2) two gate frames, semi-steel gate frame for 96-in. diameter inlet complete;
- (3) four gate frames, semi-steel gate frame for 54-in. and 48-in. diameter inlets, complete;
- (4) 4 sets of cast iron gate guides, complete (2450 lin. ft.)

LOS ANGELES, Calif.—All bids to construct San Gabriel Dam No. 1, received Sept. 19, were rejected by the supervisors Sept. 26. The county flood control engineer, E. C. Eaton, was authorized to revamp the rock fill specifications under Alternate Proposal No. 5 in accordance with the plans proposed for zoning the canyon for rock and was also instructed to incorporate the revamping of the rock fill into the general specifications. He was further instructed to combine the excavation under Alternate Proposal No. 3 and the rock fill under Alternative No. 5 as one alternative, so that bids could be taken on Nos. 3 and 5 separately and as a combined alternative. Bids will also be taken on complete proposals under Nos. 1 and 2. The engineer was ordered to have the plans ready by Oct. 10 so that bids could be re-advertised on that date. For further details of the contracts and the quantities, see itemized lists and bids in issue of Sept. 24. The rejection of the bids automatically disposed of the request of George Pollock Co. of Sacramento to withdraw its low bid on Proposal No. 3.

DENVER, Colo.—Until About Oct. 15 (and time may be extended to Nov. 1) bids will be received by Denver & Rio Grande Western Railroad, to construct the Dotsero Cutoff, involving the construction of 42 miles of railroad to connect the Denver and Salt Lake Railway west of the Moffatt Tunnel with the Denver & Rio Grande Western main line southwest of Denver. Specifications may be inspected at office of railroad's chief engineer.

PIPE LINES, WELLS, ETC.

UKIAH, Mendocino Co., Cal.—Until October 11, 7:30 P. M., bids will be received by Fred L. Bosworth, city clerk to fabricate and erect one 50,000-cu. ft. capacity, water-sealed gas holder, two 10-ft. by 10-ft. gas purifiers and four foundations. Further information, together with plans and specifications obtainable from office of city clerk.

SEWERS AND SEWAGE DISPOSAL PLANTS

LONG BEACH, Los Angeles Co., Cal.—Proceedings for construction of sewers in North Long Beach Sewer District No. 11 were abandoned by the city council Sept. 20. The contract was awarded Sept. 16 to Gogo & Rados at \$885,000, but the award was rescinded after owners of large property interests had protested on the grounds of being unnecessarily burdensome at the present time. The bids were re-opened August 5 the first bid opening having been Nov. 6, at which time Gogo & Rados were low at \$724,822.70. At the re-opening, Chutuk, Kordich and Vudofevich were low at \$789,762.23 but due to an irregular bond, the city council awarded the contract to the second bidder, Gogo & Rados, at \$835,000.

VENTURA, Ventura Co., Cal.—Until October 11, 2 P. M., bids will be received by State Department of Public Works, Division of Architecture, Sacramento, for completion of sewer line at the Ventura School for Girls. Plans obtainable from the State Department of Public Works on payment of \$25, returnable.

SAN RAFAEL, Marin Co., Cal.—Until October 10, 11 A. M., bids will be received by Constructing Quartermaster, Hamilton Field, to construct

storm drainage pumping plant at Hamilton Field. Project consists of constructing wood pile foundations, concrete floor slab and columns, tile walls covered with stucco and wood frame roof covered with Spanish tile; pumping unit to be 10,000-gallon capacity, gasoline driven engine, discharging through a steel pipe, supported on a wood pile trestle, approximately 600 ft. into San Pablo Bay. Tops of piles to be encased in concrete, similar to San Francisco Harbor specifications. Plans obtainable from Constructing Quartermaster on deposit of \$10, returnable, checks for same to be made payable to the Treasurer of the United States.

RENO, Nevada.—J. Christensen, 1311 Terrace Drive, Reno, at \$11,546.75 awarded contract by city council to construct outfall sewer line, involving 1,327 lin. ft. 24-in. pipe sewer; 8 sewer manholes. Union Paving Co., San Francisco, at \$12,201.25 only other bidder.

LOS ANGELES, Cal.—American Concrete and Steel Pipe Co., 4645 Firestone Blvd., South Gate, submitted the only bid and was awarded the contract by the board of public works Sept. 23, at \$48,162.50 for furnishing and laying reinforced concrete pipe, in connection with the improvement of Eagle Rock Blvd., at Yosemite Drive, and other streets and rights of way, involving:

- (1) 2579 ft. 99-in. R.C.P. heavy, Case III, laying condition;
- (2) 200 ft. 72-in. R.C.P. heavy, Case III, laying condition;
- (3) 40 ft. 60-in. R.C.P. double medium, Case III, laying condition;
- (4) 40 ft. 48-in. R.C.P. double medium Case III, laying condition;
- (5) 100 ft. 36-in. R.C.P. double medium, Case III, laying condition.

Pipe to be furnished and laid ready for pouring joints in trench varying in depth from 10 ft. to 14 ft. on prepared sub-grade.

The bid was: (1) \$17.50 ft., (2) \$9.90 ft., (3) \$9 ft., (4) \$6.50 ft., (5) \$4.30 ft.

CAKLAND, Cal.—Until October 11, 10:30 A. M., bids will be received by Geo. E. Gross, County Clerk, for vitrified salt glazed sewer pipe for Bryant, Elsworth and Lyon Streets in the Washington Township, involving:

- (1) 480 ft. 12-in. vit. salt glazed sewer pipe;
- (2) 330 ft. 18-in. do;
- (3) 90 ft. 21-in. do;
- (4) 430 ft. 24-in. do;
- (5) 230 ft. 27-in. do;
- (6) 1970 ft. 33-in. do;
- (7) 1 33-in. vit. salt glazed tee, 10-in. dia., spur and cap.

Specifications obtainable from the County Clerk on deposit of \$25.

WATERWORKS

WEIMAR, Placer Co., Cal.—A. Fred Anderson, 305 Olive St., Chico, at \$11,955 (previously reported as \$10,459 under Alt. A) under Alternate A1 awarded contract by Weimar Joint Sanatorium Hospital Central Committee, R. E. Callahan, chairman, to construct reservoir and a water system at Weimar, from plans prepared by J. A. Shields, County Surveyor of Placer County. Complete bids reported in issue of September 21.

LOS ANGELES, Cal.—The application of the Metropolitan Water District for a \$40,000,000 loan with which to start construction of the Colorado River aqueduct, has been granted by the Reconstruction Finance Corp., ac-

cording to dispatches from Washington. The district will issue a call for bids for the purchase of the bonds, after which the bonds will be sold to the corporation in small blocks over a period of two years. Legal steps preliminary to actual transfer of the funds will probably require 6 weeks. District engineers are confident that actual construction can be started within two months.

Specifications for the San Jacinto Tunnel, the first work to be advertised, are being completed in the office of the chief engineer but will not be announced until after F. E. Weymouth's return from Washington. Bids will probably be taken on the complete works as one schedule and the east portion and the west portion as Schedules Nos. 2 and 3, respectively.

Schedule No. 1 will be for the tunnel as a whole, approximately 12.7 ml. The tunnel will have a diameter of 16-ft., of horseshoe section, with concrete lining using steel forms. The floor will be concrete but will not be laid in the form. There will be a small amount of Gunite work.

Schedule No. 2 will be for the construction of the East portion of the tunnel, approximately one-half of the job. The east portal is located about two miles south of Cabazon.

Schedule No. 3 will be for the west portion of the tunnel, approximately one-half. The west portal is located three miles north of San Jacinto.

Contractors will be permitted to bid on all or any one of the three schedules.

The time for completion of the work has been set at 69 months.

OAHU, T. H.—Until November 2, 11 A. M., under Spec. No. 6746, bids will be received by Bureau of Yards and Docks, Navy Department, Washington D. C., for 6-inch cast iron pipe water line, approximately 2½ miles long, with approximately 2,900 feet to be submerged at the Naval Ammunition Depot, Oahu (West Loch). Specifications obtainable from the Bureau or from the Commandant at the 14th Naval District at Pearl Harbor or from the Public Works Officer, 12th Naval District, 100 Harrison St., San Francisco, on deposit of \$10, returnable, checks for same to be made payable to the Chief of the Bureau of Yards and Docks.

REDWOOD CITY, San Mateo Co., Cal.—City Water Department is taking quotations from a selected list of bidders for the purchase of cast iron water pipe in connection with contemplated extensions to the Municipal Water System. Purchase will involve 10,000 lin. ft. 6-in. and 1,000 lin. ft. of 4-in. cast iron water pipe. C. L. Dimmitt, city engineer.

BELMONT, San Mateo Co., Calif.—Directors of the Belmont Water District contemplate a bond issue to finance construction of a storage reservoir and extensions to water distributing system. An election for \$80,000 held last spring was defeated.

FAIRFIELD, Solano Co., Cal.—City council plans extension of water mains east on Texas St. from Union Ave. to Washington St., thence across Texas St. to connect with 6-in. main at Armistijo High School.

LOS ANGELES, Cal.—Until 11 A.M., October 10, bids will be received by the City Purchasing Agent, Thomas Oughton, 107 City Hall, for furnishing gate valves under Specifications No.

2917, as follows:

- (1) 500 6-in. hub end gate valves;
- (2) 200 4-in. screw end gate valves;
- (3) 100 6-in. screw end gate valves;
- (4) 100 6-in. screw end gate valves.

F.o.b. 410 Ducommun St.

LOS ANGELES, Cal.—Until 2 P. M., October 17, bids will be received by County Supervisors to furnish outlet valves and accessories for San Gabriel Dam No. 2, involving:

- (1) Valves No. 1 and No. 2—two 84-in. butterfly valves complete, including hydraulic operating mechanism, static head 226 ft., operating head 295 ft.;
- (2) Valve No. 3—One 84-in. butterfly valve complete, including hydraulic operating mechanism, static head 192 ft., operating head 192 feet.
- (3) Valve No. 4—one 84-in. butterfly valve complete, including hydraulic operating mechanism, static head 154 ft., operating head 154 ft.;
- (4) Valve No. 5—one 84-in. butterfly valve complete, including hydraulic operating mechanism, static head 139 ft., operating head 109 ft.
- (5) Valve No. 6—one 84-in. butterfly valve complete, including hydraulic operating mechanism, static head 73 ft., operating head 73 ft.;
- (6) one 30x30-in. sluice gate complete with hydraulic operating mechanism, static head 233 ft., operating head 109 ft.

PROPOSAL No. 2

Furnish Type A tunnel liner for San Gabriel Dam No. 2, delivered f.o.b. care district's freight yard, Azusa.

- (1) one tunnel liner, Type A, consisting of five sections fabricated of cast steel, 41,920 lbs.

PROPOSAL No. 3

Furnish Type B tunnel liners for San Gabriel Dam No. 2.

- (1) five Type B tunnel liners, consisting of three sections each, fabricated of structural steel shapes and steel plate, 62,000 lbs.

E. C. Eaton, County Flood Control Engineer, 202 N. Broadway.

SAN JOSE, Santa Clara Co., Cal.—Until October 17, 11 A. M., bids will be received by Henry S. Fisher, County Clerk, to erect 75,000-gal. tank and frame for the county almshouse on the Milpitas Road; tank to be similar to that now located at the county hospital. Certified check 10% payable to county clerk required with bid. Plans obtainable from County Surveyor Robert Chandler.

LA HABRA, Orange Co., Cal.—City council has authorized the sale of the \$100,000 bond issue which was voted for a municipally-owned water system. The council has voted to apply to the Reconstruction Finance Corp. for aid.

SAN FRANCISCO.—Proposal will be on the November ballot which empowers the Public Utilities Commission, with the approval of the Board of Supervisors and the mayor, to issue bonds of \$5,000,000 over a five-year period, the bonds to run for 12 years. The funds will finance improvements to the municipal water system which include a \$500,000 pipe line from Calaveras reservoir on Alameda Creek to the main Hetch Hetchy artery and bay crossing to the Spring Valley lakes. Other improvements consist of additional reservoir capacity within the city limits, increase the main pipe line system in the industrial district and a pipe line from San Andreas Lake, San Mateo county, to San Francisco.

STREETS AND HIGHWAYS

MARIPOSA COUNTY, Calif.—Until October 11, 2 P. M., bids will be received by C. H. Sweetser, district engineer, U. S. Bureau of Public Roads, 461 Market St., San Francisco, for grading Section C1 of Route 4 of the Tioga Road, Yosemite National Park, involving:

- (1) 57 acres clearing;
- (2) 140,000 cu. yds. unclass. excav.;
- (3) 21,150 cu. yds. do for structures;
- (4) 40,500 cu. yds. do for borrow;
- (5) 59,500 sta. yds. overhaul;
- (6) 11,690 miles finish earth grade road;
- (7) 281 cu. yds. concrete;
- (8) 41,400 lbs. reinf. steel;
- (9) 1,200 lbs. bronze bearing plates;
- (10) 950 cu. yds. masonry;
- (11) 5,875 lin. ft. corr. metal pipe in place;
- (12) 100 cu. yds. hand laid rock embankment;
- (13) 37,800 cu. yd. miles hauling borrow;
- (14) 66 sq. yds. asphalt plank wearing surface.

Plans obtainable from above office on deposit of \$10, returnable, checks for same to be made payable to Regional Fiscal Agent, U. S. Forest Service.

ARIZONA STATE—C. G. Willis & Sons, 2119 E. 25th St., Los Angeles awarded, contract by State Highway Commission at \$228,934.70, for the construction on Globe-Showlow Highway, E-99-1, A.F.E. 60E1. The work which begins at Seven Mile Draw (19) miles northeast of Globe and extends north-easterly about 11 miles, consists of grading and draining.

ARIZONA STATE—Jack Cason, 319 Warren St., Hayward, Cal., awarded contract by State Highway Commission, at \$97,076.24, for construction on St. Johns-Springerville highway, E-68-B (A.F.E. 2620). The work, which begins at a point (9.6) miles north of Springerville and extends south to Springerville, consists of the grading and draining in part, the placing of subgrade stabilizer and oil processing by the Road Mix Method.

LYON COUNTY, Nev.—Until (on or about) November 2, bids will be received by S. C. Durkee, state highway engineer, Carson City, for grading and gravel surfacing on 9.60 miles in Lyon County between Yerington and 9½ mi. east. Plans obtainable About Oct. 17 from the engineer on deposit of \$15, of which 5% is returnable. Certified check 5% required with bid.

DOUGLAS COUNTY, Ore.—Clarence Young, 3250 Broadway Terrace, Oakland, at \$73,033.70 awarded contract by U. S. Bureau of Public Roads for 2.589 miles grading on the Tiller Trail Project No. E16-C2, E1, F1 in Umpqua National Forest. Quantities were published in issue of August 10.

SAN BERNARDINO COUNTY, Cal.—San Herz Co., 211 Platt Bldg., San Bernardino, at \$55,209.60 awarded the contract by U. S. Bureau of Public Roads for 0.79 mile grading Section C of Route 68, the Mill Creek National Forest Highway, San Bernardino National Forest.

TULARE COUNTY, Cal.—Thompson Brothers, 2150 J St., Fresno, at \$299,789 awarded contract by State Highway Commission to grade and surface with crushed gravel or stone 8.4 miles bet. Lemon Cove and Three Rivers.

ARIZONA STATE—Skeels & Graham Co., Tucson, Ariz., awarded contract by State Highway Commission, at \$30,845.23 for construction on Tucson-Nogales Highway, E-86-D and F. A. 25-B, Br. No. 13 (A.F.E. 8919) beginning at the Pima-Santa Cruz Line and extends south nine miles; work consists of placing subgrade stabilizer and oil processing the road by the road mix method.

TRINITY COUNTY, Cal.—Until October 18, 2 P. M., bids will be received by C. H. Sweetser, District Engineer, U. S. Bureau of Public Roads, 461 Market St., San Francisco, for grading Section A of Route 5, the Douglas City-Peanut National Forest Highway Trinity National Forest, involving:

- (1) 26 acres clearing;
- (2) 114,500 cu. yds. unclass. excav.;
- (3) 1,800 cu. yds. unclass. excavation, structure;
- (4) 113,000 sta. yds. overhaul;
- (5) 4,427 miles finish earth graded rd.
- (6) 120 MFEM treated timber in place
- (7) 196 cu. yds. concrete;
- (8) 4,000 lbs. reinf. steel;
- (9) 3,440 lin. ft. corr. metal pipe;
- (10) 25 cu. yds. hand laid riprap;
- (11) 230 cu. yds. hand laid rock embankment;
- (12) 108 right of way monuments;
- (13) 2,200 lin. ft. move and reset fence
- (14) 20 cu. yds. base course;
- (15) 850 sq. yds. bit. wearing surface.

Specifications obtainable from the above office on deposit of \$10, returnable, certified checks payable to Regional Fiscal Agent, U. S. Forest Service.

TEHAMA COUNTY, Cal.—Until October 11, 3 P. M., bids will be received by U. S. Bureau of Public Roads, 461 Market St., San Francisco, for 4.128 miles of grading Section C of Route 21, the Deer Creek Meadows National Forest Highway, Lassen National Forest, involving:

- (1) 22 acres clearing;
- (2) 97,500 cu. yds. unclass. excav.;
- (3) 1,000 cu. yds. unclass. excavation, structure;
- (4) 52,000 sta. yds. overhaul;
- (5) 4,102 miles finish earth graded rd.
- (6) 200 lin. ft. logs for pier posts;
- (7) 24 MFEM untreated timber;
- (8) 3 log truss spans;
- (9) 1,200 sq. ft. crib face;
- (10) 287 cu. yds. concrete;
- (11) 23,020 lbs. reinf. steel;
- (12) 30 cu. yds. cement rubble masonry;
- (13) 2,566 lin. ft. corr. metal pipe;
- (14) 34,000 lbs. structural steel;
- (15) 180 cu. yds. H. P. rock fill for log cribs;
- (16) 105 cu. yds. H. L. rock embank;
- (17) 200 cu. yds. crushed gravel or crushed rock for backfill.

Specifications obtainable from the above office on deposit of \$10, returnable, certified checks payable to Regional Fiscal Agent, U. S. Forest Service.

MONTEREY COUNTY, Cal.—Meyer Rosenberg, 1755 San Bruno Ave., San Francisco, at \$123,886.42 awarded contract by State Highway Commission to grade and surface with selected material and treat with bituminous binder, 3.7 miles bet. San Remo Divide and Carmel River. Complete bids published in issue of Sept. 23.

REDWOOD CITY, San Mateo Co., Cal.—County Surveyor Jas. S. James is preparing a report for submission to the San Mateo County Planning Commission covering contemplated road improvements in connection with a \$350,000 bond issue to be submitted at the November general election.

BEVERLY HILLS, Los Angeles Co., Cal.—Until 8 P. M., Oct. 11, bids will be received by city council to improve Burton Way and Canyon Drive and portions of other streets, being part of the Civic Center improvement, under Cash Contract, involving in the main: 50,125 sq. ft. 2-in. asphalt conc. pavement (Topeka);

- 7158 sq. ft. 5-in. do;
- 14,003 sq. ft. 7-in. do;
- 5796 sq. ft. 8-in. do;
- 2833 lin. ft. Class B curb, 6x9x15-in.;
- 9040 sq. ft. 3½-in. sidewalk;
- 44,355 sq. ft. surface to be graded;
- 12 tree gratings;
- storm drain system.

City will furnish portion of materials involved.

SANTA CRUZ COUNTY, Cal.—Mittry Bros. Const. Co., 412 W 6th St., Los Angeles, at \$230,181.75 awarded contract by State Highway Commission to grade 5.9 miles between Inspiration Point and Scotts Valley.

MONTEREY COUNTY, Cal.—Pacific Truck Service, Inc., 646 Park Avenue, San Jose, at \$2926 submitted low bid to District Engineer, State Highway Commission, San Luis Obispo, for applying fuel oil to the road bed between Rocky Creek and Divide, 8.25 miles, involving 1400 barrels of heavy fuel oil in place. Complete bids follow:

- Pacific Truck Serv., San Jose.....\$2926
- W. A. Dontanville, Salinas..... 3122
- Peninsula Paving Co., S. F..... 3150
- Granite Const. Co., Watsonville..... 3570
- Stewart & Nuss, Fresno..... 3640
- Oilfields Truck Co., Bakersfield..... 3724
- U. B. Lee, San Leandro..... 3780

MARIPOSA COUNTY, Cal.—Bid of Delta Dredging Co., Pittsburg, Calif., at \$11,580.10, previously questioned on its validity by the State Highway Commission, for grading and surfacing with bituminous treated crushed stone or gravel, at Loren's, has been found regular and the contract will probably be awarded that company. Unit and total bids on the project reported in issue of Sept. 30.

ARIZONA STATE.—Until 2 P. M., October 13, bids will be received by State Highway Commission, Phoenix for construction on the Ashfork-Kingman Highway E-80-A (A.F.E. 6624), and the Blythe-Wickenburg Highway E-98-A and E-98-B (A.F.E. 6001 and 6017). The work on E-80-A consists of the placing of subgrade stabilizer and oil processing by the road mix method of approx. 16 miles of roadway near Teach Springs, Arizona. The work on E-9-A and E-98-B, which extends from Wickenburg west approx. 2½ miles, consists of the construction of road guard, the placing of subgrade stabilizer and oil processing by the plant mix method (or alternate road mix) and is to be completed on or before February 15, 1933. The principal items are:

- E-80-A
- 27,900 cu. yds. subgrade stabilizer;
- 62,000 cu. yd. ml. subgrade stabilizer haul;
- 23,700 cu. yds. mineral aggregate (C. I. P.);
- 760 M. gals. water applied to rdwy.;
- 404,000 gals. cutback asphalt cement;
- 16.2 miles mix, lay down and finish;
- 1,400 cu. yds. screenings for seal coat (C.I.P.);
- 2,700 cu. yds. shoulder material;
- 5,700 cu. yd. ml. shoulder material haul
- E-98-A and E-98-B
- 2,900 sq. yds. grading dips;
- 308,000 sq. yds. prepare subgrade;
- 10,100 cu. yds. subgrade stabilizer;
- 98,300 cu. yd. ml. subgrade stabilizer haul;

270 M. tons. water applied to rdwy.;

44,700 tons plant mix oil treated surf.;

26,500 gals. asphalt road oil (for seal coat only);

- 7,700 cu. yds. shoulder material;
- 32,400 cu. yd. ml. shoulder material haul;
- 24.7 miles spread, compact and finish;
- 1,900 cu. yds. screenings for seal coat (C.I.P.);

800 lin. ft. cable road guard.

ALTERNATE (Road Mix)

- E-98-A and E-98-B
- 36,500 cu. yds. mineral aggreg. (C.I.P.)
- 584,000 gals. oil applied to roadway;
- 24.7 miles mix, lay down and finish;
- and other incidental items.

A proposal guarantee in cash or certified check of not less than 5% of the gross amount of the bid is required. T. S. O'Connell, State Highway Engineer.

LOS ANGELES COUNTY, Cal.—Until Oct. 19, 2 P. M., bids will be received by State Highway Commission, Sacramento, to grade and pave with Portland cement concrete 4.3 mi. between Mountain View Road and Orange Ave., involving:

- (1) 228 sta. clear and grub right-of-way;
 - (2) 11,000 cu. yds. rdwy. excav. without class;
 - (3) 75,000 sta. yds. unclass. excav.;
 - (4) 25,000 cu. yds. imp. borrow;
 - (5) 3770 cu. yds. struc. excav.;
 - (6) 65,000 sq. yds. subgrade for pave.
 - (7) 14,400 cu. yds. Class "A" cem. conc. (pave.);
 - (8) 1185 cu. yds. Class "A" cement concrete (struc.);
 - (9) 8 cu. yds. Class "E" cem. conc.;
 - (10) 465,500 lbs. bar reinf. steel (pave. and struc.);
 - (11) 100,000 lbs. misc. iron and steel (struc.);
 - (12) 150 lin. ft. 24-in. corrug. metal pipe;
 - (13) 60 lin. ft. 36-in. do;
 - (14) 1025 M gal. water embank.;
 - (15) 2900 lbs. heavy fuel oil;
 - (16) 100 lin. ft. solid timber guard rail;
 - (17) 22 culvert markers;
 - (18) 223 sta. finish roadway;
 - (19) 54 monuments complete in place.
- State will furnish corrugated metal pipe.

WHITE PINE COUNTY, Nev.—Until October 13, 2 P. M., bids will be received by S. C. Durkee, state engineer, Carson City, to grade and gravel surface 9.19 miles of highway between Pancake Summit and west foot of Antelope Summit, involving:

- (1) 61,200 cu. yds. rdwy. excav.;
 - (2) 220 cu. yds. struc. excav.;
 - (3) 4,261 cu. yds. selected borrow;
 - (4) 54,251 sta. yds. overhaul;
 - (5) 9.19 miles subgrade;
 - (6) 4 miles demolish culvert inlets & outlets;
 - (7) 29,000 cu. yds. crushed rock or crushed gravel in place;
 - (8) 43 cu. yds. Class A concrete;
 - (9) 42 cu. yds. Class B concrete;
 - (10) 80 lin. ft. 15-in. corrug. metal pipe in place;
 - (11) 526 lin. ft. 18-in. do;
 - (12) 538 lin. ft. 24-in. do;
 - (13) 110 lin. ft. 30-in. do;
 - (14) 34 lin. ft. 36-in. do;
 - (15) 26 monuments.
 - (16) 1 furnish and install post for F. A. marker;
 - (17) 4,500 lbs. reinforcing steel;
 - (18) 112 acres clearing;
 - (19) 6.19 miles finishing roadway.
- Plans obtainable from engineer, and on file in office of U. S. Bureau of Public Roads, 461 Market Street, San Francisco.

TUOLUMNE COUNTY, Cal.—Until October 11, 2 P. M., (previously reported for Mariposa County) bids will be received by C. H. Sweetser, district engineer, U. S. Bureau of Public Roads, 461 Market St., San Francisco, for grading 11.621 mi. Section C1 of Route 4 of the Tioga Road, Yosemite National Park, involving:

- (1) 57 acres clearing;
- (2) 149,000 cu. yds. unclass. excav.;
- (3) 2153 cu. yds. do for structures;
- (4) 40,430 cu. yds. do for borrow;
- (5) 69,500 sta. yds. overhaul;
- (6) 11,590 miles finish earth graded road;
- (7) 281 cu. yds. concrete;
- (8) 41,490 lbs. reinf. steel;
- (9) 1200 lbs. bronze bearing plates;
- (10) 959 cu. yds. masonry;
- (11) 6878 hn. ft. corrug. metal pipe in place;
- (12) 130 cu. yds. hand laid rock embankment;
- (13) 2,500 cu. yd. miles hauling borrow;
- (14) 66 sq. yds. asphalt plank wearing surface.

Plans obtainable from above office on deposit of \$10, returnable, checks for same to be made payable to Regional Fiscal Agent, U. S. Forest Service.

EL DORADO COUNTY, Calif.—Until October 13, 2 P. M., bids will be received by C. H. Sweetser, district engineer, U. S. Bureau of Public Roads, 461 Market St., San Francisco, for grading Section E of Route 32, Placerville-Lake Tahoe National Forest, involving:

- (1) 36 acres clearing;
- (2) 204,500 cu. yds. unclass. excav.;
- (3) 1800 cu. yds. unclass. excav. struc.;
- (4) 227,000 sta. yds. overhaul;
- (5) 3.94 mi. finish earth graded road;
- (6) 4000 M. gals. watering;
- (7) 78 cu. yds. cement rubble masonry;
- (8) 116 lin. ft. relay salvaged corrug. metal pipe;
- (9) 3558 lin. ft. corrug. metal pipe;
- (10) 371 lin. ft. remove and salvage corrug. metal pipe;
- (11) 1100 lin. ft. more and reset fence
- (12) 1227 lin. ft. galvanized iron water pipe;
- (13) 109 lin. ft. vit. clay sewer pipe;
- (14) 25,500 gals. apply Government furnished fuel oil;
- (15) 12 right-of-way monuments.

Specifications obtainable from above office on deposit of \$10, returnable. Certified checks payable to Regional Fiscal Agent, U. S. Forest Service.

MARIPOSA COUNTY, Calif.—Until Oct. 13, 2 P. M., bids will be received by C. H. Sweetser, District Engineer, U. S. Bureau of Public Roads, 461 Market St., San Francisco, for 23.63 miles placing of crushed rock base course on Sections A1, A2, A3, A4, A5 (Port.) B1, B2 (Port.) of Route 2, the Wawona Road, Yosemite National Pk., involving:

- (1) 20,000 cu. yds. unclass. excav.;
- (2) 23,630 mi. fine grading subgrade & shoulders;
- (3) 4,500 M. gals. watering embankment;
- (4) 3,500 M. gals. watering;
- (5) 91,000 tons crushed rock.

Specifications obtainable from above office on deposit of \$10. Cert. checks to be payable to Regional Fiscal Agent U. S. Forest Service.

FRESNO COUNTY, Calif.—Union Paving Co., Call Bldg., San Francisco, at \$35,526.80 awarded contract by the State Highway Commission to grade and pave with asphalt concrete 2.7 mi. between Fancher Creek and Fresno.

BUILDING NEWS

BONDS

SAN FRANCISCO.—For a premium of \$10,169 the Board of Supervisors has sold \$4,554,000 worth of municipal bonds to the Bank of America. The amounts of the individual issues are: \$2,160,000 relief bonds to finance projects with a view to relieving the unemployed; \$731,000 for a new county jail for which plans are being prepared by Architects Dodge A. Reidy, Pacific Bldg., and Albert Roller, First National Bank Bldg.; \$588,000 to finance further extension of city boulevard system, and \$1,075,000 to finance construction of the Psychopathic Institute and Cancer Institute buildings, each to cost \$500,000, plans for which have been completed by Architects Alfred I. Coffey (deceased) and Martin J. Rist, Phelan Bldg.

FRESNO. Fresno Co., Cal.—Board of Education contemplates calling an election to vote bonds of \$350,000 to finance erection of new schools and additions to standing structures.

CHURCHES

Preparing Plans.
CHURCH Cost, \$25,000
PASADENA. Los Angeles Co., Cal. Holliston and Washington Aves. Reinforced concrete Class A church (50x140 ft.) to seat 740; plaster exterior, cast stone trim, wood roof trusses, shingle tile roofing. Owner—Immanuel Baptist Church. Architect—Frederick Kennedy Jr., 15 S. El Molino St., Pasadena.

Plans Being Completed.
SUNDAY SCHOOL Total Cost, \$40,000
SAN FRANCISCO. Sunday school (first unit) auditorium, guild hall, club room, etc.) frame and stucco construction, tile roof. Owner—Community Church Group. Architect—Milton W. Morrison, 602 42nd Avenue.

Plans will be ready for bids in about three weeks.

FACTORIES AND WAREHOUSES

Plans Being Prepared.
CREAMERY Cost, \$—
PORTLAND. Oregon. East Main Street, 11th and 12th Sts. One-story reinforced concrete (1 tile partitions) creamery, 100x200-ft. Owner—Dairy Cooperative Association Architect—Clausen & Clausen, Guardian Bldg., Portland.

September 27, 1932
ADDITION Cost, \$—
VENTURA. Ventura Co., Cal. One-story and basement reinforced concrete addition to addition to packing plant (150x100 ft.); wood roof trusses, steel sash, etc. Owner—Ventura Citrus Association. Architect—W. W. Ache, 1616 Fourth Ave., Los Angeles.

TORRANCE. Los Angeles Co., Cal.—General Petroleum Corp., Higgins Bldg., is having plans prepared by its engineering department for a distillation and chemical purification plant to be erected on a 1000-acre site at Torrance for the corporation. The plant

will consist principally of tanks, piping, etc., and will cost approximately \$1,500,000. Construction is scheduled to start October 1. Fred Isaacs, manager of the corporation's refining department, 2525 E 37th St., will have charge of the project.

Preparing Working Drawings.
WAREHOUSE, ETC. Cost, \$85,000
SAN FRANCISCO. No. 1900 Bryant Street.

Three and one-half-story and basement Class B reinforced concrete warehouse (82x100 ft.) and one-story Class C reinforced concrete garage with steel trusses (32x100). Owner—Best Food Products Co., 1900 Bryant St., San Francisco. Engineer—K. Theill, 550 Market St., San Francisco.

Bids will be asked in about thirty days.

GOVERNMENT WORK AND SUPPLIES

Plans Being Completed.
HOSPITAL BLDGS. Cost, \$1,500,000
SAN FRANCISCO. Fort Miley. Six-story reinforced concrete hospital (300 beds); three story concrete administration building, nurses' home, garage and storehouses, laundry, etc. (Prepared Roof).

Owner—United States Government.
Plans by U. S. Veterans' Administration, Veterans' Hospital, Palo Alto
Plans will be completed in about thirty days.

Bids Wanted—To Close Nov. 15.
IMMIGRATION STATION \$400,000
HONOLULU, T. H.

Two-story steel frame and concrete immigration station (stucco and terra cotta exterior, marble, tile and cement floors, 1 elevator, U. S. Standard plumbing goods, Oregon Fine interior finish.

Owner—United States Government. Architect—Herbert C. Cayton.

Consulting Architect—C. W. Dickey, Damon Bldg., Honolulu, T. H.

Contract Awarded.
POST OFFICE Cont. Price, \$105,490
OROVILLE. Butte Co., Cal. Robinson and Oak Streets.

Class A Post Office.
Owner—United States Government. Architect—Frederick H. Meyer, 525 Market St., San Francisco. Contractor—K. E. Parker, 135 South Park, San Francisco.

BOULDER CITY, Nev.—Until 2 P. M., Sept. 26, new bids will be received by U. S. Bureau of Reclamation, Custom House, Denver, Colo., to furnish portland cement in bulk under Spec. No. A-3020-A-1, a reopening, for use at Boulder Canyon. The estimated requirements amount to 400,000 bbls. of cement in bulk, for shipment in car-load lots as ordered, f.o.b. cars at bidder's mill or mills. The estimated maximum daily requirement is 5,000 bbls. and the estimated maximum monthly requirement is 120,000 bbls.

PEARL HARBOR, T. H.—Until Nov. 2nd, 11 A. M., bids will be received by the Bureau of Yards and Docks, Navy Department, Washington, D. C., under Spec. No. 7010, to furnish and install freight elevator at Naval Op-

erating (Fleet Air Base) at Pearl Harbor. Applications for plans, accompanied by \$10 deposit, returnable, payable to the Chief of the Bureau of Yards and Docks, may be filed with the Commandant, 12th Naval District, 160 Harrison St., San Francisco. (9565) 1st report Sept. 19, 1932.

To Ask Bids Shortly.
POST OFFICE Cost, \$300,000
SAN JOSE. Santa Clara Co., Cal. 1st and St. John Streets.

Two-story and basement Class A Post office (buff terra cotta exterior); Spanish type.

Owner—United States Government. Architect—Ralph Wyckoff, San Jose National Bank Bldg., San Jose. Structural Engineer—L. H. Nishkain, 525 Market St., San Francisco, and Earl Coppe, 111 Sutter St., San Francisco.

Mechanical Engineer—Leland & Haley 58 Sutter St., San Francisco.

Contract Awarded.
BUILDINGS Cont. Price, \$306,800
ALAMEDA. Alameda Co., Cal. Government Island.

Nature of Work: Erect superstructures of Units 14, 15, 16 and 17 and install part of Unit 24 heating system for Government Island. Structures follow:

One-story concrete and hollow tile shop (120x72 ft.);

Two-story concrete and hollow tile storage depot (100x125 ft.);

One-story concrete and hollow tile forest service garage (175x125 ft.);

One-story concrete and hollow tile coast guard garage (64x27 ft.);

One-story concrete and hollow tile pump house (11x18 ft.);

Concrete and pile tank foundations. Owner—United States Government.

Plans by Bureau of Public Roads, 461 Market St., San Francisco.

Contractor—Clinton Construction Co., 923 Folsom St., San Francisco.

SAN FRANCISCO.—Until Oct. 10, 10 A. M., under Circular No. 923-33-61, bids will be received by Quartermaster Supply Office, General Depot, Ft. Mason, to furnish:

(1) 1 drying tumbler, one-through type, to have double motor drive, direct current, 110-volt; shall be panel control type, including panel control. Inside of cylinder shall be 40-in. dia. x 94-in. long and shall have two doors and one vertical partition and shall be reversing type.

(2) 2 extractors, under-driven, open tops, inside dia. of monel metal basket 48-in.; motor drive to d. c. 220-volt.

(3) 1 washing machine, approx. size of monel metal cylinder 48-in. dia. x 84-in. long outside, shall be of monel metal. Motor drive to be direct current, 110-volt; shall be panel control type including panel control.

Contract Awarded.
FEDERAL BUILDING Cont. Price, \$112,653

CHEYENNE. Wyoming. Class A Federal Building.

Owner—United States Government. Plans by Veterans Bureau, Arlington

Bldg., Washington, D. C.

Contractor—MacDonald Engineering Co., 1 La Salle St., Chicago.

PACIFIC COAST.—Following is the status of plans and specifications in connection with projects for which bids will be asked by the Supervising Architect, Treasury Dept., Washington, D. C.:

Beverly Hills, post office, \$270,000; Ralph Flewelling with Allison & Allison, Los Angeles; site acquired, drawings approved, on market soon.

Los Angeles, quarantine station, \$63,000; site acquired, sketching stage.

Los Angeles, post office and courthouse, \$265,000; John C. Austin, Fred. M. Ashley and John and Donald Parkinson; tentative stage, site acquired.

Redlands, Calif., post office, \$153,000; G. S. Wilson, Riverside; site acquired, drawing 70% completed.

San Diego, post office, \$691,000; Wm. T. Johnson; site acquired, drawings 25% completed.

San Francisco, federal office building, \$2,745,000; Arthur Brown; site acquired, drawings 85% completed.

San Francisco, post office and courthouse, \$675,000; Geo. W. Kelham, site acquired, drawing routed for correction.

San Jose, post office, \$409,500; Ralph Wyckoff; site acquired, drawings routed for checking.

Tecate, Calif., immigration station, \$53,500; site acquired, drawings routed.

Vallejo, Calif., post office, \$166,500; Dean & Dean, Sacramento, site acquired, drawings approved.

Ventura, Calif., post office, \$180,000; H. S. Burket; site acquired, drawings 95% completed.

Visalia, Calif., post office, \$135,000; W. D. Coats, Jr. Co., Fresno; site acquired, drawings routed for checking.

Watsonville, Calif., post office, \$18,000; added land acquired.

Weiser, Idaho, post office, \$99,000; Tourtelotte & Hummel, Boise; ready for bids, held.

Yuma, Ariz., post office \$171,000; Roy Place, Tucson; specifications held waiting tile to site.

Phoenix, Ariz., post office, \$972,000; Leacher & Mahoney; foundation under contract; drawings routed for checking.

Ogden, Utah, forest service building; \$270,000; Leslie S. Hodgson and Myrl A. McClenahan; site acquired, drawings being corrected.

Roseville, Mont., immigration station, \$53,100; ready for figures, held pending tile to site.

Sweetgrass, Mont., immigration station, \$54,900; site acquired, drawings routed.

Chehalis, Wash., post office, \$135,000; site acquired, drawings routed.

DENVER, Colo.—Until October 20, 10 A. M., bids will be received by U. Bureau of Reclamation, Denver, Colo., under Specifications No. 538, to furnish and deliver Emergency and Regulating Gates, Gate Hangers and Venturi Meter Pressure Rings for Tunnel No. 1 Controlling Works, Owyhee Project, Oregon-Idaho. The complete specifications and detailed drawings are on file in the office of Daily Pacific Builder and may be inspected by those interested.

MARCH FIELD, Riverside Co., Cal.—Constructing Quartermaster, March Field, announces that seven new buildings will be erected at March Field at a cost of \$252,000, funds for this purpose having been provided by the recently enacted Emergency Relief and Construction measure. Buildings to be built are: Theater, enlisted men's barracks for hospital, isolation ward for hospital, laundry, bakery, enlisted men's service club and officers' mess.

The construction program will be carried out during the present fiscal year work to start as soon as the money is available.

DENVER, Colo.—Until Oct. 10, 2 P. M., under Spec. No. 579-D bids will be received by Chief Engineer, Bureau of Reclamation, Denver, to furnish material for one steel warehouse complete. Plans and specifications obtainable from above office. Certified check in amount of 10% required with bid.

Preparing Plans. OFFICERS' QUARTERS \$335,000 SAN RAFAEL, Marin Co., Cal. Hamilton Field.

Twelve sets of officers' quarters and 12 sets non-commissioned officers' quarters (two-story and basement hollow tile and stucco structures, tile roof; Spanish type).

Owner—United States Government. Plans by Constructing Quartermaster, Hamilton Field, San Rafael.

Plans will be completed in about sixty days.

SUNNYVALE, Santa Clara Co., Cal.—Otis Elevator Co., Washington, D. C., awarded contract by Bureau of Yards and Docks, at \$11,674 for installing an elevator in hangar at the Naval Air Station, Sunnyvale.

CALIFORNIA.—Included in a \$41,577,260 allotment made by the U. S. War Department is \$15,164,000 for army housing posts which includes building appropriations as follows: Hamilton Field, \$233,000; Letterman General Hospital, San Francisco, \$150,000; March Field, Riverside, \$252,000; Fort Mason, San Francisco, \$110,000; Presidio, San Francisco, \$110,000; Fort Winfield Scott, San Francisco, \$140,000 and Rockwell Field, San Diego, \$500,000.

Preparing Plans. QUARANTINE STA. 1st unit, \$70,000 Total cost, \$300,000 SAN PEDRO, Los Angeles Co., Calif. Reservation Point.

Two-story quarantine station (laboratory, dispensary, surgeon's quarters and temporary detention facilities, garage, warehouse, roadway, float).

Owner—United States Government. Plans by Treasury Dept., Washington, D. C.

FORT LAWTON, Wash.—Until Oct. 20, 11 A. M., bids will be received by R. A. Blair, Captain, Q. M. Corps, Constructing Quartermaster, Fort Lewis, to construct two double non-commissioned officers' quarters, Type "A," at Fort Lawton. Plans obtainable from Constructing Quartermaster, Fort Lewis, on deposit of \$15, returnable, checks for same to be made payable to Treasurer of the United States.

PACIFIC COAST.—The Emergency Relief Act of July 21 provides \$100,000,000 additional for the construction of federal buildings under the Supervising Architect's Office to be constructed outside of the District of Columbia. The following structures to be erected on the Pacific Coast, costing over \$300,000 each, have been selected by the Secretary of the Treasury and the Postmaster General to be placed on the market for bids in the immediate future.

Ahliene, Texas, post office, \$345,000; Austin, Texas, court house, \$625,000; Dallas, Texas, parcel post building, \$850,000; El Paso, Texas, post office,

\$1,250,000; Galveston, Texas, post office \$775,000.

Hollywood, Calif., post office, \$425,000; Los Angeles, court house, \$5,850,000; Pasadena, Calif., post office, \$325,000.

San Antonio, Texas, post office, \$1,400,000.

Spokane, Wash., post office, \$790,000.

Additional buildings costing under \$300,000 will be published at a later date.

POCATELLO, Idaho—Until October 11, 2 P. M., bids will be received by Supervising Architect's Office, Treasury Dept., Washington, D. C., for furnishing and installing interior lighting fixtures at the U. S. Post Office, Court House, etc., at Pocatello, Idaho.

Contract Awarded. POST OFFICE Cont. Price, \$107,700 MARYSVILLE, Yuba Co., Calif. NE Fourth and C Sts. (160x160-ft.) One-story and basement Class A steel and brick post office (16x110-ft.) face brick exterior, terra cotta trim, clay tile and composition roof, metal skylights, steel windows, granite entrance steps, concrete vault, steam heat.

Owner—United States Government. Architect—J. J. Donovan, 1916 Broadway, Oakland.

Structural Engineer—Frank A. Johnson, 1916 Broadway, Oakland. Mechanical Engineer—Atkins & Parker, Hart Bldg., San Francisco. Contractor—K. E. Parker Co., 135 So. Park St., San Francisco.

CALIFORNIA.—An additional \$20,810,000 was authorized yesterday by the U. S. Treasury Department for Post Office construction. The projects included are those with limits of cost from \$100,000 to \$300,000. A list of the projects with limits of cost under \$100,000 will be announced shortly. California cities obtaining new Post Office buildings under the recent authorization are: Santa Cruz, Alhambra, Anaheim, Hayward, Inglewood, Lodi, North Hollywood, Redding, Redwood City, Salinas, San Gabriel, San Rafael, Santa Monica, Tulare, Van Nuys, Venice, Whittier.

SUNNYVALE, Santa Clara Co., Cal.—Until November 2, 11 A. M., under Specification No. 6964, bids will be received by Bureau of Yards and Docks, Navy Department, Washington, D. C. for helium storage tanks and structures at the Naval Air Station, Sunnyvale. The work includes furnishing and installing 35 gas tanks for the storage of helium gas under high pressure; a reinforced concrete structure to enclose the tanks; helium and drainage piping; indicating gages; accessories and pipe connections, all complete and ready for use.

Applications for plans may be filed with the Commandant, Twelfth Naval District, 100 Harrison St., San Francisco, when accompanied by a deposit of \$10, returnable, checks for same to be made payable to the Chief of the Bureau of Yards and Docks.

Preparing Sketches. OFFICERS' QTRS. Cost, \$335,000 SAN RAFAEL, Marin Co., Cal. Hamilton Field.

Fourteen sets of two-story and basement masonry officers' quarters & fourteen sets of two-story and basement masonry non-commissioned officers' quarters, tile roof. Owner—United States Government. Plans by Constructing Quartermaster, Hamilton Field.

PACIFIC COAST POINTS—The emergency relief program for West Coast and Hawaii announced by the Bureau of Yards and Docks, Navy Department, includes projects as follows:

SAN DIEGO

Spec. 7096—Reconstruct quay walls and crane track at Destroyer Base, \$60,000. Bids will be opened at San Diego.

Spec. 7091—Dredging supply depot, \$60,000. Bids will open at San Diego. Heating Plant at Training Station, \$180,000. Plans will be prepared at San Diego, place of opening under-terminated.

MARE ISLAND

Widening and paving R. R. Ave., \$40,000. Bids will be done by yard forces.

Improvement of R. R. tracks, \$25,000 will be done by yard forces.

Spec. 7102—Extension of Dike No. 12 \$250,000. Bids will open at Bureau.

Distributing systems, \$60,000. Will be done by yard forces.

Spec. 7079—Oil tanks, sub-repair base, \$18,000, will be opened at base, probably will be split up into day labor and public works contract.

Steam lines, naval ammunition depot, \$50,000, will be done by yard forces.

Improvement of railroads, \$35,000, will be done by yard forces.

Improvement of magazines, \$50,000, not yet decided.

PUGET SOUND

Spec. 7085—Culvert between dry docks 1 and 2, \$75,000. Bids will be opened at base.

Spec. 7095—Crane, pier No. 4, \$65,000. Bids will be opened by bureau.

Track work on pier No. 4, \$40,000, will be done by yard forces.

Improvement of distributing system, \$75,000, probably all done by yard forces.

Permanent approach to Pier No. 4, \$100,000, by yard forces.

Improvement to power plant.

Spec. 7022—Turbo generator.

Spec. 7114—Condenser and auxiliary, by bureau contract.

Improvement of pier, naval ammunition depot, \$35,000, by yard forces.

Street lighting system, same, \$15,000, by yard forces.

KEYPORT, WASH.

Power plant extension, \$50,000 by yard forces.

PEARL HARBOR, HAWAII

Spec. 7092—Dredging middle lanchon shoal, \$110,000. Bids opened at Pearl Harbor.

Spec. 7093—Fleet moorings, \$65,000. Bids opened at Bureau.

Spec. 1112—Borings. Bids opened at Pearl Harbor.

Improvement to industrial plant, \$49,000, by yard forces.

Improvement of storm drainage, \$50,000, by yard forces.

Repair basin, \$50,000, not yet decided.

Improvement fuel oil system, \$150,000, not yet decided.

Spec. 7094—Extension of foundry, \$100,000. Probably a Bureau opening.

Improvement to distributing systems, submarine base, \$40,000, probably yard forces.

Improvement water front, same, \$60,000, by yard forces.

Spec. 7084—Magazine fleet air base, \$10,000. Bids opened by Bureau.

Spec. 7085—Extension of storehouse, same, \$270,000. Bids opened by Bureau.

Spec. 6352—Floating drydock, \$425,000. Bids opened at Bureau.

SUNNYVALE, Santa Clara Co., Cal.—United Commercial Co., 234 Steuart St., San Francisco, awarded contract by Bureau of Yards and Docks, Navy

Department, at \$63,375 to construct railroad tracks at the Naval Air Station, Sunnyvale, under Specifications No. 7935.

HALLS AND SOCIETY BUILDINGS

Contract Awarded.

ALTERATIONS Cont. Price, \$24,226 NAPA, Napa Co., Cal.

Alterations to second floor of Masonic Temple (banquet facilities will be provided).

Owner—Masonic Hall Association.

Architect—Red and Corlett, Oakland Bank of Savings Bldg., Oakland.

Contractor—S. J. Johnson, 4652 Dolores St., Oakland.

HOSPITALS

Contract Awarded.

LABORATORY Cost, \$— LOS ANGELES, Los Angeles Co., Cal.

Michigan and Boyle Aves.

Three-story and basement Class B reinforced concrete and brick laboratory (40x30 ft.); tile work, hardwood floors, freight elevator, steam heat, etc.

Owner—White Memorial Hospital, 304 N. Boyle Ave., Los Angeles.

Architect—Myron Hunt and H. C. Chambers, California Bldg., L. A.

Contractor—C. I. Swinhart, 1642 Garth St., Los Angeles.

Plans Being Figured—Bids Close Oct. 29, 10 A. M.

HOSPITAL UNIT Cost, \$— RENO, Washoe Co., Nevada. County Hospital Grounds.

Maternity wing adjoining present county hospital.

Owner—County of Washoe, G. W. Nottingham, Chairman of the Board of Trustees of Washoe County Public Hospital.

Architect—F. J. DeLongchamps, Gazette Bldg., Reno.

Bids previously received on this project were rejected, the lowest being submitted by J. C. Dillard, 805 S. Virginia St., Reno, at \$34,734. Only other bidder was Wm. Kennedy, Reno at \$35,830.50.

Certified check 5% payable to Trustees of Washoe County Public Hospital required with bid. Plans obtainable from the architect on deposit of \$10, returnable.

HOTELS

Plans Completed.

HOTEL LODGE Cost, \$— LAKE TAHOE, Placer Co., Cal. Lakeland.

Two-story stone veneer and timber hotel lodge (40 rooms and baths); asbestos shingle or slate roof, Ray oil burner heating system, etc.

Owner—Wm. R. Ray.

Architect—Harold Stoner, 810 Ulloa St., San Francisco.

ICE AND COLD STORAGE PLANTS

Plans Being Figured.

ICE PLANT Cost, \$10,000 FRESNO, Fresno Co., Cal. Blackstone Avenue.

One-story ice storage plant (35x100) brick construction, cork insulation for walls, floors and ceilings.

Owner—Fresno Madera Ice Company, Blackstone Ave., Fresno.

Architect—Chas. E. Butler, Glikbarg Bldg., Salinas and Cory Building, Fresno.

POWER PLANTS

LOS ANGELES, Calif.—Until 11 A. October 14, bids will be received by Thomas Oughton, Los Angeles City Purchasing Agent, 107 City Hall, to furnish lead covered cable f.o.b. cars. Fovee spur No. 4, S. P. delivery, Los Angeles or Loh. truck, Dept. Water & Power Warehouse, 1630 N. Main St., or f.o.b. cars bidder's factory with full freight allowed to 1630 N. Main St., as follows:

(1) 2900 ft. 1,500,000 C. M. single conductor, 91-strand, 500-volt, lead-covered cable. Spec. No. 2929.

PUBLIC BUILDINGS, FIRE HOUSES AND JAILS

MCDISTO, Stanislaus Co., Calif.—County Grand Jury has requested the county supervisors to provide funds in the next budget to finance construction of an addition to the county courthouse. The cost is estimated at \$45,000. The addition would house all county offices not now located in the courthouse.

Preliminary Plans Approved.

JAIL Cost, \$800,000 SNEATH RANCH, San Mateo Co., Cal

Six-story Class B reinforced concrete jail.

Owner—City and County of San Francisco.

Architect—Albert F. Roller, Crocker First National Bank Building and Dodge A. Riedy, Pacific Building, associate architect.

Structural Engineer—H. J. Brunner, Sharon Building.

RESIDENCES

Contract Awarded.

RESIDENCE Cost, \$30,000 WEST LOS ANGELES, Los Angeles Co., Cal. No. 543 Perugia Way.

Two and three-story frame and stone veneer residence (81x82 ft.); 15 rooms.

Owner—Sir Frederic Thorne-Rider.

Architect—Leland F. Fuller, 1043 Centinella Ave., Brentwood, Calif.

Contractor—J. Ernest Randall, 519 N. Maple Drive, Beverly Hills.

Plans Being Completed.

RESIDENCE Cost, \$12,000 SALINAS, Monterey Co., Calif.

Two-story and basement frame and stucco residence (10 rooms and 3 baths) tile and composition roof, gas heating system, hardwood floors, tiled baths, etc.

Owner—Frank Myers, Salinas.

Architect—Chas. Butler, Glikbarg Bldg., Salinas.

Bids will be asked within 1 week.

Low Bidder.

RESIDENCE Cosa, \$— NORTH BERKELEY, Alameda Co.

Two-story and basement frame and stucco residence (7 rooms and 2 baths) (ile roof, gas hot air heating system, electric refrigeration, colored tile baths and kitchen.

Owner—E. W. Bonsten.

Architect—E. L. Snyder, 2101 Addison St., Berkeley.

Low Bidder—J. M. Walker, 1709 Grove St., Berkeley.

Plans Being Figured.

RESIDENCE Cost, \$30,000 TUCSON, Arizona. El Encanto.

One-story masonry residence (tile roof).

Owner—C. O. Brown.

Architect—M. H. Starkweather, 40 W Congress St., Tucson.

Contract Awarded.
RESIDENCE - Cost, \$—
SOUTH PASADENA, Los Angeles Co.
Cal. No. 1428 Oak Street.
Two-story frame, stucco and brick veneer residence and office (11 rooms; 56x76 ft), shingle roofing, gas unit heating system, etc.
Owner—Dr. Rose C. Gabriel.
Architect—Frederick Kennedy Jr., 15 S. El Molino St., Pasadena.
Contractor—Parker & Gamble, Ltd., 29 E. Euclid Ave., Pasadena.

Plans Being Figured.
RESIDENCE Cost, \$—
LOS ANGELES, Cal. Bel Air Canyon.
One- and two-story tile and wood residence (75x100-ft.) 10 rooms and 4 baths, shakes roof, wood sash, hot air furnace, electric and gas radiators, etc.
Owner—H. W. O'Melveny.
Architect—Roland E. Coate, Architects' Bldg., Los Angeles.

Plans Being Completed.
RESIDENCE Cost, \$—
SAN MATEO PARK, San Mateo Co.
One and one-half-story frame and stucco residence (9 rooms and 3 baths); stucco interior, tiled baths and kitchen, tile roof, gas heating system, etc.
Owner—Chas. McIntyre.
Architect—Harold Stoner, 510 Ulloa St., San Francisco.
Bids will be asked in about one week.

Contract Awarded.
RESIDENCE Cost, \$35,000
BEVERLY HILLS, Los Angeles Co., Cal. No. 906 Foothill Road.
Two-story frame and stucco residence (12 rooms); tile and composition roof, structural steel, brick work, patio with pool, art glass, decomposed granite paving, invisio roller screens, etc.
Owner—Robert C. Peyton.
Architect—Kirtland Cutter, Farmers and Merchants Bank Bldg., Long Beach.
Contractor—Wm. C. Warmington, 9455 Santa Monica Blvd., Los Angeles.

Contract Awarded.
RESIDENCE Cost, \$—
MALIBU BEACH, Los Angeles Co.
Two-story and basement frame and stucco residence (12 rooms and 6 baths); full tile roof, tile and hardwood floors, inter communicating telephone systems, etc.
Owner—William J. Garland.
Architect—Theo. R. Jacobs, Laughlin Bldg., Los Angeles.
Contractor—Pacific Systems Homes, 5800 S. Boyle Ave., Vernon.

SCHOOLS

Plans Being Figured.
HEATING PLANT Cost, —
GRASS VALLEY, Nevada Co., Cal.
Heating plant for high school.
Owner—Grass Valley School District (J. F. Hennessy, Supt. of Schools).
Plans by Carl Henderlong, % State Division of Architecture, Public Works Bldg., Sacramento.
Plans and specifications obtainable from Supt. James S. Hennessy upon deposit of \$10.

Plans Completed.
HOUSE OF STUDIES Cost, \$55,000 (1st unit)
OAKLAND, Alameda Co., Cal. Chabot Road and College Avenue.
Three-story and basement steel frame and brick veneer house of studies (main wing, 140x36-feet) concrete

basement, cast stone trim, slate roof.
Owner—College of Saint Albert, The Great (Dominican House of Studies), Steiner and Bush Sts., San Francisco.
Architect—Arnold Constable, 580 Market St., San Francisco.
Construction will start about Feb. 1, 1933.

Plans Being Figured—Bids Close Oct. 15th.
SCHOOL Cost, \$40,000
MARYSVILLE, Yuba Co., Cal.
One-story brick primary school (ten classrooms) tile and composition roof, steam heating system, Oregon pine floors covered with linoleum.
Owner—Marysville Primary School District.
Architect—James Arnott, 6015 Hille-gas Ave., Oakland.
Present concrete foundations will be used.

Bids Wanted — To Close October 5, 3 P. M.
SHOP Cost, \$15,000
HAYWARD, Alameda Co., Cal.
One-story reinforced concrete shop (6-500 sq. ft.; tar and gravel roof).
Owner—Hayward Union High School District.
Architect—Henry C. Smith, Humboldt Bank Bldg., San Francisco.

BANKS, STORES & OFFICES

Preparing Sketches.
STORE Cost, \$150,000
ALHAMBRA, Los Angeles Co., Calif. S Main St. near Chapel.
Two-story, mezzanine floor and two basement department store (120x150-ft.).
Owner—Main Street Realty Co.
Architect—Bennett and Haskell, First Trust Bldg., Pasadena.

Preparing Sketches.
MARKET Cost, \$100,000
LOS ANGELES, Los Angeles Co., Cal.
Hawthorne Street near Highland Avenue.
Large market building.
Owner—C. E. Toberman.
Architect—Rollin F. Pierson, 6763 Hollywood Blvd., Los Angeles.

Plans Being Completed.
STORE Cost, \$15,000
SAN RAFAEL, Marin Co., Cal.
One-story Class C concrete store (concrete floors, glass fronts, steel trusses, etc.)
Owner—McPhail-Grady Co., 917 C St., San Rafael.
Architect—N. W. Sexton, deYoung Bldg., San Francisco.
Bids will be asked in about 1 week.

FRESNO, Fresno Co., Cal.—Velvet Ice Cream Co., 1950 Broadway, operated by Lawrence Patti and Carl Pagani, has purchased two lots in Echo Ave. near Weldon Ave. and will erect a \$15,000 structure to house a confectionery, lunch and soft drink parlor. New fixtures and equipment will be installed.

Plans Being Prepared.
MARKET Cost, \$100,000
OAKLAND, Alameda Co., Cal. Franklin St., bet. Tenth and Eleventh.
One-story and basement brick market (space for 20 food concessions); tile and composition roof, electric refrigeration, concrete floors, etc.
Owner—Fred H. Morgan, et al.
Architect—W. H. Weeks, 525 Market St., San Francisco.

THEATRES

Contracts Awarded.
ALTER THEATRE Cost, \$50,000
SAN FRANCISCO. 2550 Mission St.
Alterations to theatre (work involves general work, plumbing, electrical, heating, ventilating, sheet metal and Neon electric signs).
Owner—New Mission Theatre.
Architect—Miller & Pfueger, 580 Market Street.
General—Alfred J. Hopper, 1769 Pleasant Valley Road, Piedmont.
Electric Work—Dowd - Seid Elec. Co., 2113 Mission St.
Plumbing—Fred. W. Snook, 596 Clay Street.
Heating and Ventilating—Ace Sheet Metal Works, 444 Clementina St.
Neon and Electric Sign and Marquee—Wonderlite Neon Products Co. Ltd. 170 Otis Street.
Sheet Metal Work—Fire Protection Products Co., 1101 16th St.

WHARVES AND DOCKS

Preparing Working Drawings.
EXTEND PIER Cost, \$—
SAN FRANCISCO. Waterfront; Pier No. 46.
Extend and alter pier; to connect with Pier No 44 (new offices, steel and wood shed; bulkhead wharf, wood piling, etc.)
Owner—State of California (State Harbor Board).
Engineer—Frank G. White, Ferry Bldg., San Francisco.
Bids will be asked in about thirty days.

Plans Being Figured—Bids Close Oct. 15th, 11 A. M.
EXTEND DOCK Cost, \$65,000
SAN FRANCISCO. Fort Mason.
Extend Dock No. 2 (Section B) reinforced concrete and steel construction, 8-ft. cylinder, with 7 piles to each cylinder, beam steel frame railroad tracks, cressed piles, dummy piles, cressed timber and cressed piles.
Owner—United States Government.
Plans by Constructing Quartermaster, Fort Mason.

MISCELLANEOUS CONSTRUCTION

Contracts Awarded.
AMUSEMENT PARK Cost, \$100,000
EL CERRITO, Contra Costa Co., Cal. Fairmont Ave. near San Pablo (37 acre tract).
Amusement park (dog racing track, grandstand, bleachers, etc.)
Owner—Wemby Amusement Corporation (Rep. by H. C. Ellis).
Plans by Maury I. Diggs, 364 14th St., Oakland.
Contractor—Hutchinson Co., 1450 Harrison St., Oakland.
Excavation and Grading—Ariss Knapp Co., 961 41st St., Oakland.
Concrete Aggregates—Transit Concrete Co., Foot of Broadway, Oakland.
Lumber—Hill Lumber Co., Brighton and Alamo Sts., Berkeley.

PORTLAND, Ore.—George N. Black Studio Bldg., Portland, representing Claude S. Jensen, president of the Columbia Amusement Co., Taloma, Portland, has submitted a proposal to the city council offering to erect a bus and stage terminal and take public utility certificates in payment, in the block bounded by 6th, Broadway, Kefferon and Columbia Sts., 200x200 feet. The cost would be approximately \$206,000.

MEMBERS OF THE ASSOCIATED GENERAL CONTRACTORS

PACIFIC COAST AND INTERMOUNTAIN TERRITORY

CALIFORNIA STATE BRANCH

1318 Pershing Square Bldg.—Trinity 9418—Los Angeles

O. C. STRUTHERS, President

E. L. KIER, Vice-President

GEORGE HERZ, Secretary

MELVILLE DOZIER, JR., Manager

NORTHERN CALIFORNIA CHAPTER

206 Sansome St.—Garfield 7107—San Francisco, Calif.

C. W. Wood, President Geo. G. Pollock, Vice-President
Floyd O. Booe, Secretary-Manager

- Atkinson, Lynn S. (HPR).....1316-17 Edwards & Wileidy Bldg., L. A., Tr. 7451
- Atkinson, Guy F., Co., Inc. (BHPR) 601 Russ Bldg., S. F., Sut. 3629
- Ball, N. M. (HP).....1889 Yosemite Rd., Berkeley, AS. 6722
- Basalt Rock Co., Inc. (H).....900 8th St., Napa, Napa 105
- Bechtel Co., W. A. (BHPR).....15 Sansome St., S. F., GA. 0780
- Bevanda, M. J. (HP).....319 Elk Blvd., Stockton, 4470
- Bishop, E. B. (HP).....900 Forum Bldg., Sacramento, Capitol 2456
- Bodenhamer Const. Co. (HPR).....Box 643, 354 Hobart St., Oakland, CLenwood 5022
- Calif. Const. Co. (BHPR).....719 Standard Oil Bldg., S. F., DO. 8820
- Casson, Jack A. (HP).....Hayward, Calif., Hayward 856
- Clark & Henry Const. Co. (HP).....564 Market St., S. F., DO. 2903
- Colley, W. C. (HPR).....35 Northampton Ave., Berkeley, Ash. 1323
- Conner, J. L. (HP).....P. O. Box No. 86, Monterey 1137-M
- Connelly, T. E. (BHPR).....461 Market St., S. F., Kearny 6408
- Connors, R. A. (HPR).....1043 38th St., Oakland, Olym. 9391
- Currie, James (HPR).....114 Peninsula Ave., Burlingame, Burl. 3497
- Delin, C. M. (HPR).....206 Sansome St., San Francisco, Geo. 1107
- Doogie Bros., Inc. (HP).....Fallon, Nevada, Main 1761
- Drumm, A. D., Jr. (HP).....Fallon, Nevada, Main 444
- Eaton & Smith (HPR).....715 Ocean Ave., San Francisco, DE. 6700
- Fairbanks, A. J. & J. L. Inc. (HPR).....Linden Ave., So. S. F. 426
- Fay Improvement Co., The (HPR).....Phelan Bldg., S. F., KE. 4044
- Fitzmaurice, J. H. (HP).....2857 Hannah St., Oakland, Higate 2490
- Force Const. Co. (HP).....70 Bellevue, Piedmont, Calif., HU. 9349
- Francis Contrg. Co. (RPW).....260 California St., S. F., DOug. 6684
- Frederickson Bros. (BHP).....First Natl. Bank Bldg., Stockton, 3974
- Frederickson & Watson Const. (BPHR).....873 81st Ave., Oakland, SW. 1264
- French, George J., Jr. (HP).....P. O. Box No. 673, Stockton, 6676
- Gerwick, Ben C., Inc. (HPR).....112 Mark St., S. F., SU. 8454
- Gerrit Construction Co. (BHPR).....Watsonville, California, 988
- Hanrahan Co. (HP).....Hobart Bldg., San Francisco, CA. 1639
- Harney, Charles L. (HP).....74 New Montgomery St., S. F., GA. 1711
- Hauser, W. H. (HPR).....129 E. 74th St., Oakland, Fruitvale 6790
- Healey-Moore Co. (HP).....344 High St., Oakland, AN. 0466
- Hemstreet & Bell (HP).....411 "C" Street, Marysville, 433
- Heple, Earl W. (BHPR).....494 Delmas Ave., San Jose, MI. 5400
- Hodgman & MacVicar (HP).....14 Plymouth, Pasadena, Ter. 1563
- Holland, J. P., Inc. (HPR).....1834 McKinnon Ave., S. F., Cal. 4000
- Isbell Const. Co. (HP).....Carson City, Nev., Ph. 1754 (Also Fresno)
- Jenkins, M. A. (HPR).....3560 Y St., Sacramento Capital 472
- Jones & King (HPR).....Hayward, Calif., Hay. 74
- Kaiser Paving Co. (BHPR).....Latham Square Bldg., Oak, HL. 2614
- Knapp, J. F. (HPR).....916 Financial Center Bldg., Oak, GL. 1620
- Larsen Bros. (HP).....Carpenter, San Leandro, 4187
- Le Tourneau, R. C. (HPR).....122 Moss Ave., Stockton, 471
- Lord & Bishop (HPR).....Native Sons Bldg., Sacramento, Main 3981
- Lovelace, Nate (HP).....3433 "N" St., Sacramento, Capital 1990
- Malcom, C. T. (HPR).....Walnut Creek, Calif., W. C. 277
- McDonald, D. (HPR).....204 23rd St., Sacramento, Cap. 1806
- McGillivray Const. Co. (HPR).....Box 927, Sacramento, Capital 2170
- McMillan, W. K. (HP).....2088 Howard St., San Francisco, MA. 3876
- Mercer-Fraser Co. (BHPR).....Eureka, Eureka 808
- Nevada Contracting Co. (HPR).....Financial Bldg., Nevada, Phone 1851
- Nevada Rock & Sand Co. (HP).....Reno, Nevada, Reno 5291
- Nightberg, Fred W. (HP).....No. 10 "H" St., Bakersfield Pacific Pavements Co., Ltd. (HP).....85 Barstow St., S. F., HE. 4178
- North States Construction Co. (HP).....Cal. Bldg., S. F., DO. 8789
- Phillips, John, Co. (HP).....582 Market St., San Francisco, KE. 4471
- Pollock, Geo., Co. (HPR).....P. O. Box 903, Sacramento, Main 1457
- Rohl, H. W., Co. (HPR).....4351 Alhambra Ave., Los Angeles, CH. 6141
- Six Companies, Inc. (HPR).....Financial Bldg., S. F., DO. 1842
- Siems-Helmers, Inc. (BHPR).....206 Sansome St., S. F., DA. 5235
- Steels & Graham Co. (HPR).....P. O. Box 576, Roseville, Calif. 7583
- Tedford, J. N. (HP).....Fallon, Nevada, Main 4663
- Tierhart, A., Inc. (HP).....174th St., Sacramento, Geo. 6386
- Tieslau Bros. (HP).....2819 Grove St., Berkeley, BE. 8635
- Tucker, H. V., Co. (HP).....300 Vermont St., S. F., MA. 7583
- Ulrich Const. Co., Geo. J. (BHP).....Modesto, Modesto 9281
- Von der Helms & Pierson (HPR).....315 Montgomery St., Calif., Calif. 6072
- Ward Engineering Co. (HP).....315 Montgomery St., S. F., DOug. 6072
- Wood, C. W. (HP).....P. O. Box 1435, Stockton, 8743
- Young, Clarence (HP).....5250 Broadway Ter., Oakland, OL. 3743
- Young & Son Co., Ltd. (HP).....599 Colusa Ave., Berkeley, Berk 5541

Associate Members

- American Bitumuls Co. (Bitumuls).....200 Bush St., S. F., CA. 6653
- Anderson Bros. Supply Co. (Commissary).....Boulder City, Nev. 4832
- Andrews, F. O. (C).....4322 Russ Bldg., S. F., SU. 0832
- Associated Oil Co. (Asso. Prod.).....79 N. Monty St., S. F., KE. 4800
- Austin Western Road Machinery Co. (Road Machinery).....435 Brannan St., San Francisco, DO. 2183
- Autocar Sales & Service Co. (Autocar Trucks).....326 Howard, San Francisco, UN. 4545
- Bacon, Edward R., Co., (Road Machinery).....Folsom and 17th Sts., San Francisco, HE. 3700
- Blake Bros. (Crushed Rock).....Balboa Bldg., S. F., KE. 3320
- Calaveras Cement Co.....315 Montgomery, San Francisco, DO. 4224
- California Corrugated Culvert Co. (Corrugated Pipe).....5th & Parker, West Berkeley, BE. 5420
- Cement Gun Construction Co. (Gunite).....35 Second St., San Francisco, SU. 8306
- Contractors' Ins. Agency (Insurance) 206 Sansome St., S. F., SU. 3400
- Cowell Lime & Cement Co. (Cement).....2 Market St., S. F., GA. 4870
- Geiger Iron Works (Equip.).....P. O. Box 423, Stockton, Stock. 1898
- Granite Rock Co. (Crushed Rock).....Watsonville, Wat. 988
- Harneschfer Sales Corp. (Equip.).....82 Beale St., S. F., DO. 2313
- Harron, Rickard & McCone Co. (Equip.).....1600 Bryant St., San Francisco, UN. 3740
- Link-Belt Co. (Equip.).....400 Paul Ave., San Francisco, DE. 6400
- Marion Steam Shovel Co. (Power Shovels).....571 Howard St., San Francisco, KE. 7493
- Modern Vehicle Co. (Mrs. Steep Dump Bodies).....437 4th St., S. U. 1402
- Murray & Ready (Labor Agency) 784 Howard St., S. F., SU. 1205
- Northwest Engineering Co. (Shovels).....23 Main St., S. F., SU. 7053
- Pacific Coast Aggregates.....700 Wells Fargo Bldg., S. F., SU. 8940
- Pacific Coast Engineering Co. (Structural Steel).....Foot of W. 14th St., Oakland, HL. 1322
- Pacific H. B. A. Steel Co., Inc. (Drill Steel).....340 Brannan St., San Francisco, GA. 6683
- Pacific Portland Cement Co. (Golden Gate).....Hunter-Dulin Bldg., San Francisco, CA. 4100
- Pland-Evans (Commissary).....Merchants' Ex. Bldg., S. F., GA. 5923
- Robinson Tractor Co. (Caterpillar Tractors).....1705-09 E. 12th St., Oakland, FR. 2485
- Roebing's, Jno. A., Sons Co. (Wire Rope).....1175 Howard St., San Francisco, 646
- Santa Cruz Portland Cement Co. (Santa Cruz).....Crockett Bldg., San Francisco, CA. 3307
- Shell Oil Co. (Shell Products).....100 Bush St., S. F., EX. 5400
- Soule Steel Co. (Reinforcing Steel).....1750 Army St., S. F., VA. 4141
- Spears-Wells Machinery Co. (Equip.).....1832 9th St., Oak., HO. 4100
- Standard Oil Co. of Calif. (Standard Products).....Standard Oil Bldg., San Francisco, SU. 7700
- Traffic Service Bureau (Freight Audits) 24 Calif. St., S. F., GA. 6194
- Union Oil Co. of Calif. (Union Prod.).....2315 Bldg., S. F., DO. 4030
- United Commercial Co., Inc. (Equip.).....314 S. F., DO. 0430
- Western Pipe & Steel Co. (Steel Pipe) 444 Market, S. F., CA. 6788

SOUTHERN CALIFORNIA CHAPTER

1318 Pershing Square Bldg.—Trinity 9418
Los Angeles, Calif.

C. G. FitzGerald, President Melville Dozier, Jr., Manager
LYNN S. ATKINSON, First Vice-President (Engineering Div.)
WM. A. SIMPSON, Second Vice-President (Building Div.)

The address of the firm is the same city in which is located the Chapter office unless otherwise shown in membership list.

Building Contractors

- Atkinson, J. F.1102 Story Bldg., Vandike 7783
- Baruch Corp., Herbert M.1015 Lincoln Bldg., Trinity 5473
- Bradley Constr. Co., K. R.183 West Pico, Washington 2786
- Burgin, W. Jay1100 Redondo Ave., Long Beach, L. B. 81103
- Byerts & Dunn7908 Santa Monica Blvd., Crestview 9602
- Clinton Construction Co., 1103 Spring Arcade Bldg., Madison 2397
- Crowell, Wm. C.495 S. Bdwy., Pasadena, Wakefield 6692
- Crowell Co., Weymouth2104 E. 15th St., Westmore 5708
- DeCamp-Hudson Co., Ltd.1277 W. 24th St., Westmore 3382
- Dixon, L. E., Co.609 So. Grand Ave., Trinity 4925
- Escherich Bros.234 S. 37th Place, Adams 6294

Class of Construction: (B) Building; (H) Highway; (P) Public Works; (R) Railroad.

| | | | |
|--------------------------|---------------------------|----------------|-------------|
| Hall, J. F. | 531 Douglas Bldg., | MUTual | 6722 |
| Houghton & Anderson | 143 Rose St., | MUTual | 5430 |
| K. P. Lowell & Co., Ltd. | 606 Union Bank Bldg., | VAndike | 4072 |
| Macdonald & Driver | 311 Board of Trade Bldg., | TUcker | 6467 |
| McKee, Robert E. | 1128 Central Bldg., | TRinity | 0291 |
| Miller, Geo. E. | 401 N. Canon Dr., | B. H., | OXford 7404 |
| Simpson Construction Co. | 1007 Architects Bldg., | MUTual | 7261 |
| Snell, Fred C. | 339 N. Beverly Dr., | Beverly Hills, | OXford 6489 |
| Willard-Brent Co. | 254 E. 27th St., | Richmond | 2101 |

Bridges, Foundations

| | | | |
|---------------------------|------------------------|---------|-------|
| Ledbetter Co., W. M. | Box 1264, Arcade St., | CApitol | 13415 |
| Oberg Brothers | San Fernando Bldg., | ANGelus | 8759 |
| Raymond Concrete Pile Co. | 1008 Washington Bldg., | VAndike | 6536 |

Highways, Paving, Grading

| | | |
|-----------------------------|-----------------------------------|-----------------------|
| Basich Bros. | Torrance, Gardena | 446 |
| Bock, Geo. J. | 1007 S. Harvard, | EMpire 7614 |
| Donovan & Sons, J. G. | 4031 Goodwin Ave., | OLympic 0423 |
| Ferry, Peter L. | San Fernando Rd. and Bdwy., | Glendale, OL 0164 |
| Fleming Construction Co. | Pomona | |
| Griffith Company | L. A. Railway Bldg., | Westmore 9343 |
| Hall-Johnson Co. | P. O. Box 387, Alhambra, | Eliot 1855 |
| Herz & Co., Geo. | 310 Platte Bldg., San Bernardino, | S. B. 241-42 |
| Heuser, Chas. U. | 316 Allen Ave., | Glendale, DOnals 3965 |
| Hudson, Chas. H. | 408 Rives-Strong Bldg., | VAndike 3374 |
| Jahn & Bressi. | 701 Lane Mortgage Bldg., | TRinity 8674 |
| Lang Transportation Co. | 5501 Santa Fe Ave., | JEfferson 3104 |
| Lewis Construction Co. | 300 S. Juanita St., | WAshington 1407 |
| Packard & Tanner | 905 W. Latham St., | PHoenix 7168 |
| Pearson & Dickerson | 4485 Cypress, Riverside, | 1600 |
| Ross, M. S. | 4011 Goodwin Ave., | CApitol 7603 |
| Wells & Bressler | P. O. Box 596, Santa Ana, | 227 |
| Willis, C. G., & Sons, Inc. | 2119 E. 25th St., | LAfayette 9826 |

Pipe Lines, Water Works

| | | |
|----------------------------|-----------------------------|---------------|
| American Concrete Pipe Co. | P. O. Box 1428, Arcade St., | JE. 4211 |
| Haverty Co., Thos. | 316 E. 8th St., | VAndike 1171 |
| United Concrete Pipe Co. | Box 1, Station H, L. A., | TWinoaks 9196 |

Subways, Conduits

| | |
|------------------------|-----------------------|
| Delta Construction Co. | P. O. Box 79, Compton |
|------------------------|-----------------------|

General Engineering

| | | |
|--------------------------------|-----------------------------|---------------|
| Atkinson, Lynn S. | 609 S. Grand, TRinity | 7451 |
| Bartmus, Peter | Hollywood River, Redondo, | Redondo, 7510 |
| Bent Bros., Inc. | 418 S. Pecan St., | ANGelus 7510 |
| Campbell-Reichert Co. | 4000 Whiteside Ave., | ANGelus 0598 |
| Cox, R. L. | 1100 Westminister, Alhambra | 1699 |
| Emeco Conc. Cutting Corp. | 1517 Santa Fe Ave., | VAndike 7168 |
| Fitz-Gerald Eng. & Constr. Co. | 216 Rowan Bldg., | TRinity 5088 |
| Foley, D. A., Construc. Co. | 716 Grant Bldg., | TUcker 7814 |
| Kemper Const. Co., Ltd. | 3701 Overland, Los Angeles | |
| Macco Construction Co. | Hynes, JEfferson | 1148 |
| Merritt Chapman-Scott Corp. | P. O. Box 507, San Pedro, | 2880 |
| Mittry Bros. Construction Co. | 722 Detwiler Bldg., | VAndike 0210 |
| Morrison-Knudsen Co. | 411 West Fifth St., | MUTual 7684 |
| Robinson-Roberts Co. | 706 Rives-Strong Bldg., | TRinity 2889 |
| Spicer, C. A. | 818 Financial Center Bldg., | TUcker 9570 |
| Standard Dredging Co. | 325 Central Bldg., | TRinity 3253 |
| Wattson, R. A. | 1026 N. McCadden Pl., | GRanite 4121 |

Affiliates

| | | |
|------------------------------|--------------------------------|----------------|
| Brashears & Co., C. | 501 Security Bldg., | TRinity 5091 |
| Consolidated Rock Prod. Co. | 656 S. Los Angeles St., | TRinity 0241 |
| Gilmore Oil Co. | 2423 E. 28th St., | JEfferson 1211 |
| Graham Brothers | 1215 W. 7th St., Long Beach, | L. B. 62521 |
| Hartford Accident & Ind. Co. | 548 S. Spring St., | MAdison 1471 |
| L. A. Brick Co. | 1078 Mission Road, Angeles | 5684 |
| Sun Lumber Co. | Crescent Drive, Beverly Hills, | OXford 6191 |
| Union Oil Co. | Union Oil Bldg., | TUcker 7211 |

ALAMEDA COUNTY CHAPTER

354 Hobart St., Rm. 410—Glencourt 7400—Oakland, Calif.

S. G. Johnson, President H. J. Christensen, Treasurer
 Geo. J. Maurer, Vice-President W. E. Hague, Manager

| | | |
|---------------------------|---------------------------------|---------|
| Brennan, J. P. (B) | 2820 Regent, Berkeley, BE. | 0346 |
| Christensen, H. J. (B) | 1924 Broadway, Oakland, LA. | 7164 |
| DeVelbiss, C. Dudley (B) | 369 Pine St., S. F., | CA 3225 |
| Dyer Construction (B) | 337 17th St., Oakland, GL. | 3203 |
| Furlong, Thos. H. L. (B) | 460 Jerome Ave., Piedmont, HU. | 0620 |
| Jacobs & Pattinani (BP) | 337 17th St., Oakland, GL. | 3203 |
| Johnson, S. G. (B) | 4652 Dolores Ave., Oakland, FR. | 6650 |
| Keating, W. C. (B) | 925 Forum Bldg., Sacramento | |
| Lesure, E. T. (B) | 87 Ross Circle, Oakland, OL. | 0389 |
| Littlefield, R. W. (B) | 337 17th St., Oakland, HI. | 0994 |
| Lyons, W. E. (B) | 354 Hobart St., Oakland, HO. | 5325 |
| Maurer, George J. Co. (B) | 50 York Drive, Oakland, HU. | 3457 |
| Nordstrom, David H. (B) | 354 Hobart St., Oakland, GL. | 7400 |
| Pedgrift, James H. (B) | 4106 Broadway, Oakland, TR. | 1300 |
| Petersen, George (B) | 1841 Bancroft, San Leandro, TR. | 2043 |
| Petersen, James B. (B) | 4021 Agua Vista, Oakland, FR. | 9687 |
| Schultz, Herbert (B) | 811 Mendocino, Berkeley, AS. | 2360 |
| Sullivan & Sullivan (B) | 2653 Best Ave., Oakland, AN. | 4724 |
| Thornally, W. C. (B) | 354 Hobart St., Oakland, GL. | 8476 |
| Westlund, Fred J. (B) | 354 Hobart St., Oakland, GL. | 7400 |

Associate Members

| | |
|---------------------------------|-------------------------------------|
| Calaveras Cement Co. | 315 Montgomery St., San Francisco |
| Cowell, Henry, Lime & Cemt. Co. | 81 Franklin St., Oakland, HI. 3398 |
| East Bay Glass Co. | 621 Sixth St., Oakland |
| Lannon Bros. Mfg. Co. | Fifth and Magnolia Sts., Oakland |
| Maxwell Hardware Co. | 1320 Washington St., Oakland |
| Melrose Building Materials Co. | 4591 Tidewater Ave., Oakland |
| Oakland Planing Mill | Second and Washington Sts., Oakland |
| Pacific Portland Cement Co. | 111 Sutter, San Francisco, CA. 4100 |
| Santa Cruz Portland Cement Co. | 354 Hobart St., Oakland |
| Sunset Lumber Co. | 400 High St., Oakland |
| Tilden Lumber Co. | Foot of University Ave., Berkeley |

SAN DIEGO CHAPTER

Spreckels Theater Bldg.—Main 4289—San Diego, Calif.

George R. Daley, President M. A. Mathias, Manager
 M. H. Golden, Vice-President

| | | |
|--------------------------------|---------------------------------------|--------|
| Carroll, B. C. | 4396 Maryland St., Hillcrest | 5274-M |
| Daley Corporation (HP) | 4430 Boundary St., Randolph | 1136 |
| Dennis Constr. Co., V. R. (HP) | Box 183, Sta. A, Hillcrest | 8293 |
| Ford, E. Paul (HP) | Box 201, E. San Diego, Randolph | 5101 |
| Golden, M. H. (B) | 404 California Bank Bldg., Franklin | 7983 |
| Grove, Cecil B. | 4316 Island Ave., Franklin | 7474 |
| Hazard Constr. Co., R. W. (HP) | 2508 Kettner Blvd., Franklin | 6315 |
| Jarboe Constr. Co. (B) | 208 Spreckels Theatre Bldg., Franklin | 3792 |
| Kier Const. Co., W. E. (B) | First National Bank Bldg., Main | 2427 |
| Larsen, B. O. (B) | 1340 E. St., Main | 4752 |
| Miracle Constr. Co. (HP) | Box 601, E. San Diego, Main | 2295 |
| Penick & Sons, T. B. (HP) | 3075 L. St., Main | 4582 |

PACIFIC NORTHWEST BRANCH

4134 Arcade Building, Seattle, Wash.

JAS. MURDOCK, President H. V. BOGERT, Rec. Secretary J. B. WARRACK, Treasurer
 J. C. COMPTON, Vice-President P. L. CROOKS, Vice-Pres. and Secretary

PORTLAND CHAPTER

Multnomah Hotel—Atwater 7883—Portland, Ore.

Paul L. Crooks, President Philip Hart, 2nd Vice-President
 Ross B. Hammond, 1st Vice-President J. A. Lyons, Treasurer
 C. B. Herington, Executive Secretary

| | |
|--------------------------------|----------------------------|
| Baker Construction Co. (B) | Security Bldg., Atw. 9211 |
| Christensen, Fred, Inc. (HP) | 187 E. 34th St., At. 8934 |
| Cochrane Construction Co. (HP) | 65th & Ainsworth, Tr. 5944 |

Class of Construction: (B) BUILDING; (H) HIGHWAY; (P) PUBLIC WORKS; (R) RAILROAD.

| | | |
|-------------------------------------|---------------------------------|------|
| Compton, J. C. (HP) | McMinnville, Ore., McM. | 106 |
| Crooks, P. L., Inc. (HPR) | Henry Bldg., Atw. | 7767 |
| Dann, J. J. (PHR) | 300 Henry Bldg., Atw. | 5837 |
| Edelstein-Weygandt Co. (HP) | Foot of Jefferson, Atwater | 4090 |
| Endicott, Wm. | Corvallis, Oregon | |
| Gates, E. L. (HPR) | Eugene, Oregon | |
| Gilpin Construction Co. (HPR) | Henry Bldg., Atw. | 6220 |
| Greenwood, A. C. (HPR) | 500 N. Front St., Br. | 3030 |
| Guthrie & Co., A. Inc. (BPHR) | 552 Sherlock Bldg., Atw. | 8316 |
| Hammond, Ross B. (B) | 1312 Public Service Bldg., Atw. | 2159 |
| Hauser Bros. Construction Co. (PHR) | Multnomah Hotel, Atw. | 7441 |

| | | |
|--------------------------------|---|-------|
| Hoffman, L. H. (BP) | Public Service Bldg., Atw. | 3181 |
| Jacobsen-Jensen Co. (PH) | 407 Stanton, Gar. | 3313 |
| Johnson Contract Co. (HPR) | 414 Exchange Bldg., Atw. | 0678 |
| Johnson-Gardner Co. (HPR) | 414 Exchange Bldg., Atw. | 0678 |
| Kern & Kibbe (HPR) | 290 E. Salmon St., Ea. | 4116 |
| Kernan, F. J. | Porter Bldg., At. | 2053 |
| La Pointe Constr Co. | 1291 Cumberlnd Rd., Be. | 6000 |
| Lindstrom & Feigenson (BPHR) | 1991 Halsey St., Ta. | 9226 |
| Lyons, J. A. (BPHR) | 1001 Halsey St., Tr. | 2841 |
| Milne Constr. Co. | 1853 E. Broadway, Tab. | 7277 |
| Morrison & Knudsen (BHPR) | 319 Broadway, Boise, | Idaho |
| Morgan, T. M. (H) | 5410 Wilshire Blvd., Los Angeles | |
| Newport Construction Co. (PHR) | 317 Exchange Bldg., Atw. | 5900 |
| Pacific Bridge Co. (BPHR) | Ft. of E. Salmon St., Ea. | 2164 |
| Parker & Banfield (BP) | 984 E. 17th St., Sel. | 6182 |
| Parker-Schram Co. (PHR) | Couch Bldg., Atw. | 4375 |
| Peck, E. C., & Co. (PH) | Aberdeen, Wash. | |
| Puckett, W. H. Co. (PHR) | 319 Broadway, Boise, Idaho | |
| Quinn, J. L. (B) | Box 1109, Klamath Falls, Ore. | |
| Rebman, J. (PH) | 343 Vancouver Ave., Tr. | 7823 |
| Robertson, Hay & Wallace (B) | 605 Weatherly Bldg., Ea. | 3613 |
| *Saxton & Looney | Corvallis, Ore. | |
| Seed, John S. (B) | 201 Worcester Bldg., Atw. | 6444 |
| | Honorary Member and Director of Chapter | |
| Shea & Co., J. F. (PHR) | 211 Henry Bldg., Atw. | 2435 |
| Sullivan & Doyle (PHR) | Ft. of Curry St., Atw. | 5297 |
| | Box 104, Portland, Ore. | |
| United Contracting Co. (BPHR) | 309-10 Stock Ex. Bldg., Atw. | 5296 |
| von der Hellen & Pierson (HR) | Naches, Wash. | |
| White, Ernest & Co. (B) | Twin Falls, Idaho | |
| Wren & Greenough (PHR) | 1037 Com. Bldg., At. | 9882 |
| Wright Constr. Co. (BPH) | Aberdeen, Wash. | |
| Young, I. L. (BPH) | 524 Henry Bldg., At. | 0297 |

Associate Members Portland Chapter

| | | |
|-------------------------------------|------------------------------|------|
| Balzer Machinery Co. | 275 Pine St., Atw. | 9391 |
| Beall Pipe & Tank Co. | 85 Columbia Blvd., Wa. | 3171 |
| Clyde Equipment Co. | 555 Thurman St., Br. | 5561 |
| Collins Concrete Pipe Co. | 410 River St., Wa. | 7670 |
| Feenaughty Machinery Co. | 309 E. Yamhill, Ea. | 2187 |
| Grand Sheet Metal Works | 60 E. Third N., Ea. | 2181 |
| Latture, J. L. Equip. Co. | 312-314 E. Madison St., Ea. | 8166 |
| Loggers & Contractors Machy. Co. | 345 E. Madison St., Ea. | 4128 |
| Metropolitan Casualty Ins. Co., The | Wilcox Bldg., Atw. | 7521 |
| National Hospital Assn. | 400 Mohawk Bldg., Atw. | 5291 |
| Oregon Portland Cement | 321 E. Madison, Ea. | 3116 |
| Phoenix Iron Works | 360 Hawthorne, Ea. | 0029 |
| Pomeroy, J. H., & Co. | Box 48, Seattle, Wash. | |
| Pure Iron Culvert & Mfg. Co. | 763 Gladstone, Sel. | 2275 |
| Santa Cruz Portland Cement | 45 Fourth St., Atw. | 9848 |
| Standard Oil Co. | Pacific Bldg., Bea. | 4161 |
| Swigert, Hart & Yett. | Ft. of E. Salmon St., Lan. | 1125 |
| Union Oil Co. of California | Yeon Bldg., Atw. | 9521 |
| Wallace Bridge & Structural Steel | P. O. Box 48, Seattle, Wash. | |
| Shell Oil Co. | Commerce Bldg., At. | 7321 |

SPOKANE CHAPTER

West 515 First Avenue—Main 6822—Spokane

| | |
|-------------------------------|--------------------------------|
| Max J. Kuncy, President | I. G. Anderson, Vice-President |
| Nick Norman, Vice-President | Dan Hannab, Secretary-Treas. |
| Alloway & Georg (B) | Hutton Bldg. |
| Auld & Shinn (B) | 1121 Indiana |
| Burmette, C. A. (H) | 1118 Ide Ave. |
| Byers, W. A. (H) | W. 1204 Mansfield |
| Clifton & Applegate (HPR) | Hutton Bldg. |
| Collins, J. H. & Co. (H) | Colville, Wash. |
| Colonial Building Co. (BH) | Hutton Bldg. |
| Crick, James (H) | Realty Bldg. |
| Degerstrom, N. A. (HPR) | Peyton Bldg. |
| Edwards, J. E. (H) | S. 1423 Adams |
| Geist, W. L. (H) | W. 444 23rd Ave. |
| Hansen Construction Co. | Opportunity |
| Harding, Geo. (H) | Walla Walla, Wash. |
| Hargrave Construction Co. (H) | W. 418 Twentieth |
| Hewett, F. R. (H) | W. 420 Twenty-second |
| Joslin & McAllister (H) | East 3038 Trent Ave. |
| Kuney, Max J. (H) | Hutton Bldg. |
| Larson Bros. (B) | Hyde Bldg. |
| Long, Oliver J. (H) | W. 1924 Mansfield |
| Lyon & Price (H) | W. 503 Fourteenth |
| March Construction Co. | W. 1002 Riverside, Spokane |

| | |
|----------------------------------|------------------------|
| Martin, F. E. (B) | Galax Hotel |
| McLellan, A. (B) | E. 932 Ermina |
| Medby, M. C. (B) | S. 3614 Arthur |
| Meyers, W. C. | S. 2217 Tekoa St. |
| Morin, S. G. (B) | S. 309 Bernard |
| Norman, Nick (B) | 231 Waverly Place |
| Nyberg, Carl (H) | Realty Bldg. |
| Orino, Sam (H) | E. 3104 Boone |
| Payne, Mrs. C. M. | N. 2602 Hamilton St. |
| Power, C. A. (H) | S. 1703 Grand |
| Siems, Spokane Co. (BPHR) | Realty Bldg. |
| Standard Asphalt Paving Co. (HP) | Chronicle Bldg. |
| Sullivan, D. A., & Co. | 415 Sprague Ave. |
| Terteling, J. A., & Sons (HP) | 511 Sound Ave. |
| Tobin, James, & Son (H) | West 1715 Pacific Ave. |
| Triangle Construction Co. (H) | W. 1220 Ide |
| True-House Construction Co. (B) | No. 121 Browne |
| Wheeler & England (HP) | Coeur d'Alene, Idaho |
| Young, Peter J. (B) | S. 11 Cedar St. |

Associate Members

| | |
|---|----------------------------------|
| Beall Pipe & Tank Corp. | West 615 Main Ave. |
| Brandt Bros. | W. 14 Main Ave. |
| Coeur d'Alene Hardware & Foundry | Wallace, Idaho |
| Commercial Importing Co. | 617 Western Ave., Seattle, Wash. |
| Consolidated Supply Co. | W. 1310 Ide Ave. |
| Construction Equipment Co. | 1118 Ide Ave. |
| Feenaughty Machinery Co. | N. 715 Division St. |
| W. P. Fuller & Co. | N. 229 Post St. |
| General Machinery Co. | E. 3501 Riverside |
| Gladding-McBean & Co. | 524 Old National Bldg. |
| Haweys Fuel Co. | N. 740 Division St. |
| Hofus-Ferris Equipment Co. | W. 728 Mallon |
| Marshall Wells Co. | S. 157 Howard |
| Jones & Dillingham Co. | W. 715 First Ave. |
| Jones & Mitchell | Hutton Bldg. |
| Long Lake Lumber Co. | N. 348 Wall St. |
| W. S. McCrea & Co. | 212 Symons Bldg. |
| J. E. McCovern Co. | 550 Peyton Bldg. |
| Nott-Atwater Co. | S. 157 Monroe St. |
| Oriental Importing Tea & Coffee Co. | W. 917 First |
| Spokane Concrete Pipe Co. | N. 2627 Dakota |
| Spokane Culvert & Tank Co. | N. End Division Street Bldg. |
| Spokane Paper & Stationery Co. | S. 152 Jefferson |
| Standard Oil Co. of Calif. | Old National Bldg. |
| Union Oil Co. | 611 Chronicle Bldg. |
| Washington Brick, Lime & Sewer Pipe Co. | S. 151 Washington St. |
| Washington Machinery & Supply Co. | W. 9 Cataldo |

MOUNTAIN PACIFIC CHAPTER

(Strictly a Public Works Chapter, practically every member carrying on highway, public works and railroad construction)
Washington Hotel—Seattle, Wash.

| | |
|-----------------------------------|---|
| John W. Rumsey, President | Lee Johnson, Secretary, Treasurer |
| John M. Clifton, Vice-President | James D. Brown, Manager |
| Allen & Goven | Olympia, Wash. |
| Barnard Curtiss Co. | Ellensburg, Wash. |
| Clifton, Applegate & Toole | Hutton Bldg., Spokane, Ma. |
| Columbia Power & Investment Co. | Seattle, Wash. |
| Coyle Construction Co. | 901 Westlake N., Seattle, Gar. |
| N. A. Degerstrom | 444 Peyton Bldg., Spokane |
| Dorsey & Wilder, Inc. | 2006 State St., Bellingham, Wash., 1310 |
| Fuel Oil Service | Olympia, Wash. |
| Goodfellow Bros. | Wenatchee, Wash. |
| Grays Harbor Const. | Hoquiam, Wash., Hoq. 303 |
| Hargrave Construction Co. | W. 418, 20th Ave., Spokane |
| Hendricks & Co. | Chehalis, Wash. |
| F. R. Hewitt | 420 W. 22nd, Spokane, Riv. 7554 |
| Johnson, Homer G. | Perkins Hotel, Portland |
| Joslin & McAllister | Spokane, Wash. |
| Lee H. Johnson | 920 N. Tacoma Ave., Tacoma, Ma. 6241 |
| Lidral, Wiley | Securities Bldg., Seattle |
| Lyon & Price | 503 W. 14th, Spokane, Riv. 5319-R |
| Norris Bros. | Burlington, Wash. |
| Chas. A. Powers | S. 1703 Grand, Spokane, Riv. 3640 |
| Puget Sound Bridge & Dredging Co. | Seattle, El. 7300 |
| Puget Sound Construction Co. | Colman Bldg., Seattle, El. 7311 |
| Fred C. Redmon | 206 S. 4th Ave., Yakima, 9133 |
| Rumsey & Co. | Lumber Exchange Bldg., Seattle, Ma. 8751 |
| Standard Asphalt Co. | Chronicle Bldg., Spokane, Wash., Ma. 1689 |
| von der Hellen & Pierson | Enumclaw, Wash. |
| Winston Bros. | 4580 Colorado Ave., Seattle, Glen. 2268 |

PACIFIC

25¢
per Copy

SKILL - INTEGRITY



RESPONSIBILITY

CONSTRUCTOR

CONSOLIDATED WITH

Building and Engineering News

IN THIS ISSUE



STATE BUILDERS' EXCHANGE URGES REPEAL
OF PREVAILING WAGE LAW

OREGON STATE HIGHWAY COMMISSION
ABANDONS FORCE ACCOUNT
HAND LABOR

ARCHITECT OPPOSED TO REVISION OF
MECHANICS' LIEN LAW

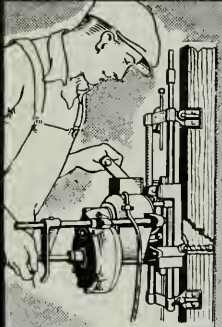
CREDIT MEN WAGE WAR AGAINST
THE RACKETEER

UNIT BID LISTINGS

CONSTRUCTION NEWS SUMMARY



WAPPAT *Electric* TOOLS



Are Built to Last Longer

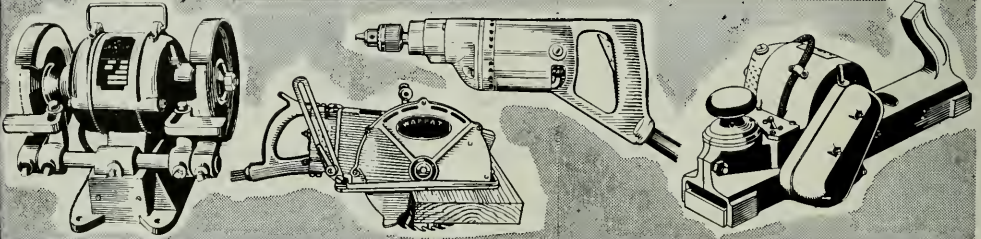
Cuts production costs . . . Speeds up the job . . . Makes for greater efficiency . . .
A size and type for every purpose.

Ask for a Demonstration

M. N. THACKABERRY

228 First Street, San Francisco
KEarny 4467

308 E. Third St., Los Angeles
TOOLS RENTED MUtual 7508



BUILDING BOOM AHEAD!!

BILLIONS OF GOVERNMENT MONEY POURED INTO CONSTRUCTION!!

Builders, Architects, Contractors . . . Financially Sound and Responsible

WANTED AS PARTNERS

in construction company owning patented STEEL SPEED FORM CONSTRUCTION SYSTEM to build FIRE-PROOF, SOUND-PROOF, EARTHQUAKE-PROOF and TERMITE-PROOF houses, dams, bridges, etc., for about the same price as frame and stucco, and eliminating costly waste of wooden form work and expensive labor. Licenses for exclusive use in certain districts considered.

AMERICAN PACIFIC COMPANY

395 NINTH STREET

SAN FRANCISCO, CALIF.

Phone TRinity 0241 for —

Rock-Sand-Gravel-Plaster

Cement-Mixed Mortar-Stucco

Lath-Lime Putty-Reinforcing Steel

**Consolidated Rock
Products Co.**

656 S. Los Angeles St.

Los Angeles, Calif.

Contractors Machinery Exchange

Rentals a Specialty

1135 · 57th Avenue

OAKLAND, CALIF.

FRuitvale 0715

PACIFIC CONSTRUCTOR

With which is Consolidated Building and Engineering News

Official Publication of the Associated General Contractors of America
for the Eleven Pacific Coast States

J. P. FARRELL, *Editor*

S. P. McCASLAND, *Assoc. Editor, Am. Soc. C. E.*

VOL. 15

SAN FRANCISCO, CALIF., OCTOBER 15, 1932

No. 19

Editorial Comment

Safety—first, last and always.

During the twenty-one years the State Industrial Accident Commission has been in existence, 13,250 workmen have been killed in mishaps while at work, according to Will J. French, director of the State Department of Industrial Relations. In addition to the fatalities, the director also states that 30,000 have been permanently disabled, while 3,600,000 more have been temporarily kept from work by injuries.

Every day in every way—business in San Francisco is getting better and better.

Recently the Board of Supervisors disposed of some \$4,554,000 worth of municipal bonds—\$2,160,000 relief bonds to finance projects to aid the unemployed; \$731,000 to erect a new county jail; \$588,000 to finance extension of the city's boulevard system and \$1,075,000 to finance erection of the Psychopathic Institute and Cancer Institute buildings. Plans for the jail are nearing completion. Plans for the latter two structures have been completed for some time.

Bids for the construction of the Golden Gate Bridge, a \$35,000,000 project, were opened on October 14.

The Reconstruction Finance Corporation has agreed to purchase \$62,000,000 of the \$75,000,000 bonds to finance construction of the San Francisco-Oakland Bay Bridge, and bids for construction will be asked early next month.

Last month San Francisco stepped into fourth place in building operations throughout the Nation. Only the valuation totals of New York City, Baltimore and Philadelphia exceeded those of San Francisco.

Truly, business is getting better and better in San Francisco.

Clean up the shop. Dust up the office. Wear a flower in your coat and a smile on your face.

We're going to throw old man Business D. Pression into the bay and put two bridges costing \$110,000,000 on top to keep him down.

Allied Truck Owners, a State-wide organization, with membership that represents all types of commercial users of the highways in the transportation of property, has gone on record through the adoption of a resolution by its board of directors, in opposition to the proposed Constitutional Amendment No. 22 that will appear on the ballot in California at the November election. This action upon the part of the truck owners is in line with a recommendation made by President Clyde Wood, of the Associated General Contractors, Northern California Chapter.

The action of the truck owners should influence several thousands of votes against the proposed amendment. The argument is being made to the members of Allied Truck Owners that the proposal would permit of the diversion of funds raised by a tax on motor transportation lines in this State from the highway fund to the general fund. It is declared that to permit such diversion would be the opening wedge and later similar measures and legislative action to accomplish the same results may be expected.

As explained by Frank H. Asbury, president of Allied Truck Owners, the people of California adopted a constitutional amendment which imposed the tax on motor transportation companies and stipulated that the funds derived should be used for highway purposes. If these taxes are permitted to be used for other purposes, the claim would go up from all parts of the State that these transportation companies do not pay any tax that is exclusive to their business for the privilege of using the highways. The fact that they paid the tax but had nothing to say about its expenditure would make no difference, as the highways would not be benefited direct.

Motor transportation companies pay enormous sums in gasoline tax every year, and this money goes into the highways. However, all other carriers and every user of the highways pays this same gasoline tax. The special transportation company tax is regarded as compensation to the State for the privilege of using the roads for the purpose of business, and is paid by no other class of carriers. If this tax still were imposed, and it would continue in effect under the proposed amendment, but the money used for the general fund, the original motive for the tax would be lost sight of and immediately there would arise the demand for some other form of tax especially for highway revenue, in the opinion of those who head Allied Truck Owners. That would be unfair to the carriers.

Limit Stakes and Levels

By THE EDITOR

The Employers' Association of Washington, D. C., is seeking an investigation of the abuse of the prevailing wage rate being paid on U. S. work at Washington. They claim that the wage rate is lower than that which the Government is paying.

Dayton, Ohio, has a questionnaire out to find how many construction jobs would go ahead in the city if finances were available. The Dayton Real Estate Board is assisting the Builders' Exchange in getting this information.

San Diego has joined the list of cities where an active check of the building code is under way to ascertain if there are requirements that are out of date or unnecessary, or which are unduly restrictive and add to the cost of building in excess of other communities. The San Diego check is being made by a committee of the local real estate board.

Yep, it does get hot in California.

W. F. Luning, county surveyor of Tehama County, advises the writer that in the construction of a bridge across the Sacramento River at the Bend, the workmen had a "hot job."

"The laboring men all wore belts," Mr. Luning writes. "They could not wear suspenders because the iron buttons on their overalls got so hot they burnt the threads and the buttons dropped off."

However, Mr. Luning points out, the bridge was completed without any serious damage—other than loss of the buttons and the burnt holes in the overalls.

A survey of building prospects made by the American Architect indicates that an upturn in building activity will begin this fall. Questionnaires were sent to 1636 architects throughout the country, resulting in the compilation of the following information: Total estimated cost of projects now in the planning stage, \$572,738,000; contemplated construction reported by architects, \$1,181,068,000; immediate building, \$299,623,000; prospective for the year ending September 1, 1933, \$890,142,000. Modernizing projects for immediate construction were estimated at \$27,950,000 and others, listed as prospective, totaled \$39,879,000. Reports received by the American Architect from California show \$128,813,000 worth of building being planned or in prospect. Of this amount \$34,077,000 was listed for immediate construction.

Production of Portland cement in 1931—125,429,071 barrels—showed a decrease of 22 per cent from 1930; of nearly 29 per cent from 1928, the highest year of production; and is the lowest recorded since 1922, according to a report of the U. S. Bureau of Mines.

Shipments of Portland cement from mills in 1931 amounted to 127,150,534 barrels, valued at \$140,976,450, a decrease of 20 per cent in quantity and of more than 38 per cent in gross value. The average factory price per barrel in bulk in 1931 was \$1.11, a decrease of 33 cents per barrel as compared with 1930.

Producers' stocks of Portland cement at the mills on

December 31, 1931—24,177,159 barrels—showed a decrease of 7 per cent from the large stocks on December 31, 1930, the only decrease recorded in stocks at the end of any year since 1922. They represented, however, the greatest stocks at the mills at the end of any year, except 1930, during which official statistical records of stocks have been kept.

Construction contracts let in the United States in 1929 amounted to seven billion dollars, according to the U. S. Bureau of Census. If certain duplications accounted for by subcontracting and the like are eliminated, the value of work done was five and eight-tenths billions of dollars. The industry, according to the bureau, employed one million men in August, the peak, and 579,000 men in January, the low point. It paid out one and seven-tenths billions of dollars in direct wages.

The average value of construction work done per man per year is put at \$5,785. The estimate, frequently cited, that \$5,000 spent in construction work for a man for a year therefore seems conservative. It is approximate if direct labor on the job only is meant, but it is obvious that the \$5,000 would provide also considerable employment in materials manufacturing.

Direct wages on the job are estimated at 30.6% of total expenditure; cost of materials, 42.9%; salaries, other expenses, profits, 26.5%.

There were in 1929, 30,597 contractors who did more than \$25,000 gross business, to a total of six billion dollars. There were 113,799 contractors who divided one billion dollars gross business.

TO FIGHT FUND DIVERSION—The Washington Highway Fund Conservation League is the new name of the Northwest Construction Association which was formed to prevent diversion of highway funds in the state of Washington. The change in names was due to the fact that the organization has no other object and embraces in its membership persons interested in good roads but not directly connected with construction or designing of roads. Chapters of the League are being formed throughout the state. The membership fee is \$2. James DeK. Brown is secretary, with headquarters in the New Washington Hotel, Seattle.

COMMERCIAL LIGHTING EQUIPMENT—A publication listing a complete line of commercial lighting equipment has recently been announced by the Westinghouse Electric & Manufacturing Company. In it are described the new Magnalux luminaries, the new dual purpose ultra violet luminaries, and the new low cost type of hanger, the Wesco. Each unit is illustrated and a description with specifications and applications are included. Prices in this catalog supercede those in Catalog 219-B dated September, 1931. Copies of the publication may be obtained from the nearest district office or direct from the Advertising Department, East Pittsburgh, Pa.

FIRST-AID CONTEST—San Francisco Chapter of the California Safety Society will hold its fall First-Aid Contest in the Gold Room of the Palace Hotel November 16. There will be a preliminary announcement before the contest, showing how the people of California have benefited throughout the first-aid work which has been sponsored by the Society over a period of years. The U. S. Bureau of Mines now has two men giving first-aid instruction in the California mines, and in several of these every employee has taken the complete course.

State Builders' Exchange Urges Repeal of Prevailing Wage Law

REPPEAL of the California "prevailing wage law"—urging the Federal Government to influence financial institutions to resume the extension of credit to the building industry—opposing the initiative measure to appear on the November ballot to abolish Trust Deeds—opposing any increase in registration fees for contractors



RALPH E. HOMANN
State Exchange President

under the state license law—urging revision of the Mechanics' Lien Law to conform with changes as proposed by the California State Chamber of Commerce and in connection with Compensation Insurance Rates urging that employees pay their proportion of medical attention expense such as is done in the neighboring states of Oregon and Washington—were among the resolutions adopted at the Sixth Annual Convention of the California State Builders' Exchange in Stockton.

Considerable discussion was given to the resolution advocating repeal of the prevailing wage law. It was pointed out by the delegates that "it is almost impossible to enforce prevailing wage scales, the tendency being much lower." Through Government departments, it was said, there is a tendency to maintain a political wage scale, much higher than the local prevailing wage scales and much higher than the wages paid in private endeavor. The resolution adopted "insists that the wages actually being paid in private endeavor be those paid in public work, maintenance and contracts."

Ralph E. Homann of Los Angeles was elected president of the state organization, succeeding H. C. Anderson of Berkeley. P. M. Sanford of Richmond was elected first vice-president; Chas. W. Pettifer of Long Beach second vice-president; L. S. Peletz of Stockton, third vice-president and H. L. Sweeney of Santa Barbara, fourth vice-president. Frederic Sanford of Santa Ana was re-elected secretary. C. M. Gilbert of Santa Ana was elected treasurer.

Directors elected are: H. C. Anderson, Berkeley; W. H. George, San Francisco; C. M. Gilbert, Santa Ana; G. A. Graham, Bakersfield; Ralph E. Homann, Los An-

geles; W. T. Loesch, Pasadena; C. E. McMullin, Fresno; L. S. Peletz, Stockton; Chas. W. Pettifer, Long Beach; P. M. Sanford, Richmond; H. W. Sweeney, Santa Barbara.

Los Angeles was selected as the next semi-annual convention city, the meeting to be held in March. The next quarterly directors' meeting was voted for Fresno. This meeting will be held in December.

Resolutions Adopted

The following resolutions were adopted by the California State Builders' Exchange at the Stockton convention:

Prevailing Wage Law

WHEREAS, there are in all California communities prevailing wage scales, and

WHEREAS, at this time it is almost impossible to even enforce these prevailing wage scales, the tendency being much lower, and

WHEREAS, there is much need of economy in all government departments for the benefit of the already heavily burdened taxpayer, and

WHEREAS, throughout government departments there is a tendency to maintain a political wage scale, much higher than the local prevailing wage scales, and much higher than the wages paid in private endeavor, and

WHEREAS, all of this has resulted in much confusion; now, therefore, be it

RESOLVED, that the California State Builders' Exchange, in its sixth annual convention assembled believe that the California prevailing wage scale law should be repealed; and be it further

RESOLVED, that the California State Builders' Exchange, in its sixth annual convention assembled, protests against the political wage scale wherever found, and insists that if not repealed that the wages actually paid in private endeavor be those paid in public work, maintenance and contracts; and be it further

RESOLVED, that a copy of these resolutions be sent to the press to his Honor, Governor James Rolph, Jr., Colonel Walter E. Garrison, Director of the Department of Public Works, and Honorable Timothy A. Reardon, State Labor Commissioner.

Trust Deeds

WHEREAS, An initiative measure is to appear on the ballot in November to abolish Trust Deeds, now, therefore, be it

RESOLVED, that the California State Builders' Exchange in annual convention duly assembled is opposed to the abolishing of Trust Deeds, and instructs its Legislative Committee to combat this initiative measure in every possible way; and be it further

RESOLVED, that a copy of these resolutions be sent to the chairman of the Legislative Committee of the California State Builders' Exchange.

Compensation Insurance Rates

WHEREAS, compensation insurance rates have advanced materially within the past few years, and

WHEREAS, this burden is largely due to carelessness of the workmen; therefore, be it

RESOLVED, that the convention recommend to the Legislative Committee of the State Builders' Exchange that they take up the insurance problem with the incoming session of the Legislature, in an endeavor to have the employees pay their proportion of the medical attention expense, such as is done in our neighboring States of Oregon and Washington.

Ban Increased Fees

WHEREAS, from the report made from the office of the Division of Professional and Vocational Standards it is noted that there is a sufficient fund income to run the Contractors' License Department efficiently; now, therefore, be it

RESOLVED, that if at the next Legislature any attempts be made to raise the fee for the registering of contractors that the Legislative Committee of the California State Builders' Exchange be instructed to vigorously oppose and defeat it; and be it further

RESOLVED, that a copy of these resolutions be sent to the chairman of the Legislative Committee of the California State Builders' Exchange.

Mechanics' Lien Law

WHEREAS, there is much discussion as to the present Mechanics' Lien Law in the State of California, and

WHEREAS, there is a division of opinion, many believing that the lien law as to material men should be abolished, and many believing that it should be amended; now, therefore, be it

RESOLVED, by the California State Builders' Exchange, in its sixth annual convention duly assembled, that it recommend that the Uniform Mechanics' Lien Law as changed to conform to the Constitution and statutes of the State of California under the auspices of the California State Chamber of Commerce be approved, and that our Legislative Committee be instructed to do everything possible to promote its passage; and be it further

RESOLVED, that a copy of these resolutions be sent to the chairman of the Legislative Committee of the California State Builders' Exchange.

Extension of Credit

WHEREAS, the distressing conditions in the building industry have continued for three years, and still continue, thus impoverishing our nation; and

WHEREAS, the building industry, the second largest in our nation, is practically at a standstill today, and the great

mass of skilled and unskilled workers engaged in the manufacture of materials and the erection of buildings are idle; and

WHEREAS, there is a tremendous sustained loss in investment and deterioration of equipment; therefore, be it

RESOLVED, that the California State Builders' Exchange, Ltd., in convention, believe that this condition can be remedied and an immediate revival of business and employment follow if the Government use its influence to have the financial institutions resume the extension of credit to our business so that the home building and general construction may proceed; be it further

RESOLVED, that a copy of this resolution be sent to the President of our nation, requesting his immediate attention to this resolution; also that copies be sent to the trade papers, magazines and the press.

Summary of Legislative Recommendations

In conclusion, your Legislative Committee respectfully recommends as follows:

1. That we seek sundry amendments to the State Contractors' License Law which experience indicates are necessary to strengthen its enforcement and afford the public protection to the full extent of the true intent of the law, details to be worked out by undersigned chairman.

2. That we consider the proposed measure relating to Trust Deeds and Mortgages on the grounds that it would impose great hardship on everyone who endeavors to re-finance an existing loan now secured by trust deed; that it would seriously reduce the amount of funds available for future construction; and that really values would be lowered if their borrowing capacity is reduced.

We further recommend, however, that we support such legislation as may be introduced at this session of the Legislature for the improvement of present laws on the subject and the prevention of abuses now permitted.

3. That we seek repeal of Prevailing Wage Laws on the grounds that as administered they are making public work cost far more than private, thereby overburdening the taxpayer, and deterring the public from authorizing further public improvements needed; that they diminish the anticipated number and distribution of working hours available for the relief of unemployment; that they prevent the average workman from obtaining employment on public work at the wage specified; and that what they are developing a political racket for the benefit of a select few at the expense of everybody else.

4. That we seek amendment of the Eight-Hour Law so as to limit only the general working day of the crew actually and directly physically producing the finished work, permitting overtime on certain days, and such other provisions wherein the inherent qualities of the materials handled make overtime economically advisable; so as not to limit the time of such employees as watchmen, supervisory or clerical help or those making repairs after hours.

Or, that failing in such reasonable and practicable amendments, we seek repeal of the entire law.

5. That we seek amendment of Anti-Alien Laws so as not to class an alien one who has declared his intention of becoming a citizen, thus avoiding discrimination against well intentioned prospective citizens lawfully in this country, or their helpless American born children.

6. That the Legislative Committee be authorized and empowered to direct activities in support of the foregoing legislation, and

7. That the Legislative Committee be authorized and empowered to direct opposition against adverse legislation of the kinds hereinbefore mentioned which may be presented at the forthcoming session of the Legislature.

Respectfully submitted,
LEGISLATIVE COMMITTEE.

15-TON, 6-WHEEL DRIVE TRUCK—Manufacture of a fifteen-ton six-wheel-drive auto truck has been commenced by the Four Wheel Drive Auto Co., Clintonville, Wisc. The vehicle, with power on all six wheels, is powered by a 125-hp. engine through a four-speed transmission with a dual range sub-transmission which gives the truck 8 speeds ahead and 2 in reverse. The truck is equipped with a cab and a steel body which measures 18 ft. long and 8 ft. wide. The overall length of the truck is 27 ft. 2 in. and it weighs 20, 945 pounds. The truck was ordered by Iraq Petroleum Co. for use in building a 1300-mile pipe line across the Syrian desert.

HIGH-POWERED ELECTRIC LAMP—The General Electric Co. announces a high-powered electric lamp of radically new design. The new lamp omits the conventional base which is secured to the bulb by cement or clamping. Instead, the new base consists of a glass cup with two metal posts sealed to it. Connection to the socket is made through the lower part of the post, which consists of a cylindrical prong with a shoulder for accurate seating. Instead of the filament and leading-in wires being supported by a glass stem structure, in the new lamp the supporting structure is made from one piece of channel nickel. The new lamps are considerably lighter in weight and shorter than the conventional type.

WESTERN PIPE AND STEEL COMPLETES 207-MILE PIPE LINE

The Southern Fuel Company, of Los Angeles, has constructed a 26-inch steel pipe line from Kettleman Hills to Long Beach, a distance of 207 miles. The purpose of this line is to provide a supply of natural gas for use by the Southern California Edison Company in its steam plant at Long Beach, and for distribution through distributing companies to Los Angeles and vicinity.

This line has a capacity of 130 million cubic feet of gas per day. Three different thicknesses of steel were used in fabricating this pipe, 5/16 of an inch at the Kettleman Hills end of the line, where the pressure was greatest, graduated down to 9/32 of an inch and finally 1/4 of an inch on the lowest pressure section of the line. The system is designed for an initial pressure of 400 pounds and a minimum pressure, at the extreme terminus, of 50 pounds.

Western Pipe & Steel Company of California, an A.G.C. member, fabricated 76 miles of the pipe used on this line at its Los Angeles plant. The pipe was formed from flat plate, the entire fabrication of the plate into pipe being done at the plant of the Western Pipe & Steel Company. The plates were crimped at the edges in the usual manner and then formed on bending rolls, after which they were transferred to automatic arc welding machines, where the 30-foot longitudinal seams were welded with the automatic metallic arc process. After this welding operation, pairs of 30-foot sections were welded together into 60-foot lengths and in this form were shipped to the field location, where they were welded into a continuous line, cleaned, painted, wrapped and repainted.

The machines used for welding the pipe were equipped with General Electric automatic arc welding heads. Several General Electric 1000-ampere arc welding generators were required, together with accessories, control panels, reactors, and resistors.

In shipping the pipe to the field location, an idle flat car had to be placed between every pair of loaded cars, because of the great length of the pipe sections.

The plant of the Western Pipe & Steel Company is equipped with sufficient welding equipment, bending rolls and other accessories, necessary in pipe line manufacture, to produce over a mile of pipe per day, so it is no longer necessary for Pacific Coast buyers to have pipe shipped to them from Eastern cities. The ability of this company to fabricate on location contributed greatly to the completion of the line from Kettleman Hills to Long Beach well ahead of schedule.

NEW DIESEL ENGINE—A diesel engine for automotive and industrial use is announced by the Cummins Oil Engine Co., Columbus, Ind. The manufacturer states that the engine weight is comparable to that of a gasoline engine of similar displacement. The new engine is made in both 6- and 4-cylinder models of 4 7/8 in. bore and 6 in. stroke. Starting is by means of an electric motor. The governor of the engine can be adjusted to give working speeds up to 1800 r. p. m.

NEW CRANE SCALE—A crane scale that automatically weighs loads while in transit has been introduced by the Kron Co., Bridgeport, Conn. The scale, which is placed in the lifting line and becomes a part of the line itself, indicates the weight of the load on a large dial. The design of the dial mechanism provides one point adjustment to simplify the adjustment. A tare beam adjustment inside the frame permits the weighman to balance off sling chains, cables, cradles or containers to give a net reading on the dial.

Oregon State Highway Commission Abandons Force Account Hand Labor

(Reprint from *The Oregonian*)

THE state highway department will abandon force account hand labor and revert to the contract plan in its new program, which calls for the expenditure of \$3,000,000 of federal funds on Oregon highways, Leslie M. Scott, chairman of the highway commission, reiterated yesterday.

Further, the work will be done at places on main highways where improvement is needed, rather than in sections where it is not at present usable.

Further, counties in which such federal aid projects will be constructed, cannot hope to confine employment on those projects to residents of such counties alone. Chairman Scott in his statement made direct answer to Clackamas county, which had asked that only Clackamas residents be given work on federal aid projects between Portland and Oregon City.

Loss to State Large

"Oregon has spent \$1,500,000 this year for hand labor relief employment by force account," said Mr. Scott. "One-half that sum would have done the same work on a competitive contract basis. But the present usable value of the work done is much less; probably not more than 10 per cent of the sum expended. Relief employment by force account, spread widely over the state on many projects, as was done last winter and spring, is deplorably wasteful of public funds; consumes careful economies made in other directions; causes work to be done where it is not needed for practicable highway purposes, or will not be used by the highway system for many years.

"The efficiency of such work ranged from 30 to 70 per cent and averaged 50 per cent or less, and most of the work was placed where not at present usable, just to satisfy local demands for home employment.

Federal Regulations Factor

"For these two reasons, construction efficiency and highway utility, the state highway commission in the new program, which will expend \$3,000,000 federal funds, is reverting to the contract plan and concentration of work at needed places on main highways."

Contractors will employ men drawn from groups of counties, Mr. Scott said. The demand of Clackamas county and the Oregon City Chamber of Commerce that only Clackamas county men be employed on state highway work in that county is "not tenable and cannot avail," he declared. The project would not be laid out on that basis, nor the work done if closed to other Oregon citizens.

Local Labor Idea Hit

"Multnomah county men will go there and elsewhere in the state because not enough highway work is to be done in Multnomah county to employ its quota of men at home, which quota is about 6 per cent of the unemployed," the commission chairman announced. "The work in Clackamas county is to be done on a state highway, paid for which national funds, and hitherto carried on chiefly with state funds, and cannot be monopolized by the residents of Clackamas county.

"It would seem quite as reasonable for Clackamas residents to seek to monopolize the water power of Willamette falls or the sunshine and summer breezes of the fair acres of Clackamas."

Hand Labor More Than Doubles Cost

In abandoning force account hand labor, Mr. Scott said, the highway department is following not only the requirements of the federal bureau of roads, but also the lessons of experience in this and other states. He cited a letter of August 16, addressed by Thomas H. MacDonald, chief of the federal bureau in Washington, D. C., to Senator McNary, in which it was stated that hand labor by force account on seven of ten federal-aid projects in Oregon "resulted in a cost more than double the amount the same work was estimated to cost," the totals being \$419,883.36 (cost) and \$206,622.90 (estimated.)

In common excavation on one project, which was partly done by force account hand labor and later finished by contract, the costs per cubic yard were 50.7 cents (hand labor), 20 cents (contract), 30 cents (estimated).

"I feel that you will agree with me," Mr. Scott quoted the letter, "that there is no reasonable economy in the use of road funds for work undertaken on this basis."

"The federal bureau of roads and Reconstruction Finance Corporation, in abandoning the charity or dole plan of relief employment in dealings with the State Highway Department, hold that that department is not a poor relief agency and will not be supplied with Federal funds as such; that the legal and proper agency of relief is the county; and that highway work paid for with Federal construction funds shall be done through contractors, who shall have full power to hire and fire," Mr. Scott continued. "In special cases, where work is approved for force account conditions, the Federal participation must be limited to estimated unit prices."

Only where hand labor will not unduly increase the cost will it be substituted for machine work, under the new policy. For excavations of 12,000 cubic yards to the mile or more machines will be used.

No Authority to Abandon Machinery

"There is no authority in the Federal highway act or the regulations of the Federal Bureau of Roads permitting the abandonment of machines," Mr. Scott pointed out. "Such a change would result in the diversion of funds to purposes not intended. It would put a premium or excess on cost and turn the excess over to charity beneficiaries and be, therefore, illegal because it would divert to another purpose money specifically appropriated for highway construction.

"Regulations issued by the Secretaries of Agriculture and Interior for administering the appropriations for the emergency construction of highways," says Mr. MacDonald, "are designed to accomplish the maximum employment of local labor by the substitution of hand methods for machinery whenever it can be done without unduly increasing the cost of the work. These regulations apply to work done by contract, so that no particular advantage would accrue by attempting to undertake a large volume of force account hand labor work for the relief of unemployment."

State Finances at Stake

"We have spent \$1,500,000 for employment of those who lean on their shovels," Mr. Scott said. "We have spent an additional \$3,500,000 on contract work. We have gone into debt for these unemployed. Should we

wreck the finances of Oregon for the purpose of 'saving humanity'?" he asked. "I say no."

During the winter and spring 3,000 men will be employed on a contract basis on 35 to 37 projects throughout the State, he explained. They will be paid a minimum of 50 cents an hour for 30 hours' work a week. . . .

"We will adopt a medium ground between hand labor and the use of machines. Machines will not be abolished," he added.

The Federal government has sent out instructions to use hand labor only where it does not materially increase the cost of construction, he explained. Where less than 12,000 cubic yards of earth to the mile is to be moved, hand labor will be used; otherwise machines are to be utilized. It costs 50 cents a cubic yard to excavate with hand labor, while a power shovel could do it for eight cents, he said.

On one job "we could have paid the men their wages while they sat aside and drank lemonade and played cards as a power shovel did the work, and still it would have cost us only 43 cents a cubic yard," Mr. Scott declared.

ARCHITECT OPPOSED TO REVISION OF CALIFORNIA MECHANICS' LIEN LAW

The accompanying article prepared by Mr. A. W. Smith, prominent Oakland architect, was prompted by the publication of two articles in *PACIFIC CONSTRUCTOR* regarding the "Law of Mechanics' Liens, Its History, Development and Analysis, including Proposed Uniform Law," prepared for publication by Leo H. Shapiro and Virgil G. Skinner, San Francisco attorneys.

PACIFIC CONSTRUCTOR would be pleased to have the views of others in the construction industry with regard to the contemplated revision of the Mechanics' Lien Law.—Editor.

By A. W. SMITH, *Architect, Oakland, Calif.*

THE proposed universal lien law which was recently published in *Pacific Constructor* was interesting to read but if enacted into law will not better any present condition and will actually be of deterrent effect because:

First: It will open the way to a swarm of law suits. No one whether plaintiff or defendant in a lien suit will know for years whether he has won or lost because there are myriads of points which will require decisions from the highest tribunals, and rehearings on these decisions, etc., etc., all before he is sure he is licked or has defeated the other fellow, in the meantime the rest of us will flounder in ignorance, and will pile up cases, which may eventually be decided to have had some t's not crossed and some i's not dotted, and therefore we are counted out.

Second: It will submerge our already over-loaded higher courts, with numberless cases founded on a new and untried law and new and untried methods of procedure. These courts are a great expense on the taxpayers and in these days, no act should be taken that will increase court actions and/or possibly require more courts, more judges and more expense.

Our present lien law may not be what many of us would like to have but it is the law, it has been litigated to such an extent that it is most clearly defined and we need not go wrong in prosecuting or defending a lien. We are somewhat in the position of a small shopkeeper here, whose wife is quick tempered, a little disorderly and not very handsome to look at, but her husband says, "She is not just the kind of wife I would prefer to have, but I have her and she is better than none at all so I guess it would be better to stay with her." Therefore let us stay with our present law—we have it now—it is better than none, and we might do worse if we change.

Suppose, however, we consider some small changes in that present law. The law now grants to every one sup-

plying labor and/or material the right of lien. The only protection the owner is granted is the provision about a "satisfactory" bond, etc., which means that the owner by paying one-half of his contract price to a surety company can get a bond. If, however, there has been any little irregularity in his contract, or land description, or time of making payments, then this bonding concern doesn't pay and Mr. Owner is stuck. As a matter of fact the bond companies rarely pay, what they do is litigate—they try and find loop holes through which to crawl. Their delight is to find some notice provided in their bond, that the owner, in his inexperience fails to serve on them or serve on them at some specific place or time. I have seen them in court endeavor to have a non-suit granted in their favor, not because such a notice was not filed, or not filed with the proper official and at the proper time, but because it was not sent to this official by registered mail. The bond company's attorneys did not deny the notice had been received and in fact had it before them in court in their own possession, but they argued that the owner had not proved that the notice had been registered: result, court was adjourned until the postmaster and his voluminous record of registered mail was produced in court, showing this particular letter on this particular date had been registered.

Then let us first repeal that portion of law altogether which applies to a bond. Then let us add a clause to the law which will require any material man or sub-contractor (no day laborer) who is about to furnish material or perform a sub-contract, to file a notice with the County Clerk, at least forty-eight hours prior to such furnishing or performing, said notice to contain description of real estate, names of owner and contractor and an itemized statement of material and of labor to be furnished, the price of the same and the agreed time of payment thereof. If the owner within 48 hours after the filing of such a notice, should file a notice wherein the person filing the intention notice are notified by the owner that he (the owner) will not be responsible for the payment for the work and/or material then the material dealer or sub-contractor shall, should he furnish such material and/or labor, have a claim against the contractor only, and not against the property. Any additional labor and/or material subsequently to be furnished, to be subsequently notifiable.

These are the only changes needed in the present law.

The material man and sub-contractor are simply required to notify the owner in advance, by filing of notice that certain material is to be furnished and that if not paid at the times agreed upon, then they will file liens.

If the owner notifies them by filing his non-responsibility notice, then the material man, will either depend on the contractor or will refuse to furnish the material. The contractor without any financial standing will simply have to go out of business. If material dealers, etc., sell to some shaky and irresponsible contractor, they deserve to lose and under this method will lose as their only chance is against the contractor. The contractor with a good credit rating will not be handicapped. He won't meet the competition of the irresponsible competitor; his material dealers will supply him on the strength of his credit rating.

The owner will benefit in this way. He will know in advance just what liens are to be filed and what for. He can obviate them by filing his notice of non-responsibility, or if he does allow the material, etc., to come on the job and does not notify against it, then he at least knows in advance all about it. All this is written in a somewhat rambling way, and not in terms such as would be used in language of a statute, and is offered as a suggestion to improve the conditions existing under our present lien laws.

CO-OPERATIVE CONSTRUCTION CREDIT

CONSTRUCTION INDUSTRIES' CREDIT BUREAU

(A non-profit, membership owned and operated association affiliated with the National Association of Credit Men)

F. H. Eichler, Chairman

333 MONTGOMERY STREET, SAN FRANCISCO

A. J. McGarry, Mgr.

CREDIT MEN WAGE WAR AGAINST THE RACKETEER

By C. W. HUGHES, *Supervisor of Investigators, Fraud Prevention Department Western Division—National Association of Credit Men.*

THE Construction Industries Credit Bureau as part and parcel of the National Association of Credit Men contributes to and benefits from the numerous ramifications of that large nationwide, membership owned, credit organization.

While members of the bureau are primarily concerned with problems directly affecting the building trades, the success or failure of their business is based fundamentally on the success or failure of industry as a whole.

Modern trade is constructed on a foundation of credit, or confidence in your fellow men. Destroy this trust and the structure of industry collapses as though the foundation were laid on shifting sands.

The National Association of Credit Men since its organization in 1896 has recognized the menace to honest business of the dishonest debtor. The easy money to be obtained by the commercial crook attracts the racketeers and confidence men with the result that losses to business from such crimes have become higher and higher. Members of the National Association of Credit Men became seriously alarmed at the situation and finally in 1925 raised a fund sufficiently large to employ a corps of experienced investigators to wage war on commercial crime.

A force of investigators was employed. Many of these men were secured from the Bureau of Investigation of the Department of Justice and Postal Inspectors Department. This came into being the Fraud Prevention Department of the National Association of Credit Men.

When the work began in 1925, we found organized rackets in the larger centers along the Atlantic seaboard and the central west. In the Carolinas and Georgia operated a gang of Syrians whose specialty was the obtaining of merchandise from unsuspecting creditors by use of the names of well rated concerns but listing a different street address. As a rule, the address furnished was a vacant store room. As the merchandise was received, it was taken out the back door and sold. This racket was also a success in Philadelphia, New York, and other large eastern cities. The United States mail of a necessity had to be used in the furtherance of the scheme, so with the cooperation of the Postal Inspectors, Investigators of the Fraud Prevention Department have succeeded in breaking up most of the larger rings engaged in this racket and have obtained many convictions of the members thereof.

We also found well organized "rackets" who exclusively staged fraudulent bankruptcies. The usual methods followed in this racket were two-fold as follows: (1) To approach a merchant already established in business and whose financial condition was precarious and which knowledge in some manner had become known to the gang. The merchant was persuaded to make use of his credit to the limit and place over the country large orders of merchandise. The creditors not suspecting anything would as a rule fill the orders. The gang through its channels would dispose of the merchandise for any

price obtainable. They had to work fast for the racket was only good for two or three months at the most. At the end of that time the creditors not receiving any payments on their bills, would begin pressing for their money. Failing to get it they would institute bankruptcy proceedings or the merchant, anticipating this action by his creditors would file a voluntary petition, turning over to his creditors the wreckage of his business and when asked to explain what had become of the merchandise so generously purchased, he in many cases would calmly inform his trusting creditors that obligations of a member of his firm or relatives had been paid out of the proceeds of the sale of the merchandise, also he might offer as an excuse that the money was lost by gambling or in riotous living. The bankrupt would then petition his discharge in bankruptcy usually be granted it and then be free to repeat the performance all over again. His depredations on business of this country exact a toll estimated at nearly one-half billion of dollars annually. While such a volume of waste is extremely serious, it is not the entire story, for the merchandise obtained from the creditors without payment is sold for but a fraction of its cost, thereby undermining the responsible merchant through unbeatable competition. Another method used by these racketeers was to finance a member of the gang in a new business. This man was usually of a prepossessing personality. For a period, bills were paid promptly when due or even discounted. A substantial sum of money would be placed in the bank to the credit of the merchant, and this fact well advertised by him to his creditors. Thus a sound line of credit was established. When this was accomplished, the invariable flood of orders came, disappearance of the merchandise, and also that of the prepossessing merchant. The creditors were left holding the well known "bag."

Investigators of the Fraud Prevention Department, working in the closest cooperation with agents of the United States Bureau of Investigation, Department of Justice, have successfully brought to prosecution this type of racket wherever it has appeared and made it decidedly unprofitable to the racketeers.

Finally there remained for us to ferret out and prosecute the large number of individual merchants who fraudulently conceal their assets. This has been our hardest task but we have had a marked degree of success.

Another feature resulting from Fraud Prevention Department activities, and which is only incidental to our main purpose, is that during the past seven years concealed assets to the value of approximately \$2,000,000 have been recovered and returned to estates for the benefit of the creditors thereof.

How has it been possible for the dishonest bankrupt to defraud his creditors with considerable success for such a long period of time? In answering this question, I have several explanations in mind. In the first place, creditors are located in various parts of the country and it is virtually impossible for them to unite in any plan of prosecution of the fraudulent debtor. Also the cost to creditors of employing competent investigators in any one case is fairly prohibitive. It is because of these facts that creditors in the great majority of cases in which fraud was apparent permitted it to go uninvestigated and unpunished.

Since the creation of the Fraud Prevention Department

of the National Association of Credit Men, members of that association have had at their command an agency competent to investigate a case in any section of the country and at a minimum cost. Fraud cases in which members of the National Association of Credit Men have been interested creditors have notably decreased during the years the Fraud Prevention Department has functioned.

The Bankruptcy Act contains many provisions designed to aid creditors in obtaining from a bankrupt complete information as to his affairs. The Act compels a bankrupt to appear in court and under oath answer all questions put to him by his creditors having to do with his affairs. Any creditor is privileged to appear in person or by his attorney and question the bankrupt fully. The Act requires a bankrupt to file under oath a complete schedule of all his assets and all his liabilities. How is it then that a dishonest bankrupt, a layman, can encounter the technicalities of the Bankruptcy Act and go through the ordeal of a rigid examination at the hands of the creditors and their attorneys and emerge from it all with concealed assets still in his possession? My answer to this is that unfortunately there have been dishonest persons practicing law who aided the fraudulent bankrupt by giving him expert legal advice as to how he could avoid the pitfalls of a court examination into his affairs. Last year an attorney of Oakland and his client were convicted in the federal court at San Francisco of concealing assets from a trustee in bankruptcy, also of conspiracy to conceal assets. The client had a parcel of real estate which he desired to retain from his creditors. With the aid of his attorney, a spurious deed was made purporting to convey the property to another. An attempt was made to record the deed. It so happened that the deputy in the County Recorder's office to whom the deed was handed for recordation was familiar with the signature of the notary public whose name appeared on the deed as having taken the acknowledgment. The deputy was convinced that it was not the notary's signature. This led to an investigation in which a representative of the Fraud Prevention Department participated. It was found that the entire deed was false. The Federal Grand Jury indicted the attorney and his client and following their conviction the court imposed severe sentence on both defendants.

Another case recently tried in the federal courts of this city involved a well known attorney and a merchant who had been in business in this city for about sixteen years. In this case it was proven to the satisfaction of the jury that the bankrupt had concealed money belonging to the estate in bankruptcy and the attorney had actively aided him in doing so. The jury found both the attorney and his client guilty of the offense as charged in the indictment.

These two cases would illustrate that creditors of fraudulent bankruptcies not only have to combat successfully the ingenuity of the bankrupt himself to conceal assets but in some cases are met with entanglements thrown around the concealed assets by an attorney trained in the legal requirements of the Bankruptcy Act and all its technicalities. Is it then to be a matter of surprise that creditors in so many cases despairing of accomplishing anything shrug their shoulders and charge off the debt to profit and loss?

The Fraud Prevention Department of the National Association of Credit Men has done much for its members in solving many involved and difficult fraud cases. The fact that such a department is maintained by the National Association of Credit Men and that its personnel consists of experienced fraud investigators is now generally known in the larger communities throughout the United States. As a result, there has been a marked decrease of com-

mercial fraud. There is still much work to be done but at least it can be safely said that fraudulent bankruptcies as a "racket" have been stopped to a very large degree, and credit for this accomplishment is to be given to the splendid cooperation and work of the governmental agencies charged with the detection and prosecution of the violations of the Bankruptcy Act and the Fraud Prevention Department of the National Association of Credit Men.

ROAD BUILDING MACHINERY PRODUCTION FOR YEAR 1931

Production of dredging, excavating and road building machinery in the U. S. in 1931 totaled \$47,508,766, according to a statement just issued by the Bureau of the Census, based on data collected at the biennial census of manufactures taken in 1932. Shipments and deliveries of the same kind of machinery in 1929 aggregated \$91,438,554, according to the report. The figures, which are subject to revision, are given below:

Dredging, excavation and road building machinery—production, by kind and value: 1931 and 1929:

(The figures for 1931 represent production; those for 1929 refer to sales (shipments or deliveries) by manufacturers.)

| KIND | Value | |
|---------------------------------|--------------|--------------|
| | 1931 | 1929 |
| Aggregate value | \$47,508,766 | \$91,438,554 |
| Dredging mchy., total value.... | 3,430,247 | 3,641,599 |
| Hydraulic | 977,561 | 1,358,349 |
| Other dredging mchy. | 2,452,686 | 2,283,250 |
| Excav. mchy., total value..... | 22,764,771 | 57,103,248 |
| Power shovels | 15,526,506 | 43,348,094 |
| Drag lines, power scrap..... | 4,224,754 | 7,242,371 |
| Trench excavators | 518,210 | 2,427,017 |
| Other excavating mchy..... | 2,495,301 | 4,085,766 |
| Road bldg. mchy., total value | 21,313,748 | 30,693,707 |
| Road graders | 9,306,787 | 15,754,483 |
| Road rollers | 2,559,023 | 3,892,100 |
| Stone crushers | 2,128,580 | 3,241,162 |
| Other road bldg. mchy..... | 7,319,358 | 7,805,962 |

IN NEW QUARTERS—F. T. Andrews Co., certified public accountants and associate members of Northern California Chapter, A.G.C., announce the removal of their offices from 1650 Russ Building to 1922 Russ Building, San Francisco; phone SUtter 0832.

SAFETY AWARDS ANNOUNCED—Winners in the National Safety Competition for 1931 among mines and quarries have been announced by the U. S. Bureau of Mines. The outstanding feature was the success of the Phelps-Dodge Coporation, Stag Canon Branch, in operating its bituminous coal mine at Dawson, New Mexico, without a lost-time accident throughout the year.

This is the first time since the contest was originated seven years ago that a bituminous coal mine has operated without a lost-time accident during the 12-month contest, and it is the first time that the bronze trophy known as the "Sentinels of Safety," has come west of the Mississippi river.



Super Concrete Emulsions

Limited

—for Better Concrete

46th Ave. and
Clement St.
Oakland, Calif.

3710 S. ALAMEDA ST., Los Angeles

District Offices

308 Stock Ex. Bldg.,
Portland, Ore.

216 Walker Bldg.,
Seattle, Wash.

**IMPARTIAL WAGE BOARD NAMED
TO CONSIDER NEW WAGE SCALES**

Personnel of the Sixth Impartial Wage Board to review conditions in the building trades in San Francisco and to recommend wage scales for 1933 is announced by the Industrial Association of San Francisco.

The membership of the new Wage Board will be:

George W. Kelham, architect, and President of the Industrial Association.

William S. Dinwiddie, general contractor.

Walter H. Sullivan, long identified with various important building and real estate projects in San Francisco.

In connection with the announcement concerning the latest of the series of wage boards which have established wages and working conditions for the building industry in San Francisco since 1921, Managing Director Albert E. Boynton, of the Industrial Association, said:

"In keeping with the traditional policy of the Industrial Association to set up an Impartial Wage Board to review the building trades' wage situation and to recommend a wage scale, the Industrial Association is carrying out the pledges which it made at the time of its organization in 1921. These pledges stated that in the interest of the building industry, including contractors, workers and the public, the wage scale situation would, from time to time, be considered and recommendations made affecting prospective building operations. It is in keeping with this original pledge that the present board has been selected.

"The Wage Board which will render an award effective January 1, 1933, will consider these scales in the light of present conditions. The scales so established will remain in effect for not less than six months and continue thereafter for so long as conditions remain unchanged.

"Should there be a radical change in economic conditions which would warrant reconsideration of the scale so established, the board will be reconvened to establish a new scale, either higher or lower, effective on ninety days' notice.

"In order to make possible the active competition, particularly with other Pacific Coast centers, of local housed industries engaged in manufacturing products to be incorporated in the finished building, the Wage Board this year will not establish wages for men employed in shops, but will only establish wages and working conditions for men actually employed in the job site."

BITUMINOUS MATERIALS DISTRIBUTOR—

A newly developed line of Austin Bituminous Distributors has just been announced by the Austin Western Road Machinery Co., Chicago, Ill. The units are built in capacities of 600, 800, 1000, 1200 and 1500 gallons to handle all grades of oil, tar and asphalt. They can be mounted on any standard truck chassis.

The tank is elliptical in shape to provide a low center of gravity, and provides an expansion zone. All seams are electrically welded and tested under pressure for water tightness. Provision for heating includes two double U-tube flues with burners that operate on kerosene or light furnace oil. Fuel storage and air pressure tanks have sufficient capacity for a day's run.

The pump is of the internal-gear type, driven by a four-cylinder motor, and has a capacity of 350 gallons per minute. The motor is placed at the front of the distributor to eliminate fire hazard. Spray bars, or manifolds of welded sheet metal construction, are tapered toward the ends to correspond with the reduction in volume of flow.

**METROPOLITAN WATER DISTRICT
ADOPTS PREVAILING WAGE SCALE**

A prevailing wage scale for use in connection with the construction of the Colorado River aqueduct has been adopted by the board of directors of the Metropolitan Water District.

At the same meeting the directors authorized the issuance of the first \$2,016,000 block of bonds of the district as a preliminary to advertising for the purchase of these bonds.

In authorizing the sale the directors provided that no repayments on the principal are to be made for fifteen years. Thereafter, the bonds are to be paid off in equal installments over a period of thirty-five years, with ultimate maturity set in 1982. The funds provided by this first sale which finance the project during the first 60 to 90 days. The Reconstruction Finance Corporation, which has agreed to purchase \$40,000,000 of the \$225,000,000 issue, will submit a bid on this first block when advertised.

The prevailing wage scale to apply on construction in connection with the project follows:

| <i>Classification</i> | <i>Per diem wage</i> |
|--|----------------------|
| Blacksmith | \$6.00 |
| Carpenter | 6.00 |
| Carpenter, form work | 5.60 |
| Compressorman | 5.00 |
| Concrete equipment operator | 5.20 |
| Concrete finisher | 5.60 |
| Dragline or shovel operator..... | 9.00 |
| Dragline or shovel assistant..... | 5.20 |
| Driller, jack hammer man | 5.00 |
| Electrician, lineman | 7.20 |
| Fence erector, steel | 5.60 |
| Graderman, road mach. operator | 5.60 |
| Hoistman, derrickman, crane operator | 6.00 |
| Laborer | 3.80 |
| Lather | 6.00 |
| Mason | 7.20 |
| Mechanic, repairman, pipeman | 6.00 |
| Miner, Machineman | 5.60 |
| Miner, chuck tender | 5.20 |
| Motorman | 5.20 |
| Mucking machine operator | 8.00 |
| Painter | 6.00 |
| Plasterer | 7.20 |
| Plumber | 7.20 |
| Powderman | 6.00 |
| Roofer | 6.00 |
| Sheet metal worker | 7.20 |
| Steam fitter | 7.20 |
| Steel worker, reinforcing steel | 5.20 |
| Tile setter | 7.20 |
| Timber framer | 5.60 |
| Tractor driver | 5.00 |
| Trench machine operator | 6.00 |
| Truck driver | 5.00 |
| Welder | 7.20 |
| Well driller | 7.20 |
| Any classification omitted herein, not less than | 3.20 |

The above scale is based on an 8-hour day with no extra pay for Sunday or holidays.

NEW PHONE NUMBER—Telephone number of the Autocar Sales and Service Company, 326 Howard Street, San Francisco, associated members of Northern California Chapter, A.G.C., has been changed from SUTTER 1730 to UNDERHILL 4545.

MOTOR TANK TRUCK OPERATORS PROTEST ACTION OF STEAM R. R. IN PETROLEUM PRODUCTS RATE CUT

A California industry with annual disbursements in excess of its \$2,500,000 investment in equipment has gone to the State Railroad Commission with a complaint that the steam railroads, by offering rates on gasoline and other refined petroleum products below the cost of service, seek to destroy it.

The complainant is the Tank Truck Operators' Association, of which Howard Lang, of Los Angeles, is president. It has invested \$2,500,000 in tank trucks, trailers and other facilities for transporting refined petroleum products. It has an annual payroll for 400 men of more than \$1,000,000. Many of the trucks and virtually all of the trailers are manufactured in California, and all the tanks mounted on trucks and trailers are California made. Heavy pneumatic tires used on this equipment are the product of Southern California factories, and the purchase of tires by members of the association for tank truck operation exceeds \$300,000 per annum. For the operation of its trucks, the association membership buys yearly \$750,000 worth of gasoline, oil and refined petroleum products from California refineries; aggregate expenditures during every twelve months for various accessories are \$250,000; insurance premiums paid California local agents total \$100,000 a year.

These figures have been laid before the commission by the association, which contends that radical and unnecessary reduction in freight rates proposed by the railroads will destroy the association's ability to employ large working forces and make heavy purchases and, in turn, bring decreased employment to those engaged in manufacturing and distributing the commodities in operation of tank truck service, to say nothing of the heavy investments. Although nominally the tank truckers are not subject to the jurisdiction of the State Railroad Commission, the regulating body, sensing that they are lawfully engaged, have taken cognizance of their allegation that the railroads, in warring on truck competition, are frittering away revenue already depressed by the current economic situation. The rate reductions proposed have been suspended by the commission until November 20—they were to have gone into effect September 20—and a hearing has been fixed for October 25.

The tank truck association some years ago entered competition with the railroads for haulage of gasoline and refined petroleum products and extended its service to many communities not reached by rail. The railroads at the time had a monopoly of the business, but with the entrance of the motor truck competitors rates came down. Last year, allegedly to regain the monopoly, the railroads made drastic cuts in their own rates; and then in August of this year they proposed further reductions, which tank truckers maintain are actually below cost of service and would not only throw a burden on other traffic, but would destroy the competitive factor and permit the rail carriers again to monopolize the traffic. And it is further charged that if the railroads can put the tank truckers out of business with rate slashes now the rates will go up again once the tank truckers are eliminated from the field.

In this connection the association raises an important question, as yet unanswered. It tells the commission, in a petition supplemental to the general complaint, that the commission is vitally interested in the conservation of railroad revenue at this time. And asks:

"With railroad revenue so low that the managements generally are discussing further wage reductions for their employees, are the California rail lines squandering earn-

ings not to meet but to destroy truck competition?"

The tank truckers further maintain that the reductions proposed are thoroughly inconsistent with arguments made by the rail lines in their application to the Interstate Commerce Commission last year for a 15 per cent increase in freight rates. They further allege that the rail lines would take in more revenue with one-half of the business at the prevailing rates than they would garner with all the business at the reduced rates. The complaint is directed specially against the Southern Pacific, Western Pacific, Los Angeles and Salt Lake, Santa Fe and Sacramento Northern Railways.

LEAGUE OF MUNICIPALITIES AIMS TO SHARE GASOLINE TAX

The League of California Municipalities, in thirty-fourth annual convention at San Diego, launched a 3-point program for legislation which would give to cities one-third of the money collected annually through the 3-cent state gasoline tax.

Commissioner Jean Vincez of Fresno, chairman of the league's state gasoline tax committee, was the keynote speaker at the second general session, which was given over entirely to discussion of the gasoline tax.

The program as outlined by Vincez was as follows:

- 1—Continuous state highways throughout the state, to be constructed and maintained by the state highway department.
- 2—One-third of the gasoline tax moneys to be apportioned among cities either on registration of automobiles or through some other equitable method.
- 3—Nothing should be done to limit the powers already given the counties to meet the needs of the cities.

MULTIBLADE GRADER—A multiple blade attachment which will cover a swath as wide as that obtained by the use of a standard 12-foot leveling blade to be installed on auto patrols has been introduced by the Caterpillar Tractor Co., Peoria, Ill. The attachment consists of 9 short cutting blades, 8 inches high, ½ inch thick and 27 inches long, mounted on a frame at right angles to a leveling blade, 12 feet long. When in operating position the attachment is angled slightly to the right or left. It is given just enough angle to make the path of each blade meet the path of the succeeding one. The long rear blade is adjustable and is placed at a level that is high enough to trowel the surface material back in place over the entire swath. The manufacturer states that the new machine can be operated at a speed of 6½ or even 10 inches per hour without chatter. It can be attached in the field to a Caterpillar auto patrol by cutting out two rivets and replacing with bolts.

Pacific Clay Products

General Offices: 650 Chamber of Commerce Bldg.,
1151 SOUTH BROADWAY
Los Angeles, Calif.

SMITH BROS. TRUCK CO.

"TRANSPORTATION SPECIALISTS"

Portable Crane Service—Rigging

1704 E. 16th St. Los Angeles WEstmore 3271

NORTHERN CALIFORNIA CHAPTER ANNOUNCES FOUR NEW MEMBERS

A general contractor, another specializing in harbor development, a third operating probably the largest business on the Pacific Coast in the design, fabrication and erection of steel products, and a fourth engaged in the manufacture of wire and wire rope, insulated wire and cable, wire cloth and netting, have been admitted to membership in Northern California Chapter, Associated General Contractors.

Earl W. Heple, 494 Delmas Avenue, San Jose, is a general contractor, and has been operating extensively in central and northern California in the construction of buildings, highways and public works projects of all types.

Franks Contracting Company, with headquarters at 260 California Street, composed of Fred C. Franks and Von L. Edwards, president and vice-president, respectively, was organized twenty-five years ago for the reclamation of land along the Sacramento River. In 1922 the company branched out to engage in harbor development, and now specializes in general dredging, including suction and clam shell work. It recently completed a large contract in connection with the Stockton Deep Water Project, being financed by the City of Stockton and the Federal government.

Western Pipe and Steel Co. of California, with general offices at 444 Market Street, San Francisco, and 5717 Santa Fe Avenue, Los Angeles, and branch offices at Fresno, Bakersfield and Taft, Calif., and Phoenix, Ariz., and factories in South San Francisco, Los Angeles, Fresno and Taft, Calif., and Phoenix, Ariz.

This firm designs, fabricates and erects all types of steel products, namely, oil storage tanks, bolted tanks, galvanized tanks, special tanks, gas holders, oil accessories, general plate work, pressed steel products, riveted, lock-bar, welded and slip-joint steel pipe, penstocks and syphons, water well casing, metal culvert pipe and special galvanized products.

H. G. Tallerday is president of the company; L. N. Slater, vice-president, and W. G. Aldenhagen, secretary-treasurer. The Western Pipe and Steel Company of California was organized in San Francisco in 1911.

The Blaw-Knox and Western Pipe Corporation was recently formed as a subsidiary to handle sales of Blaw-Knox products on the Pacific Coast and Hawaii. Among the products marketed by this latter organization are: steel forms for concrete construction of conduits, sewers, walls, bridges, tunnels, subways, etc.; steel mill buildings and manufacturing plants; steel transmission towers, poles and radio towers; standard steel buildings, garages, handy houses, roof decking; clamshell and dragline buckets; road building equipment, Ord road finishers, steel forms, batchers, batcherplants, bins, turntables, etc., central mixing plants; bulk cement plants; earth moving and grading machines, wagon graders, Ateco dirt movers, bulldozers, scarifiers, tampers; Trukmixers, agitator truck bodies; steel plate construction; welded process equipment, forge and hammer welding, ductilwelding, electric welding, acetylene welding, alloy welding; Tracyfiers (steam purifiers); lime plant equipment, complete plants, kilns, hydrators, dust control, etc.

John A. Roebling's Sons Company of California, manufacturers of wire and wire rope, insulated wire and cables, wire cloth and netting, with headquarters at 624-646 Folsom Street, San Francisco. This company was founded by John A. Roebling at Saxonburg, Penn., in 1840. Factories now located at Trenton and Roebling,

New Jersey, employing approximately 6,000 employees. Some of the outstanding accomplishments of the company were the manufacture and erection of wire and cables for the following outstanding suspension bridges: Brooklyn Bridge, completed 1883; Williamsport Bridge, completed 1903; Manhattan Bridge, completed 1910; Bear Mountain Bridge, completed 1924; Mid-Hudson Bridge, completed 1930; George Washington Memorial, completed 1931; St. Johns Bridge, Portland, Oregon, completed June, 1931.

The company has branch stores and warehouses on the Pacific Coast in San Francisco, Los Angeles, Portland, Ore., and Seattle, Wash. The business on the West Coast was established in San Francisco in 1881. In California the company has investments of over one and one-half million dollars with approximately 100 taxpaying employees.

In addition to the design and erection of suspension bridges, the concern also designs and erects cableways and tramways. Following are the general classification of the company's products: Wire rope, wire rope fittings, welding wire, bare and insulated copper wire for all purposes, wire screen and wire netting. The company specializes particularly in wire rope designed to meet the conditions and requirements of the general contractors.

F. W. Hammond is the president of the California Corporation, with headquarters in San Francisco, and E. C. Low is sales agent for the San Francisco Branch, which takes in California from Bakersfield north and the State of Nevada.

POWER PROPOSAL REJECTED—A proposal to place a \$15,000,000 bond issue on the forthcoming ballot to provide for a municipal power system was defeated by the city commission of Portland, Oregon. Three commissioners voted against the proposal on the grounds that it was an "eleventh hour" proposition, and also because it contained no definite program for which the money was to have been spent.

NEW TRACK WAGON LINE—A complete line of track wagons, including bottom-dump, end-dump, log, pipe and industrial track wagons, has been added by the Allis-Chalmers Tractor Division, Milwaukee, for distribution through the company's track-type tractor dealers. Four models of bottom-dump wagons are being built in 5½, 6, 7 and 8-cu. yd. capacity. An 8-cu. yd. gravity rear-end dump wagon is included. A 15-ton log, pipe or industrial track wagon is available with or without front carrier.

HIGH SPEED DRAGLINE—A new 2-cu. yd. high-speed, high-power dragline has been announced by the Harnischfeger Corp., Milwaukee, Wis. The new machine, known as model 780, has a hoist line speed of 180 ft. per minute, dragline speed of 150 ft. per minute, and a rotating speed of 3 r. p. m. The manufacturer states that the new machine has a high degree of mobility. The track mechanism is gear driven and is fully inclosed. In high gear the machine has a speed of 0.89 miles per hour.

FOR SALE...

110 Horsepower Diesel Engine
at a Bargain

United Commercial Co., Inc.

234 Steuart Street

San Francisco

UNIT BID SUMMARY

Compiled from the Daily News Service of Pacific Constructor

BIDS OPENED BY GOLDEN GATE BRIDGE AND HIGHWAY DISTRICT TO CONSTRUCT GOLDEN GATE BRIDGE—LOCAL CONTRACTORS LOW ON ALL CONTRACTS EXCEPT MAIN PIERS, FOR WHICH PORTLAND FIRM IS LOW

SAN FRANCISCO.—Low bids for the construction of the Golden Gate Bridge opened October 14 by the Golden Gate Bridge and Highway District, Financial Center Bldg., follow:

Contract 1-B—Cable, Suspenders and Accessories: John A. Roebling Sons Co., 646 Folsom Street, San Francisco, \$5,855,000.

Contract 2—Main Piers: Pacific Bridge Co., Water and E Salmon Sts., Portland, Ore., \$2,935,000.

Contract 3—Anchorages: Bridge Builders, Inc., 155 Sansome St., San Francisco, \$1,859,854.

Contract 4—San Francisco and Marin Approach Spans: Bridge Builders, Inc., San Francisco, \$934,800.

Contract 5—Presidio Road: Bridge Builders, Inc., San Francisco, \$996,900 and \$1,011,000.

Contract 6—Sausalito Road: Chigris and Sutcos, 2211 18th St., San Francisco, \$59,750.

Contract 7—Paving of Main Approach Spans: Clinton Construction Company of California, 923 Folsom Street, San Francisco, \$555,000.

Contract 8—Electrical Work: A I T Electric and Mechanical Co., Inc., 938 Howard St., San Francisco, \$169,320.

***Bridge Builders, Inc.**, is an organization composed of the Raymond Concrete Pile Co. and Bechtel-Kaiser and Warren & Co., with headquarters at 155 Sansome St., San Francisco.

Contract for steel superstructure has already been awarded to the McClintic-Marshall Co., 2050 Bryant Street, San Francisco, on a bid of \$10,494,000. This work was provided for under Contract No. 1-A.

Plans call for a bridge whose total length from bridge head to bridge head is 6,400 feet but from portal to portal 8,943 feet. The location of the course of the bridge runs slightly northwest from Fort Point on the San Francisco shore to Lime Point on the Marin County shore.

The total distance shore to shore, i. e., the width across the Golden Gate along the center line of the bridge is 5,357 feet. The distance from the Marin shore to north pier is 52 feet and from the San Francisco shore to the south pier is 1,105 feet. The main span distance center to center of piers is 4,200 feet, the longest ever undertaken. The maximum depth of the water through the Golden Gate is 378 feet at the center of the channel.

The clearance height is 210 feet at the piers, increasing to 220 feet at the center measured from the mean high water and under maximum deflection. The elevation of the bridge floor at the piers is 242 feet 11 inches above mean higher high water.

Two steel towers carrying the cables will be 700 feet high measured from the tops of the pier and 809 feet 7 inches from the bed of the Bay on the San Francisco side.

There will be two cables for the bridge resting on cast steel saddles at the tops of the towers and anchored on shore. Each cable will be 7,700 feet long and 36½ inch in diameter and will contain approximately 27,500 steel wires of 0.196 inch in diameter laid parallel to each other and strung

from anchor to anchor in one continuous operation then wrapped with galvanized steel wire and compacted by means of a special device for that purpose. From center to center between the two cables is 90 feet. A 60-foot roadway for six lanes of traffic and two 10-foot walks are provided.

The capacity of the bridge with six lanes for traffic amounts to 259,200 automobiles for a 24 hour day.

COMPLETE BID LISTING—UNIT AND TOTAL BIDS

Contract 1-B—Cable, Suspenders and Accessories

(A) John A. Roebling Sons Co., San Francisco, \$5,855,000.

(B) Columbia Steel Co., San Francisco \$5,885,000.

For cables, suspenders and accessories, lump sum;

Any additions to or deductions from the quantities as shown:

(1) cable wire, price per lb., (A) \$1.11 (B) \$1.10.

(2) suspender and stay ropes, per ft., (A) \$1.80; (B) \$1.50.

(3) hand ropes, price per ft., (A) \$4.0; (B) \$3.55½.

(4) cast steel, price per lb., (A) \$135; (B) \$12.

(5) forged steel, price per lb., (A) \$23 (B) \$25.

Contract 2—Main Piers

(A) Pacific Bridge Co., Portland, Ore., \$2,935,000.

(B) Silas Mason, New York City, \$3,145,000.

(C) Bridge Builders, Inc., San Francisco, \$3,275,000.

(D) Seims-Helmers Co., San Francisco \$3,298,000.

(E) Healy-Tibbitts Const. Co., S. F., \$3,450,000.

(F) George Pollock, Sacramento, \$3,683,592.

Involving:

(1) Fence complete in place, 10,600 cu. yds., concrete above elevation 28,500 cu. yds., concrete below excavation.

(2) San Francisco pier complete in place involving 23,000 cu. yds. excavation, 60,600 cu. yds. concrete;

(3) Marin Pier complete in place involving 13,000 cu. yds. excavation, 23,000 cu. yds. concrete.

Lump Sum Bid, Items 1 to 3 including:

Addition to or deductions from the quantities in place as shown;

(4) Variation from elevation (-65), per vertical foot of average increases or decreases;

(5) Addition or deduction for excavation San Francisco Pier above elevation (-100) per cu. yd.;

(6) Addition for excavation San Francisco Pier between elevations (-100 and -110) per cu. yd.;

(7) Addition for excavation S.F. Pier between elevations (-110 and -120) per cu. yd.;

(8) Addition for excavation S.F. Pier between elevations (-120 and -130) per cu. yd.;

(9) Addition for excavation Marin Pier between elevations (-20 and -30) or deductions between elevations (-20 and -10) per cu. yd.;

(10) Addition for excavation Marin Pier between elevations (-30 and -40) per cu. yd.;

(11) Addition or deduction in quantity concrete S.F. Pier, per cu. yd.

(12) Addition or deduction in quantity concrete, Marin Pier, per cu. yd.;

(13) Addition or deduction reinforcing steel, per lb.;

See unit bid tabulation on page 15.

CONTRACT 3—ANCHORAGE

(A) Bridge Builders, Inc., San Francisco, \$1,859,854.

(B) Clinton Const. Co., San Francisco, \$1,906,055.

(C) Barrett & Hilp, San Francisco, \$1,929,598.

(D) George Pollock, Sacramento, \$2,044,185.

(E) Healy-Tibbitts Const. Co., San Francisco, \$2,062,497.

(F) Pacific Bridge Co., Portland, Ore., \$2,122,868.

Involving:

(1) Excavation (unclass.) above elevation zero (102,000 cu. yds.) per cu. yd.;

(2) Excavation (unclass.) below elevation zero (25,000 cu. yds.) per cu. yd.;

(3) Concrete in base blocks (25,120 cu. yds.) per cu. yd.;

(4) Concrete in anchor blocks (33,300 cu. yds.) per cu. yd.;

(5) Concrete in weight blocks (9,900 cu. yds.) per cu. yd.;

(6) Erection of eyebar chain in anchor blocks and anchorage steel in Pylon S-1 (1,700 tons) per ton;

(7) Removal and reconstruction of seawall (540 lin. ft.) per lin. ft.;

(8) Concrete in cable housing, etc., (22,400 cu. yds.) per cu. yd.;

(9) Concrete stairway (360 cu. yds.) per cu. yd.;

(10) Cast stone balustrade on stairway, benches included (750 lin. ft.) per lin. ft.;

(11) Backfilling and dressing slopes around weight blocks, etc. (13,000 cu. yds.) per cu. yd.;

(12) Reinforcing steel in all structures (2,951,000 lbs.) per lb.;

MARIN SIDE

(13) Excavating (unclass.) under side span (50,000 cu. yds.) per cu. yd.;

(14) Excavation (unclass.) for anchor blocks, etc., including all backfilling (48,000 cu. yds.) per cu. yd.;

(15) Concrete in base blocks of anchor (15,510 cu. yds.) per cu. yd.;

(16) Concrete in piers, etc. (11,820 cu. yds.) per cu. yd.;

(17) Concrete in anchor blocks (37,450 cu. yds.) per cu. yd.;

(18) Erection of eyebar chains in anchor blocks and anchorage steel in Pylon N-1 (1,700 tons) per ton;

(19) Concrete in weight blocks (5,719 cu. yds.) per cu. yd.;

(20) Reinforcing steel in all structures (2,319,600 lbs.) per lb.;

(21) Cast stone balustrades (700 lin. ft.) per lin. ft.;

(22) Ornamental iron work, stairs and miscellaneous items on both San Francisco and Marin sides, lump sum.

See unit bid tabulation on page 14 under Contract No. 3.

Contract 4—San Francisco and Marin Approach Spans

- (A) Bridge Builders, Inc., San Francisco, \$934,800.
- (B) Columbia Steel Co., San Francisco, \$945,000.
- (C) Moore Dry Dock Co., Oakland, \$1,040,450.
- (D) McClintic-Marshall Co. San Francisco, \$1,069,150.

- Involving:
 - (1) For the steel superstructure of the San Francisco approach, except railing, lump sum;
 - (2) For the steel superstructure of the Marin approach, except railing, lump sum;
 - (3) For railing San Francisco and Marin approaches, lump sum;

Lump Sum, Items 1 to 3 inclusive.

| | (A) | (B) | (C) | (D) |
|---------|-----------|-----------|-----------|-----------|
| (1) ... | \$507,000 | \$530,000 | \$571,000 | \$608,000 |
| (2) ... | 411,000 | 397,000 | 450,300 | 439,450 |
| (3) ... | 16,800 | 18,000 | 18,700 | 21,700 |
| (4) ... | .055 | .055 | .071 | .0715 |
| (5) ... | .10 | .10 | .080 | .1255 |
| (6) ... | .10 | .10 | | .1570 |
| (Alt.) | .15 | .065 | | .10 |

Contract 5—Presidio Road

- Bids taken as follows:
 - (A) Total lump sum bid, excluding Items Nos. 3 and 7;
 - (B) Total lump sum bid, excluding Items Nos. 3 and 6;
 - (C) Total lump sum bids, excluding Items Nos. 2 and 7;
 - (D) Total lump sum bids, excluding Items Nos. 2 and 6.

- Bidders follow:
 - (A) Bridge Builders, Inc., San Francisco, (a) \$996,000; (b) \$1,011,000; (c) \$996,000; (d) \$1,011,000.
 - (B) Eaton and Smith, San Francisco (a) \$997,892; (b) \$1,000,892; (c) \$1,007,616; (d) \$1,010,616.
 - (C) Barrett and Hilt, San Francisco (a) \$1,034,870; (b) \$1,034,870; (c) \$1,034,141; (d) \$1,034,141.
 - (D) Rocca & Caletti, San Rafael (a) \$1,808,660; (b) \$1,997,975; (c) \$1,081,195; (d) \$1,098,510.

- Unit bids follow:
 - (1) Grading, unclass., 110,000 cu. yds.;
 - (2) Concrete paved roadway, etc., 4,862 lin. ft.;

- Alternate of Item No. 2:
 - (3) Asphalt concrete, etc., 4,862 lin. ft.
 - (4) Underpass bridge, etc., lump sum;
 - (5) High viaduct, complete, etc., " ";
 - (6) Low viaduct and retaining walls at each end and 30,000 lin. ft. concrete pile foundations;

| | | | | |
|-----------|---------|---------|---------|---------|
| (4)..... | 27,429 | 20,000 | 21,763 | 24,263 |
| (5)..... | 371,000 | 398,500 | 410,387 | 416,338 |
| (6)..... | 445,000 | 451,000 | 447,913 | 469,842 |
| (7)..... | 460,000 | 454,000 | 447,913 | 487,157 |
| (8)..... | 1.66 | 1.10 | 1.10 | 1.33 |
| (9)..... | 15.00 | 15.00 | 14.60 | 13.00 |
| (10)..... | 7.50 | 12.00 | 10.00 | 8.00 |
| (11)..... | .032 | .045 | .035 | .03 |
| (12)..... | .045 | .045 | .05 | .05 |
| (13)..... | 1.50 | 2.15 | 2.10 | 2.00 |
| (14)..... | 10.00 | 15.00 | 16.75 | 17.00 |
| (15)..... | .20 | .225 | .20 | .25 |
| (16)..... | .25 | .234 | .20 | .25 |
| (17)..... | .17 | .136 | .16 | .14 |

Contract 6—Sausalito Road

- (A) Chigris & Sutsos, San Francisco, \$53,780.
- (B) Granfield, Farrar and Carlin, San Francisco, \$64,245.
- (C) Fay Imp. Co., San Francisco, \$66,228.
- (D) Young and Sons, Berkeley, \$70,447
- (E) Bodenhamer Const. Co., Oakland \$75,100.
- (F) Eaton & Smith, San Francisco, \$77,855.
- (G) C. W. Wood, Stockton, \$79,165.
- (H) Frank C. Cuffe, San Rafael, \$79,950.

- Involving:
 - (1) Excavation (unclass., 140,000 cu. yds.) per cu. yd.;
 - (2) Paving roadway (235,000 sq. ft.) per sq. ft.;
 - (3) Corrugated metal pipe (800 lin. ft.) per lin. ft.;
 - (4) Concrete headwalls, retaining walls and electrolier bases (130 cu. yds.) per cu. yd.;
 - (5) Reinforcing steel (16,000 lbs.) per pound;
 - (6) Road guard fence (800 lin. ft.) per per lin. ft.;

Unit bids follow
See unit bid tabulation at bottom of page.

Contract 7—Paving Main Approach Spans

- (A) Clinton Const. Co., San Francisco, \$555,000.
- (B) Barrett and Hilt, San Francisco, \$582,000.

Unit bids follow

- (1) Concrete paving main span, side spans, San Francisco and Marin Approach spans (14,000 cu. yds.); per cu. yd., (A) \$22.50; (B) \$21.00.
- (2) Reinforcing steel in above (4,800,-

000 lbs.) per lb., (A) \$.05; (B) \$.06

Contract 8—Electrical Work

- (A) Alta Electric & Mechanical Co., San Francisco, \$154,470.
- (B) Radefinger Bros., San Francisco, \$156,300.
- (C) Severin Electric Co., San Francisco, \$169,320.

- Unit bids follow
 - (1) The Navigation signaling system, lump sum;
 - (2) Roadway lighting system for the bridge and approach spans, lump sum;
 - (3) Roadway lighting system Presidio road, lump sum;
 - (4) Roadway lighting system North lateral (Sausalito) Road, lump sum;
 - (5) Private telephone system complete, lump sum;

Lump Sum, Items 1 to 5 inclusive.

| | (A) | (B) | (C) |
|--|-----|-----|-----|
| (6) Each 22-ft. cast iron light standard, complete; | | | |
| (7) Each 20-ft. do; | | | |
| (8) For each 10-ft. 4-in. do; | | | |
| (9) For each 20-ft. conc. light standard and for road lighting, per ft.; | | | |
| (10) For 1 1/2-in. conduit, per ft.; | | | |
| (11) For 1 1/4-in. pipe per ft.; | | | |
| (12) For 1 1/2-in. conduit per ft.; | | | |
| (13) For 1 1/2-in. pipe per ft.; | | | |
| (14) For No. 8 S. C. lead covered cable for road lighting, per ft.; | | | |
| (15) For each single conductor post-head. | | | |

Under the previous advertisement for bids, separate proposals were asked for furnishing 100,000 lbs. of Portland cement, f.o.b. San Francisco. Under all the above contracts, cement is to be furnished by the contractors.

| | (A) | (B) | (C) |
|-----------|-------------|-------------|-------------|
| (1)..... | \$55,650.00 | \$56,760.00 | \$56,720.00 |
| (2)..... | 48,490.00 | 49,740.00 | 52,600.00 |
| (3)..... | 24,000.00 | 23,300.00 | 23,210.00 |
| (4)..... | 23,000.00 | 23,400.00 | 27,490.00 |
| (5)..... | 3,300.00 | 4,100.00 | 4,300.00 |
| (6)..... | 175.00 | 178.00 | 170.00 |
| (7)..... | 165.00 | 170.00 | 165.00 |
| (8)..... | 100.00 | 105.00 | 105.00 |
| (9)..... | 235.00 | 215.00 | 220.00 |
| (10)..... | .55 | .50 | .50 |
| (11)..... | .50 | .45 | .45 |
| (12)..... | .60 | .55 | .60 |
| (13)..... | .55 | .50 | .50 |
| (14)..... | .20 | .25 | .15 |
| (15)..... | 15.00 | 16.00 | 14.00 |

CONTRACT NO. 3—ANCHORAGE

| | (A) | (B) | (C) | (D) | (E) | (F) |
|-----------|---------|---------|---------|---------|---------|---------|
| (1)..... | \$.65 | \$.50 | \$.65 | \$ 1.00 | \$.52 | \$ 1.00 |
| (2)..... | 1.60 | 3.00 | 3.00 | 4.00 | 2.50 | 3.00 |
| (3)..... | 7.50 | 7.20 | 7.75 | 8.50 | 9.30 | 7.70 |
| (4)..... | 6.90 | 7.20 | 7.70 | 8.00 | 8.00 | 7.70 |
| (5)..... | 6.20 | 6.60 | 6.30 | 8.00 | 8.00 | 7.80 |
| (6)..... | 21.50 | 21.00 | 18.00 | 20.00 | 15.00 | 20.00 |
| (7)..... | 75.00 | 100.00 | 50.00 | 80.00 | 82.00 | 70.00 |
| (8)..... | 13.90 | 13.70 | 12.00 | 11.00 | 13.00 | 14.00 |
| (9)..... | 16.20 | 15.00 | 20.00 | 20.00 | 20.00 | 18.50 |
| (10)..... | 6.15 | 12.50 | 13.00 | 13.00 | 12.00 | 15.00 |
| (11)..... | .50 | .50 | .40 | .50 | .60 | .40 |
| (12)..... | .035 | .038 | .031 | .038 | .035 | .04 |
| (13)..... | .60 | .55 | .50 | .45 | .60 | .75 |
| (14)..... | 1.08 | .80 | 1.00 | 1.30 | 1.30 | 1.00 |
| (15)..... | 7.15 | 7.00 | 7.70 | 8.00 | 10.00 | 8.00 |
| (16)..... | 12.40 | 12.70 | 15.60 | 12.00 | 13.00 | 16.00 |
| (17)..... | 6.85 | 6.80 | 7.74 | 8.00 | 8.00 | 8.00 |
| (18)..... | 21.50 | 22.00 | 18.00 | 20.00 | 22.00 | 22.00 |
| (19)..... | 6.70 | 7.00 | 7.73 | 8.00 | 8.00 | 8.00 |
| (20)..... | .035 | .038 | .033 | .035 | .035 | .04 |
| (21)..... | 6.20 | 12.00 | 13.00 | 15.00 | 12.00 | 15.00 |
| (22)..... | 6000.00 | 7700.00 | 4500.00 | 1653.00 | 2000.00 | 5000.00 |

CONTRACT NO. 6—SAUSALITO ROAD

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) |
|----------|-------|-------|--------|-------|-------|-------|-------|-------|
| (1)..... | \$.24 | \$.26 | \$.237 | \$.29 | \$.31 | \$.35 | \$.35 | \$.38 |
| (2)..... | .09 | .095 | .112 | .1025 | .11 | .087 | .105 | .10 |
| (3)..... | 1.50 | 1.60 | 1.70 | 1.60 | 1.75 | 1.70 | 1.50 | 1.60 |
| (4)..... | 13.00 | 16.00 | 21.35 | 16.00 | 15.00 | 18.00 | 15.00 | 15.00 |
| (5)..... | .05 | .04 | .0475 | .05 | .05 | .045 | .04 | .05 |
| (6)..... | .75 | .70 | .69 | .80 | 1.00 | .70 | 1.00 | 1.50 |

CONTRACT NO. 2—MAIN PIERS

(See pages 13 and 14)

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) |
|-----------|-------------|-------------|-----------|----------|------|-------|-------|------|------|------|------|------|--------|
| (A) | \$1,380,000 | \$1,150,000 | \$405,000 | \$10,000 | \$ 8 | \$ 50 | \$100 | \$10 | \$25 | \$ 9 | \$ 8 | \$ 8 | \$.04 |
| (B) | 1,445,000 | 1,100,000 | 490,000 | 7,500 | 8 | 50 | 75 | 150 | 6 | 12 | 6 | 6 | .04 |
| (C) | 1,400,000 | 1,400,000 | 475,000 | 6,000 | 8 | 100 | 150 | 200 | 10 | 50 | 6 | 6 | .04 |
| (D) | 1,650,000 | 1,298,000 | 450,000 | 14,250 | 10 | ..... | ..... | 2 | 20 | 7.60 | 7.60 | .05 | .05 |
| (E) | 1,600,000 | 1,250,000 | 600,000 | 9,000 | 12 | 60 | 100 | 140 | 10 | 30 | 10 | 10 | .05 |
| (F) | 1,787,592 | 1,250,000 | 646,000 | 10,000 | 8 | 90 | 150 | 200 | 12 | 25 | 7 | 7 | .04 |

GRADE-GRAVEL SURFACE—CLARK COUNTY, NEVADA

CLARK COUNTY, Nevada.—As previously reported, Nevada Contracting Company, Fallon, at \$112,606.48 awarded contract by State Highway Commission to grade and gravel surface 23.01 mi. between Glendale and Clark-Lincoln County line, Route 7, section A, involving:

- (1) 233,400 cu. yds. roadway excav.;
- (2) 1,610 cu. yds. struc. excav.;
- (3) 46,639 cu. yds. selected bor. excavation in place;
- (4) 159,273 yd. sta. overhaul;
- (5) 23.01 miles subgrade;
- (6) 55,000 cu. yds. crushed gravel or crushed rock surface in place;
- (7) 2,300 cu. yds. crushed gravel or crushed rock in stockpile;
- (8) 238 cu. yds. Class A concrete;
- (9) 370 cu. yds. Class B concrete;

- (10) 2,990 lin. ft. 18-in. corru. metal pipe in place;
- (11) 2,050 lin. ft. 24-in. do;
- (12) 60 lin. ft. 30-in. do;
- (13) 2,916 lin. ft. 36-in. do;
- (14) 208 cu. yds. perforated pipe in place (12-in. dia.);
- (15) 108 cu. yds. rip-rap;
- (16) 182 monuments;
- (17) 2 furnish and install posts for F. L. markers;
- (18) 23.01 miles finish roadway;
- (19) 4,640 lin. ft. remove and reconstruct fence;
- (20) 30,000 lbs. reinf. steel.

Complete bids follow:

(A) Nevada Contracting Co., Fallon, \$112,606.48.

(B) W. W. Clyde & Co., Springville, \$146,500.48.

(C) Mahoney Cline Co., Las Vegas, \$149,146.50.

(D) Isbell Const. Co., Carson City, \$149,493.00.

(E) Nevada Rock & Sand Co., Reno, \$151,579.36.

(F) Utah Const. Co., Ogden, \$154,697.29.

(G) Dodge Bros., Inc., Fallon, \$162,679.11.

(H) Jas. J. Burke & Co., Salt Lake City, \$179,462.81.

(I) Gibbons & Reed, Salt Lake City, \$180,732.95.

(J) Thorne, Strong & Grant, Springville, \$214,809.76.

(K) Engineer's estimate, \$134,786.48.

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) |
|-----------|--------|-------|-------|-------|--------|--------|--------|--------|--------|--------|-------|
| (1)..... | \$.155 | \$.24 | \$.25 | \$.24 | \$.235 | \$.29 | \$.36 | \$.37 | \$.33 | \$.45 | \$.22 |
| (2)..... | .50 | .50 | 1.00 | .85 | 1.00 | .70 | 1.00 | .70 | 2.00 | 1.50 | 1.00 |
| (3)..... | .28 | .325 | .30 | .26 | .35 | .32 | .35 | .35 | .31 | .40 | .25 |
| (4)..... | .02 | .015 | .015 | .02 | .02 | .02 | .02 | .02 | .02 | .02 | .01 |
| (5)..... | 50.00 | 60.00 | 60.00 | 50.00 | 75.00 | 75.00 | 100.00 | 70.00 | 350.00 | 100.00 | 50.00 |
| (6)..... | .48 | .66 | .65 | .70 | .62 | .63 | .57 | .70 | .74 | .80 | .55 |
| (7)..... | .48 | .66 | .55 | .70 | .62 | .63 | .50 | .40 | .74 | .80 | .50 |
| (8)..... | 22.00 | 20.00 | 22.00 | 25.00 | 27.00 | 19.00 | 22.50 | 20.00 | 21.00 | 23.00 | 23.00 |
| (9)..... | 18.00 | 20.00 | 25.00 | 28.00 | 27.00 | 19.00 | 22.50 | 22.00 | 21.00 | 23.00 | 25.00 |
| (10)..... | 1.10 | 1.40 | 1.25 | 1.40 | 1.25 | 1.10 | 1.25 | 1.20 | 1.20 | 1.75 | 1.40 |
| (11)..... | 1.80 | 2.05 | 2.00 | 1.85 | 1.75 | 1.70 | 1.75 | 1.60 | 1.78 | 2.20 | 2.00 |
| (12)..... | 2.50 | 2.65 | 2.50 | 2.60 | 2.50 | 2.10 | 2.50 | 2.00 | 2.24 | 2.75 | 2.50 |
| (13)..... | 3.75 | 4.00 | 3.50 | 3.40 | 3.50 | 3.25 | 3.50 | 3.00 | 3.50 | 4.00 | 3.50 |
| (14)..... | 1.50 | 1.00 | 1.50 | 1.75 | 1.00 | .90 | 2.50 | 1.30 | 1.03 | 1.75 | 1.75 |
| (15)..... | 2.00 | 2.00 | 2.50 | 3.00 | 4.00 | 3.00 | 3.00 | 2.00 | 2.00 | 3.00 | 3.00 |
| (16)..... | 2.50 | 2.00 | 3.00 | 3.00 | 2.50 | 3.00 | 3.00 | 2.50 | 2.00 | 3.00 | 3.00 |
| (17)..... | 3.50 | 10.00 | 10.00 | 5.00 | 5.00 | 5.00 | 5.00 | 2.50 | 2.00 | 5.00 | 5.00 |
| (18)..... | 60.00 | 60.00 | 60.00 | 60.00 | 150.00 | 100.00 | 200.00 | 100.00 | 110.00 | 100.00 | 50.00 |
| (19)..... | .05 | .05 | .10 | .05 | .10 | .04 | .15 | .15 | .06 | .08 | .10 |
| (20)..... | .05 | .055 | .06 | .05 | .07 | .045 | .06 | .05 | .05 | .06 | .055 |

STORM DRAINAGE PUMPING PLANT—GOVT.

AWARD

SAN RAFAEL, Marin Co., Calif.—Herman Lawson, 465 Tehama Street, San Francisco, at \$19,260 submitted low bid to Constructing Quartermaster, Hamilton Field, to construct storm drainage pumping plant at Hamilton Field. Project consists of constructing wood pile foundations, concrete floor slab and columns, tile walls covered with stucco and wood frame roof covered with Spanish tile; pumping unit to be 10,000-gallon capacity, gasoline driven engine, discharging thru a steel pipe, supported on a wood pile trestle, approximately 600 ft. into San Pablo Bay. Top of piles to be encased in concrete, similar to San Francisco Harbor specifications. Total bids follow:

(1) 14,818

(2) 5,832

(D) Baldwin & Butler, Berkeley \$21,766

(3) 5,230

(2) 6,700

(E) Jas. Curry, Burlingame.....\$21,884

(F) P. L. Burr, San Francisco,\$24,060

(G) Clinton Stephenson.....\$24,331

.....(1) 5,890

.....(2) 4,000

(H) Oakland Sewer Const. Co., Oakland.....\$24,888

.....(1) 5,180

.....(2) 7,000

Unit prices follow:

- (1) excavation, clay, per cu. yd.;
- (2) concrete, per cu. yd.;
- (3) reinforcing steel, per lb.;
- (4) timber piling, plain, per lin. ft.;
- (5) timber piling, conc. top, per lin. ft.
- (6) steel pipe, per lin. ft.;
- (7) load bearing piling, per sq. ft.;
- (8) sheet piling, left in place, per F. B. M.

Following are unit figures:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) |
|----------|---------|-------|-------|---------|---------|---------|---------|---------|
| (1)..... | \$ 1.12 | \$.80 | \$.50 | \$ 1.50 | \$ 1.50 | \$ 1.50 | \$ 1.65 | \$ 1.50 |
| (2)..... | 22.22 | 13.00 | 21.00 | 20.00 | 16.00 | 20.00 | 12.00 | 20.00 |
| (3)..... | .04 | .04 | .07 | .05 | .06 | .06 | .05 | .05 |
| (4)..... | .35 | .50 | 1.20 | .60 | .80 | .60 | .70 | .75 |
| (5)..... | 1.25 | .80 | 4.70 | 1.25 | 1.24 | 1.00 | .85 | 1.25 |
| (6)..... | 3.91 | 3.50 | 4.50 | 3.00 | 4.00 | 2.60 | 2.50 | 3.60 |
| (7)..... | .29 | .40 | .25 | .40 | .28 | .50 | .50 | .33 |
| (8)..... | .34 | .10 | .092 | .15 | .07 | .06 | .03 | .15 |

OAKLAND, Cal.—Gladding McBean & Co., 660 Market St., San Francisco at \$9,937.50 awarded contract by county supervisors to furnish vitrified salt glazed sewer pipe for Bryant, Elsworth and Lyon Sts., in Washington Township, involving:

- (1) 480 ft. 12-in. vit. salt glazed sewer pipe;
- (2) 330 ft. 18" do
- (3) 90 ft. 21-in. do
- (4) 430 ft. 24-in. do
- (5) 230 ft. 27-in. do
- (6) 1970 ft. 33-in. do
- (7) 1 23-in. vit. salt glazed tee, 10-in. dia., spur and cap.

Total bids follow:

(A) Gladding McBean & Co., \$9,937.50

(B) N. Clark & Son, \$10,326.05

(C) Calif. Pottery Co., (*) \$1,361.25

(*) Bid incomplete not bidding on items 5, 6 and 7.

Unit bids follow:

| | (A) | (B) | (C) |
|----------|-------|---------|---------|
| (1)..... | \$.45 | \$.423 | \$.405 |
| (2)..... | 1.05 | .987 | .945 |
| (3)..... | 1.40 | 1.26 | 1.33 |
| (4)..... | 1.80 | 1.62 | 1.71 |
| (5)..... | 2.50 | 2.65 | ..... |
| (6)..... | 4.00 | 4.24 | ..... |
| (7)..... | 26.00 | 25.00 | ..... |

STEEL AND CONCRETE BRIDGE—CLARK CO., NEV.

CLARK COUNTY, Nevada—As previously reported, James J. Burke, Salt Lake City, Utah, at \$36,543.30 awarded contract by State Highway Department to construct a steel and concrete bridge over the Muddy River near Glendale, Route 6, Sections F1 and F2, a length of .42 mi., involving:

- (1) 6500 cu. yds. rwy. excav.
- (2) 106C cu. yds. struc. excav.
- (3) 39 mile subgrade;
- (4) 1200 cu. yds. crushed rock or crushed gravel surface in place;
- (5) 260 cu. yds. Class A concrete;
- (6) 170 cu. yds. Class D concrete;
- (7) 22 in. ft. remove and reset corr. metal pipe;
- (8) 2 corr. metal pipe culvert extensions;
- (9) 822 lin. ft. stand. timber guard rail;
- (10) 20 monuments;
- (11) 1 furnish and install post for F. A. marker;
- (12) .42 mile finish rdwy.;
- (13) 190,000 lbs. struc. steel;

- (14) 47,000 lbs. reinf. steel;
 - (15) 2150 lin. ft. furnish untreated piling;
 - (16) 1750 lin. ft. drive timber piles;
 - (17) 200,200 lbs. sheet piling;
 - (18) remove present timber bridge.
- Complete bids follow:
- (A) Jas. J. Burke & Co., Salt Lake City, Utah, \$36,543.30.
 - (B) Dodge Bros., Inc., Fallon, \$37,321.
 - (C) Gibbons & Reed Co., Salt Lake City, \$41,318.70.
 - (D) Thorne, Strong & Grant, Springville, Utah, \$41,734.70.
 - (E) Utah Constr. Co., Ogden, \$42,212.70.
 - (F) Joe Dillard, Reno, Nevada, \$44,250.65.
 - (G) Isbell Constr. Co., Carson City, \$44,674.50.
 - (H) W. W. Clyde & Co., Springville, Irregular.
 - (I) Engineer's estimate, \$43,073.55.

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) |
|-----------|--------|--------|--------|--------|--------|--------|--------|--------|---------|
| (1)..... | \$.22 | .25 | .22 | .35 | .30 | .40 | .25 | .20 | \$.25 |
| (2)..... | 1.42 | 1.50 | 2.75 | 2.00 | .90 | 4.50 | 2.50 | 2.00 | 4.00 |
| (3)..... | 200.00 | 100.00 | 100.00 | 300.00 | 200.00 | 125.00 | 100.00 | 100.00 | 75.00 |
| (4)..... | 1.10 | .90 | 1.00 | 1.00 | 1.20 | .80 | 1.00 | .80 | .80 |
| (5)..... | 14.60 | 17.00 | 19.60 | 18.50 | 19.50 | 29.00 | 20.00 | 21.00 | 18.00 |
| (6)..... | 15.60 | 19.00 | 20.95 | 20.50 | 15.00 | 17.70 | 20.00 | 22.00 | 20.00 |
| (7)..... | 1.00 | 1.00 | .45 | .50 | 1.50 | 1.00 | 1.00 | .50 | 1.00 |
| (8)..... | 36.00 | 20.00 | 22.00 | 20.00 | 15.00 | 14.00 | 20.00 | 5.00 | 20.00 |
| (9)..... | .60 | .75 | .60 | .60 | .60 | .80 | .75 | — | .80 |
| (10)..... | 2.50 | 3.00 | 2.00 | 5.00 | 1.75 | 3.60 | 3.00 | — | 3.00 |
| (11)..... | 3.00 | 5.00 | 2.00 | 10.00 | 7.50 | 5.00 | 5.00 | 15.00 | 5.00 |
| (12)..... | 100.00 | 100.00 | 110.00 | 300.00 | 200.00 | 125.00 | 100.00 | 100.00 | 50.00 |
| (13)..... | .075 | .06 | .058 | .0625 | .0675 | .065 | .077 | .0672 | .065 |
| (14)..... | .04 | .0425 | .045 | .0425 | .045 | .045 | .045 | .04 | .05 |
| (15)..... | .23 | .35 | .30 | .35 | .25 | .45 | .55 | .40 | .50 |
| (16)..... | .54 | .40 | .55 | .60 | .40 | 1.00 | .64 | .60 | .75 |
| (17)..... | .306 | .0475 | .057 | .035 | .0825 | .46 | .0525 | .055 | .05 |
| (18)..... | 260.00 | 150.00 | 250.00 | 300.00 | 200.00 | 500.00 | 150.00 | 300.00 | 1000.00 |

GRADE-GRAVEL SURFACE—LINCOLN COUNTY, NEV.

LINCOLN COUNTY, Nev.—As previously reported, Nevada Contracting Co., Fallon, at \$106,639.14 awarded the contract by State Highway Department to grade and gravel surface 26.42 miles between Clark-Lincoln County line and Maynard Lake, Route 7, Section A, involving:

- (1) 204,000 cu. yds. rdwy. excav.
- (2) 2930 cu. yds. struc. excav.
- (3) 15,221 cu. yds. selected borrow excav. in place;
- (4) 82,882 yd. sta. overhaul;
- (5) 26.42 miles subgrade;
- (6) 62,300 cu. yds. crushed gravel or crushed rock surf. in place;
- (7) 2650 cu. yds. do in stockpile;
- (8) 34 cu. yds. Class A concrete;
- (9) 547 cu. yds. Class B concrete;
- (10) 2456 lin. ft. 18-in. corr. metal pipe in place;
- (11) 254 lin. ft. 24-in. do;
- (12) 192 lin. ft. 30-in. do;
- (13) 1256 lin. ft. 36-in. do;
- (14) 230 lin. ft. 48-in. do;

- (15) 270 cu. yds. rip rap;
- (16) 37 cu. yds. cement grouted rock;
- (17) 141 monuments;
- (18) construct timber bulkhead and backfill shaft;
- (19) 1 furnish and install post for F. L. marker;
- (20) 26.42 miles finish rdwy.;
- (21) 20,440 lbs. reinf. steel.

Complete bids follow:

- (A) Nevada Contracting Co., Fallon, \$106,639.14.
- (B) Dodge Bros., Inc., Fallon, \$121,230.84.
- (C) W. W. Clyde & Co., Springville, \$131,652.59.
- (D) Jas. J. Burke & Co., Salt Lake City, \$150,212.99.
- (E) Thorne Const. Co., Ogden, \$162,080.45.
- (F) Thorne, Strong & Grant, Springville, \$174,529.74.
- (G) Engineer's estimate, \$129,978.67.

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) |
|-----------|-------|--------|--------|--------|--------|--------|--------|
| (1)..... | \$.17 | \$.24 | \$.23 | \$.31 | \$.39 | \$.35 | \$.25 |
| (2)..... | .50 | 1.00 | .50 | 1.00 | .80 | 1.50 | 1.00 |
| (3)..... | .30 | .30 | .35 | .35 | .39 | .40 | .25 |
| (4)..... | .02 | .02 | .02 | .02 | .03 | .02 | .01 |
| (5)..... | 50.00 | 100.00 | 60.00 | 70.00 | 60.00 | 100.00 | 50.00 |
| (6)..... | .50 | .55 | .63 | .40 | .62 | .80 | .55 |
| (7)..... | .50 | .55 | .63 | .40 | .62 | .80 | .55 |
| (8)..... | 24.00 | 25.00 | 24.00 | 20.00 | 19.00 | 23.00 | 23.00 |
| (9)..... | 20.00 | 24.00 | 22.00 | 22.00 | 18.00 | 23.00 | 25.00 |
| (10)..... | 1.25 | 1.50 | 1.45 | 1.20 | 1.20 | 1.75 | 1.50 |
| (11)..... | 2.00 | 2.00 | 2.10 | 1.60 | 1.90 | 2.20 | 2.10 |
| (12)..... | 2.50 | 2.50 | 2.75 | 2.00 | 2.30 | 3.00 | 2.60 |
| (13)..... | 3.75 | 3.50 | 4.20 | 3.00 | 3.50 | 4.00 | 3.60 |
| (14)..... | 6.00 | 6.00 | 7.10 | 5.40 | 6.00 | 7.00 | 6.50 |
| (15)..... | 2.00 | 3.00 | 2.00 | 2.00 | 2.50 | 3.00 | 3.00 |
| (16)..... | 2.00 | 3.00 | 2.00 | 2.00 | 2.50 | 3.00 | 3.00 |
| (17)..... | 3.00 | 3.00 | 2.00 | 2.50 | 3.00 | 3.00 | 3.00 |
| (18)..... | 50.00 | 50.00 | 200.00 | 200.00 | 100.00 | 200.00 | 200.00 |
| (19)..... | 5.00 | 5.00 | 10.00 | 2.50 | 5.00 | 3.00 | 5.00 |
| (20)..... | 60.00 | 100.00 | 60.00 | 100.00 | 100.00 | 100.00 | 50.00 |
| (21)..... | .05 | .06 | .06 | .05 | .06 | .06 | .06 |

BIDS OPENED

SACRAMENTO, Cal.—A. Telchert & Son, 1646 37th St., Sacramento, at \$2,079.55 submitted low bid to city council to improve Serra Way from easterly line of Alhambra Blvd. to center line of 34th St., involving:

- (1) 2 manholes, reconstruct;
- (2) 231 cu. yds. excavation;
- (3) 116 cu. yds. cement roadway;
- (4) 241 tons 2-in. asphalt concrete, outside park center;
- (5) 111 tons 2-in. asphalt concrete, inside park center;
- (6) 1685 lin. ft. parking curb, remove;
- (7) 6 palm trees, remove.

Total bids follow:

- (A) Telchert & Son, Sacramento, \$2,079.55.
- (B) McGhillivray Const. Co., Sacramento, \$2,081.59.
- (C) Clark & Henry, San Francisco, \$2,084.06.
- (D) J. R. Reeves, Sacramento, \$2,260.55.

Unit prices follow:

| | (A) | (B) | (C) | (D) |
|----------|---------|---------|---------|---------|
| (1)..... | \$ 5.00 | \$ 5.00 | \$ 5.00 | \$ 5.00 |
| (2)..... | .30 | .45 | .60 | 1.00 |
| (3)..... | 2.00 | 1.85 | 1.90 | 1.75 |
| (4)..... | 4.10 | 4.52 | 4.56 | 5.00 |
| (5)..... | 3.90 | 4.42 | 4.40 | 5.00 |
| (6)..... | .05 | .06 | .08 | .03 |
| (7)..... | 10.00 | 12.00 | 10.00 | 1.00 |

Bids held under advisement until October 13.

BIDS OPENED

SHASTA CO., Cal.—J. P. Brennan, Redding, at \$11,823.40 submitted low bid to the State Highway Commission, Sacramento, to construct steel stringer bridge with concrete decks across Fall River at Fall River Mills, consisting of six 19-ft. spans on concrete pile bents, involving:

- (1) 1,240 lin. ft. reinf. conc. piles, inc. test piles;
- (2) 157 cu. yds. Class A Port. cement concrete;
- (3) 25,500 lbs. bar reinf. steel;
- (4) 55,500 lbs. struc. steel;
- (5) 268 lin. ft. timber railing;
- (6) 1 lot misc. items of work.

Complete bids follow:

- (A) J. P. Brennan, Redding, \$11,823.40.
- (B) Helwig Const. Co., Sebastopol, \$12,224.40.
- (C) Utah Const. Co., San Francisco, \$12,991.80.
- (D) Roscoe Arbutckle, Anderson, \$13,257.35.

Unit bids follow:

| | (A) | (B) | (C) | (D) |
|----------|---------|---------|---------|---------|
| (1)..... | \$ 3.66 | \$ 3.90 | \$ 4.75 | \$ 5.00 |
| (2)..... | 18.50 | 19.75 | 19.00 | 18.50 |
| (3)..... | .04 | .038 | .04 | .0425 |
| (4)..... | .049 | .0495 | .048 | .045 |
| (5)..... | 1.20 | 1.05 | 1.10 | 1.20 |
| (6)..... | 320.00 | 290.00 | 140.00 | 250.00 |

AWARD

VENTURA, Cal.—Sidney Smith, 2025 Bay St., Los Angeles, awarded contract by county supervisors at \$4,589.75 for repair and concrete slope paving of 865 ft. of protection levee at Santa Paula Creek east of Santa Paula under Cash Contract No. 808. The work will involve:

- (1) 1500 cu. yds. earth embankment;
- (2) 255 cu. yds. concrete slope paving;
- (3) 13,300 lbs. reinforcing steel.

The bidders were:

- (A) Sidney Smith.
- (B) N. I. Fadel.
- (C) Elliott & Tooley.
- (D) Silvera & Robbins.
- (E) Case Construction Co.

The bids were:

| | (A) | (1) | (2) | (3) | Total |
|----------|---------|----------|--------|------------|-------|
| (A)..... | \$ 4.40 | \$ 12.45 | \$.05 | \$ 4589.75 | |
| (B)..... | .95 | 10.90 | .039 | 4540.20 | |
| (C)..... | 1.00 | 10.70 | .039 | 4564.40 | |
| (D)..... | .75 | 12.50 | .04 | 4964.60 | |
| (E)..... | .95 | 14.00 | .036 | 5581.80 | |

RECONSTRUCT HIGHWAY—WASHOE CO.—NEVADA

WASHOE COUNTY, Nev.—As previously reported, Jones & King, Jackson St., Hayward, Calif., at \$255,164.03 awarded contract by State Highway Commission for 14.73 miles reconstruction of highway between Reno and Purdy, Route 9, Section A, involving:

- (1) 285,000 cu. yds. rdwy. excav.;
- (2) 2,230 cu. yds. struc. excav.;
- (3) 48,900 cu. yds. select borrow;
- (4) 287,235 yd. sta. overhaul;
- (5) 14.73 miles subgrade;
- (6) 42 demolish culvert inlets & outlets;
- (7) 42,500 tons crushed base;
- (8) 29,600 tons plant mix cutback asphalt;
- (9) 228 cu. yds. Class A concrete;
- (10) 153 cu. yds. Class B concrete;
- (11) 420 lin. ft. 15-inch corr. metal pipe in place;
- (12) 1,804 lin. ft. 18-in. do;
- (13) 614 lin. ft. 24-in. do;
- (14) 130 lin. ft. 30-in. do;
- (15) 698 lin. ft. 36-in. do;
- (16) 118 lin. ft. 42-in. do;
- (17) 488 lin. ft. 48-in. do;
- (18) 364 lin. ft. remove and reset pipe culverts;
- (19) 192 lin. ft. remove pipe culverts;
- (20) 120 lin. ft. 24-in. vit. pipe in place
- (21) 436 lin. ft. 24-in. metal siphon pipe in place;

- (22) 200 cu. yds. rlp;rap;
- (23) 166 monuments;
- (24) 2 furnish and install posts for F. A. markers;
- (25) 14.73 miles finish roadway;
- (26) 1,600 lin. ft. install 3-in. water pipe;
- (27) 2,400 lin. ft. remove and reset 6-in. water pipe;
- (28) 24,400 lbs. reinf. steel;
- (29) 15,675 lin. ft. construct fence;
- (30) 8,135 lin. ft. remove fence;
- (31) 1,295 lin. ft. remove and reset fence;
- (32) 3,356 gal. gas. water;
- (33) move buildings.

Complete bids follow:
 (A) Jones & King, Fredrickson & Watson, Hayward and Oakland, \$255,164.63.

- (B) Hemrest and Bell, Marysville, \$269,401.38.
- (C) Isbell Const. Co., Carson City, \$277,306.31.
- (D) Nevada Rock & Sand Co., Reno, \$289,295.95.
- (E) Dodge Bros., Inc., and A. Telchert & Son, Fallon, \$301,702.15.
- (F) Nevada Contracting Co., Fallon, \$313,943.35.
- (G) Engineer's estimate, \$294,361.60.

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) |
|------|---------|--------|---------|---------|---------|--------|--------|
| (1) | \$.22 | \$.21 | \$.26 | \$.35 | \$.32 | \$.35 | \$.30 |
| (2) | 1.00 | .80 | 1.00 | 1.00 | .75 | .75 | 1.00 |
| (3) | .54 | .56 | .60 | .58 | .80 | .50 | .75 |
| (4) | .01 | .01 | .005 | .01 | .02 | .01 | .01 |
| (5) | 165.00 | 300.00 | 259.00 | 75.00 | 200.00 | 100.00 | 250.00 |
| (6) | 5.00 | 3.00 | 5.00 | 5.00 | 10.00 | 5.00 | 5.00 |
| (7) | 1.32 | 1.20 | 1.30 | 1.15 | 1.25 | 1.60 | 1.50 |
| (8) | 2.28 | 2.65 | 2.60 | 2.33 | 2.36 | 2.80 | 2.00 |
| (9) | 17.00 | 20.00 | 22.00 | 25.00 | 22.50 | 24.00 | 30.00 |
| (10) | 16.00 | 20.00 | 26.00 | 25.00 | 22.50 | 24.00 | 28.00 |
| (11) | 1.00 | 1.00 | 1.05 | .95 | 1.00 | 1.00 | 1.00 |
| (12) | 1.20 | 1.20 | 1.30 | 1.10 | 1.25 | 1.10 | 1.25 |
| (13) | 1.75 | 1.80 | 1.85 | 1.75 | 1.60 | 1.75 | 1.75 |
| (14) | 2.00 | 2.30 | 2.15 | 2.10 | 2.25 | 2.20 | 2.50 |
| (15) | 3.25 | 3.40 | 3.15 | 3.30 | 3.50 | 3.25 | 3.50 |
| (16) | 4.50 | 4.65 | 4.25 | 4.70 | 4.25 | 4.00 | 5.00 |
| (17) | 5.50 | 6.50 | 5.40 | 6.00 | 5.50 | 5.50 | 6.25 |
| (18) | .35 | .85 | 1.00 | 1.00 | .75 | 1.00 | 1.00 |
| (19) | .30 | .40 | .50 | .50 | .50 | .50 | .50 |
| (20) | 3.00 | 3.25 | 3.50 | 3.00 | 2.50 | 3.50 | 4.00 |
| (21) | 3.00 | 2.40 | 2.70 | 2.30 | 3.00 | 2.25 | 2.50 |
| (22) | 2.30 | 2.00 | 4.00 | 2.50 | 3.00 | 2.00 | 2.50 |
| (23) | 2.50 | 2.50 | 3.00 | 2.50 | 3.00 | 3.00 | 3.00 |
| (24) | 5.00 | 4.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 |
| (25) | 300.00 | 200.00 | 150.00 | 150.00 | 200.00 | 100.00 | 100.00 |
| (26) | .06 | .10 | .10 | .10 | .10 | .20 | .50 |
| (27) | .30 | .15 | .25 | .15 | .25 | .40 | .75 |
| (28) | .05 | .05 | .05 | .06 | .05 | .05 | .05 |
| (29) | .10 | .095 | .12 | .12 | .13 | .05 | .12 |
| (30) | .015 | .02 | .025 | .03 | .02 | .05 | .05 |
| (31) | .06 | .06 | .05 | .08 | .10 | .06 | .10 |
| (32) | 1.80 | 2.00 | 1.30 | 2.00 | 1.50 | 1.50 | 2.00 |
| (33) | 1000.00 | 500.00 | 1003.00 | 1000.00 | 2000.00 | 350.00 | 500.00 |

BIDS OPENED

SAN MATEO, San Mateo Co., Cal.—Peninsula Paving Co., 715 Standard Oil Bldg., San Francisco, at \$679 submitted low bid to city council for maintenance work, consisting of scarifying and oiling streets in Beresford District, involving:

- (1) 9,400 sq. yds. scarifying and paving;
 - (2) 12,200 gals. road oil;
 - (3) 50 cu. yds. rock dust.
- Complete bids follow:
- (A) Peninsula Paving Co., San Francisco, \$679.00.
 - (B) C. Adolfsen, San Mateo, \$722.40.
 - (C) Granite Const. Co., Watsonville, \$837.00.
 - (D) W. O. Tyson, Redwood City, \$867.
 - (E) Oilfields Trucking Co., Taft, \$1,517.00.

Unit bids follow:

| | (1) | (2) | (3) |
|-----|-------|-------|-------|
| (A) | \$.02 | \$.03 | \$.25 |
| (B) | .03 | .032 | 1.00 |
| (C) | .025 | .035 | 2.50 |
| (D) | .04 | .03 | 3.50 |
| (E) | .07 | .043 | 6.70 |

Bids held under advisement.

CONTRACT AWARDED

LANDER COUNTY, Nev.—As previously reported, Nevada Rock & Sand Co., Inc., Reno, at \$16,576.78 awarded contract by State Highway Commission for grading and graveling 6.62 mi. between 12 miles and 20 miles south of Battle Mountain. Project involves:

- (1) 29,800 cu. yds. rdwy. excav.;
- (2) 465 cu. yds. struc. excav.;
- (3) 11,447 yd. sta. overhaul;
- (4) 6.62 miles subgrade;
- (5) 10,400 cu. yds. crushed rock or crushed gravel;
- (6) 52 cu. yds. Class B concrete;

- (7) 1,190 lin. ft. 18-in. corr. metal pipe;
- (8) 344 lin. ft. 24-in. do;
- (9) 222 lin. ft. 30-in. do;
- (10) 44 lin. ft. 36-in. do;
- (11) 68 lin. ft. 48-in. do;
- (12) 36 lin. ft. remove pipe culverts;
- (13) 2 demolish wooden structures;
- (14) 1,490 lbs. reinf. steel;
- (15) 38 monuments;
- (16) 6.62 miles finish roadway.

Complete list of total bids follows:
 (A) Nevada Rock and Sand Co., Inc., Reno, \$16,576.78.
 (B) Dodge Bros., Inc., Fallon, Nevada, \$17,375.34.
 (C) George French, Jr., Stockton, Cal. \$17,972.34.
 (D) J. N. Tedford, Fallon, Nev., \$19,196.74.
 (E) Mahoney - Cline Co., Las Vegas, Nev., \$20,429.61.
 (F) Engineer's estimate, \$18,518.84.

Complete list of unit bids follows:

| | (A) | (B) | (C) | (D) | (E) | (F) |
|------|--------|--------|--------|-------|-------|--------|
| (1) | \$.17 | \$.19 | \$.255 | \$.21 | \$.20 | |
| (2) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| (3) | .04 | .02 | .02 | .02 | .03 | .02 |
| (4) | 50.00 | 75.00 | 50.00 | 50.00 | 75.00 | 100.00 |
| (5) | .50 | .53 | .60 | .60 | .70 | .60 |
| (6) | 22.00 | 26.00 | 25.00 | 26.00 | 28.00 | 28.00 |
| (7) | 1.10 | 1.25 | 1.40 | 1.25 | 1.25 | 1.25 |
| (8) | 1.75 | 2.00 | 2.00 | 1.75 | 2.00 | 1.75 |
| (9) | 2.30 | 2.50 | 2.50 | 2.25 | 2.60 | 2.25 |
| (10) | 3.50 | 3.50 | 3.50 | 3.50 | 3.75 | 3.25 |
| (11) | 6.00 | 5.50 | 6.00 | 6.00 | 6.50 | 6.25 |
| (12) | .50 | .50 | .50 | .50 | .50 | .50 |
| (13) | 25.00 | 10.00 | 10.00 | 5.00 | 10.00 | 15.00 |
| (14) | .07 | .06 | .06 | .07 | .06 | .06 |
| (15) | 2.50 | 3.00 | 3.00 | 2.50 | 3.00 | 3.00 |
| (16) | 100.00 | 100.00 | 50.00 | 75.00 | 50.00 | 50.00 |

CONTRACT AWARDED

FRESNO, Fresno Co., Cal.—As previously reported, U. S. Pipe & Foundry Co., Monadnock Bldg., San Francisco, at \$8,627.11 awarded contract by city council to furnish c. i. pipe as follows:

- (1) 2,048 ft. 4-in., Class 150;
- (2) 1,342 ft. 6-in., Class 250;
- (3) 896 ft. 8-in., Class 250;
- (4) 6,000 ft. 10-in., Class 250.

All above to be B&S type, in 16-ft. lengths. Following is a complete list of the total bids:

- (A) *Inter-Continental Pipe & Mining Co., San Francisco, \$7,154.00.
- (B) U. S. Pipe & Foundry Co., San Francisco, \$8,627.00.
- (C) American C. I. Pipe Co. San Francisco, \$8,734.33.
- (D) Utilities Supply Co., Los Angeles, \$10,146.19.

*Bid not in accordance with specifications.

A late bid from the Pacific States C. I. Pipe Co., San Francisco, was not considered.

Complete list of unit bids follows:

| | (A) | (B) | (C) | (D) |
|-----|-------|-------|-------|--------|
| (A) | \$.33 | \$.52 | \$.63 | \$.865 |
| (B) | .326 | .522 | .79 | 1.0875 |
| (C) | .33 | .529 | .806 | 1.10 |
| (D) | .373 | .5928 | .922 | 1.2885 |

AWARD

SANTA CLARA, Santa Clara Co., Cal.—Leo Villich, Santa Clara, awarded contract by city council to install sidewalks and gutters about the city property on the old Sbrana property, in connection with the municipal water system, involving:

- (1) sidewalk, per sq. ft.;
- (2) curb and gutter, per lin. ft.;
- (3) driveway, per sq. ft.

Bidders follow:
 (A) Leo Villich.
 (B) H. C. Miller.
 (C) S. J. Greshmeir.

Unit bids follow:

| | (1) | (2) | (3) |
|-----|--------|-------|-------|
| (A) | \$.132 | \$.65 | \$.15 |
| (B) | .13 | .85 | .20 |
| (C) | .135 | 1.06 | .22 |

ENGINEERING NEWS

BRIDGES

MENDOCINO COUNTY, Cal.—Utah Const. Co., 1 Montgomery Street, San Francisco, at \$14,301 awarded contract by State Highway Commission to construct a timber bridge across Squaw Rock Slide eight miles north of Cloverdale, consisting of seven 19-ft. spans and six 18-ft. spans on pile bents.

MONTEREY COUNTY, Cal.—L. C. Seidel, 680 14th St., Oakland, at \$32,617.59 awarded contract by the State Highway Commission to construct a reinforced concrete arch bridge across Wildcat Creek about 5.5 miles south of Carmel, consisting of one 57-ft. span and two 39-ft. spans on concrete piers and abutments. Complete bids published in issue of September 30.

SHASTA COUNTY, Cal.—Utah Construction Co., 1 Montgomery St., San Francisco, at \$57,891 awarded contract by State Highway Commission to construct two steel stringer bridges with concrete decks on concrete bents, one across Hat Creek and the other across Pit River. Complete bids published in issue of September 29.

STOCKTON, San Joaquin Co., Cal.—Until October 24, 11 A. M., bids will be received by Eugene D. Graham, County Clerk, to construct two steel and timber bridges over Paradise cut on Paradise Ave., 3 mi. north of Banta, involving:

- (1) 618 cu. yds. concrete;
- (2) 1900 lin. ft. redwood piling;
- (3) 2248 b. m. ft. redwood timber;
- (4) 71,518 b. m. ft. Douglas Fir timber
- (5) 190 lin. ft. wire fabric;
- (6) 4.5 tons struc. steel;
- (7) move steel span, 70 tons;
- (8) 192 lin. ft. steel cylinders.

Specifications obtainable from office of County Surveyor J. B. Manthey. Certified check or bond payable to Chairman of Board of Supervisors, 10% required with bid.

REDWOOD CITY, San Mateo Co., Cal.—Until October 17, 2 P. M., bids will be received by E. E. Myers, city clerk, to construct a reinforced concrete bridge on Hudson Street between Jefferson Ave. and Madison Ave., involving:

- (1) 370 cu. yds. excavation;
- (2) 230 cu. yds. backfill;
- (3) 128 cu. yds. concrete;
- (4) 13,070 lbs. reinf. steel;
- (5) 73.5 lin. ft. culvert pipe rail;
- (6) 2 catchbasins.

Engineer's estimate, \$3150. C. L. Dimmit, city engineer.

ORANGE COUNTY, Calif.—Atlas Construction Co., 39 Congress Street, Pasadena, awarded contract by directors of Joint Highway District No. 15, at \$6873 to construct a timber and structural steel bridge, 100 ft. long, across the San Juan Creek, on the Ortega Highway, 10.8 miles northeast of San Juan Capistrano, Orange County, involving:

Bridge complete; 72,350 lb. structural steel; 22 cu. yds. class A concrete; 350 cu. yds. structural excav.; 50 M. board ft. creosoted lumber; 3 M. board ft. untreated lumber; 2700 lbs. steel tie rods

NEVADA CITY, Nevada Co., Cal.—P. F. Bender, North Sacramento, at \$1655 awarded contract by county su-

perisors to repair Greenhorn Bridge on the road between You Bet and Grass Valley, involving:

- (1) remove old timber floor;
- (2) place 11 tons of steel stringers and beams;
- (3) 9,200 bd. ft. lumber;
- (4) 96 lin. ft. pipe hand railing and other incidental items.

Complete bids follow:

| | |
|----------------------------------|--------|
| P. F. Bender, North Sacto..... | \$1655 |
| A. F. Anderson, Auburn..... | 1739 |
| Burton & Reed, Grass Valley..... | 1749 |
| Sacto Valley Planing Mill, Wil- | |
| lows..... | 1981 |
| City Imp. Co., Berkeley..... | 2271 |
| E. B. Bishop, Sacramento..... | 2300 |

STANISLAUS COUNTY, Cal.—Until October 26, 2 P. M., bids will be received by State Highway Commission to construct a bridge across the Tuolumne river near Modesto, consisting of three 80-ft. dock plate girder spans, one 55-ft. 6-in. steel stringer span, thirty-nine 44-ft. steel stringer spans and one 36-ft. 2-in. steel stringer span, on concrete piers ad bents with pile foundations, involving:

- (1) 4370 cu. yds. struc. excav.;
- (2) 120 cu. yds. gravel backfill;
- (3) 28,300 lin. ft. furnish creos. Doug. fir piles incl. test piles;
- (4) 3380 lin. ft. furnish untr. Doug. fir piles incl. test piles;
- (5) 1045 drive creos. and untr. Doug. fir piles incl. test piles;
- (6) 1220 cu. yds. Class "A" cement conc. (footing blocks);
- (7) 4060 cu. yds. Class "A" cement conc. (struc.);
- (8) 640,000 lbs. bar reinf. steel;
- (9) 2,032,000 lbs. struc. steel (deck);
- (10) 156,000 lbs. struc. steel (railing);
- (11) 23,000 lbs. cast steel;
- (12) 62 M. ft. b. m. redwood timber, split-all-heart struc. grade;
- (13) 1 lot lighting equipment;
- (14) 4100 lin. ft. traffic stripe;
- (15) 1 lot misc. items of work.

JACKSON COUNTY, Oregon.—Curtis Gardner, 820 Glenn St. N., Portland, at \$50,368 submitted low bid to District Engineer, U. S. Bureau of Public Roads, Portland, to construct four bridges on the Diamond Lake Highway over Castle Creek, Bybee Creek, Rogue River and Muir Creek, Project E-43-B1, C2, National Forest Road Project, Umpqua National Forest, involving:

- (1) 3,020 cu. yds. unclass. excav.;
- (2) 483 cu. yds. Class A concrete;
- (3) 53 cu. yds. Class B concrete;
- (4) 991 cu. yds. Class D concrete;
- (5) 268,500 lbs. reinf. steel;
- (6) 300 lbs. bronze bearing plates;

(7) 11,250 lbs. struc. steel.

Next two low bidders were: Lindstrom & Feigenson, Portland, \$52,975; C. J. Montag, \$54,437.

SANDPOINT, Idaho.—Until Oct. 17, 2 P. M., bids will be received by the Bonner County Commissioners to construct the new Sandpoint bridge. Plans provide for the construction of 10,000 ft. of timber pile trestle, the county to furnish the material and hardware. This work will include driving 2200 piling 30 to 75 ft. in length, framing of 3,600,000 ft. b. m. lumber and the laying of 7100 square yards of oiled gravel surfacing. Plans obtainable from the county engineer at Sandpoint.

SACRAMENTO COUNTY, Cal.—Until October 26, 2:30 P. M., bids will be received by C. H. Whitmore, district engineer, State Highway Commission, 502 State Office Bldg., Sacramento, for structural steel floor gates with reinforced concrete abutments and wing walls on pile foundations near North Sacramento. Project involves:

- (1) 490 cu. yds. struc. excavation;
- (2) 70 each, drive creosoted Douglas fir piles in place (piles to be furnished by the state);
- (3) 272 cu. yds. Class A Portland cement concrete;
- (4) 20 cu. yds. Class F do;
- (5) 18,500 lbs. reinf. steel;
- (6) 33,700 lbs. structural steel;
- (7) 1,966 lbs. cast steel in place;
- (8) 1 lot of misc. items.

Plans obtainable from the district engineer at Sacramento.

BEVERLY HILLS, Los Angeles Co., Cal.—Until October 28, 8 A. M., bids will be received by B. J. Firminger, City Clerk, to construct reinforced concrete underground reservoir at La Cienega Blvd. and Chalon Road. The cost of the project, including turbine pumps and other equipment (not included in this contract) will be approximately \$25,000. Plans obtainable from Salisbury, Bradshaw & Taylor, consulting engineers, 714 West Tenth St., Los Angeles, on deposit of \$5, returnable.

COLORADO STATE.—Edw. Selander, Greeley, Colo., submitted low bid to Colorado State Highway Commission at \$39,352.75 to construct concrete and steel bridge with paved approaches north of Greeley on State Highway No. 3, Weld County, F. A. Project No. E-286-F.

HUMBOLDT COUNTY, Cal.—Smith Bros., Eureka, at \$11,624.15 awarded contract by State Highway Commission to construct a bridge across Mad River about three miles northeast of Arcata, consisting of one 285-ft. thru steel truss span to be moved and four 19-ft. timber approach spans to be constructed. Complete bids published in issue of September 27.

LOS ANGELES, Cal.—Until 2 P. M., October 24, bids will be received by County Supervisors to construct reinforced concrete box culvert across Ramona Blvd. in the vicinity of City Terrace, 2300 ft. SW from Warwick Road; will be 8x10-ft. inside dimensions, 118 ft. long, with a base 13-in. thick and 12-in. sides and top. Plans obtainable from Mame E. Beatty, county clerk.

CAPITAL CITY TITLE COMPANY

J. C. PALEN,
Manager

914 Seventh Street

Sacramento :: California

SAN LUIS OBISPO, Cal.—E. D. Jarvis, Atascadero, at \$850 submitted lone bid, which was rejected by county supervisors, to construct a truss bridge over the Salinas River at Vaca Crossing near Atascadero. Bridge will be constructed by day labor.

SAN LUIS OBISPO COUNTY, Cal.—Until November 2, P. M., bids will be received by State Highway Commission to construct two steel stringer bridges with concrete decks, one across Pico Creek three miles south of San Simeon consisting of eight 55-ft. spans, four 38-ft. spans and four 20-ft. spans, and the other across Little Pico Creek two miles south of San Simeon consisting of six 43-ft. spans, four 34-ft. spans and two 20-ft. spans, involving:

- (1) 1,870 cu. yds. struc. excav.;
- (2) 4,300 cu. yds. rdwy. excav. without class;
- (3) 7,170 lin. ft. furnish Douglas fir piles, incl. test piles;
- (4) 294 each drive do;
- (5) 450 cu. yds. Class A cem. conc. (footing blocks);
- (6) 2,212 cu. yds. Class A cem. conc. (struc.);
- (7) 247,000 lbs. bar reinf. steel;
- (8) 694,000 lbs. struc. steel;
- (9) 2,130 lbs. cast steel;
- (10) 2,370 lin. ft. solid timber railing;
- (11) 1 lot misc. items of work.

MONTEREY COUNTY, Calif.—Following bids submitted to State Purchasing Agent, Sacramento, under Requisition No. 121338 to furnish cement for construction of Wildcat Bridge: Pacific Portland Cement Co., \$2.28, total \$8,436 f.o.b. cars Monterey, 2%, 10 days.

Central Supply Co., Watsonville, \$2.-332 in paper sacks, total \$8,628.40; \$2.-528 in cloth sacks, total \$9,353.60, 10c credit on return of sacks, f.o.b. cars Monterey; f.o.b. job site at Wildcat Bridge, \$2.528 in paper sacks, total \$9.-353.60; \$2.724 in cloth sacks, total \$10.-078.80, 10c credit on return of sacks.

KERN COUNTY, Cal.—Fredrickson & Watson and Fredrickson Bros., 873 8th Ave., Oakland, at \$272,411.85 submitted low bid to State Highway Commission, Sacramento, to construct a bridge over the Kern River near Bakersfield consisting of steel stringer spans with concrete deck on concrete pile bents and concrete piers with timber pile foundations and timber trestle spans with concrete deck on timber pile bents. Project involves:

- (1) 3800 cu. yds. struc. excav.;
- (2) 36,000 lin. ft. furnish redwood piles incl. test piles;
- (3) 1167 drive redwood piles incl. test piles;
- (4) 2585 lin. ft. reinf. conc. piles incl. test piles;
- (5) 936 cu. yds. Class "A" cem. conc. (footing blocks);
- (6) 3715 cu. yds. Class "A" cem. conc. (struc.);
- (7) 697 cu. yds. Class "A" cem. conc. (pave.);
- (8) 278 cu. yds. sand fill;
- (9) 509,000 lbs. bar reinf. steel;
- (10) 1,855,000 lbs. struc. steel (deck);
- (11) 125,500 lbs. struc. steel (railing);
- (12) 6950 lbs. cast steel;
- (13) 117,300 lbs. cast iron;
- (14) 372 M. ft. b. m. redwood timber, dense sel. all-heart struc. grade;
- (15) 189 M. ft. b. m. redwood timber, sel. all-heart struc. grade;
- (16) 1 lot lighting equipment;
- (17) 6880 lin. ft. traffic stripe;
- (18) 1 lot misc. items of work.

Complete bids follow:
Fredrickson & Watson and Fredrickson Bros., Oakland, \$272,411.85.
Oberg Bros., Los Angeles, \$237,594.

Hartman Constr. Co. and G. A. Graham, Bakersfield, \$274,932.05.
J. F. Knapp, Oakland, \$279,727.

Mittry Bros., Los Angeles, \$283,904.50.
Sharp & Fellows, Los Angeles, \$285,157.45.

Weymouth-Crowell Co., Los Angeles, \$291,472.20.

H. M. Baruch and Robinson-Roberts Co., Los Angeles, \$292,034.19.
Lynch Cannon Engr. Co., Los Angeles, \$297,511.

Mercer-Fraser Co., Eureka, \$304,755.12.

Clinton Constr. Co., San Francisco, \$313,580.

Ward Engineering Co., San Francisco, \$320,644.

LOS ANGELES, COUNTY, Cal.—Oberg Bros., 406 South Main St., Los Angeles, at \$46,269.75 submitted low bid to State Highway Commission, Sacramento, to construct a reinforced concrete bridge across Topanga Creek, about 5 mi. north of Santa Monica, consisting of two slab spans each approximately 29 ft. long. Project involves:

- (1) 2800 cu. yds. struc. excav.;
- (2) 840 cu. yds. gravel and sand backfill;
- (3) 11,300 lin. ft. furnish Douglas fir piles, incl. test piles;
- (4) 412 drive Douglas fir piles, incl. test piles;
- (5) 950 cu. yds. Class "A" cem. conc. (footing blocks);
- (6) 1200 cu. yds. Class "A" cem. conc. (struc.);
- (7) 225 cu. yds. Class "A" cem. conc. (channel pave.);
- (8) 206,000 lbs. reinf. steel;
- (9) 15,000 lbs. galv. reinf. steel;
- (10) 12,000 lbs. struc. steel (railing);
- (11) 1 lot misc. items of work.

Complete bids follow:
Oberg Bros., Los Angeles, \$46,269.75.
Johnston Constr. Co., Los Angeles, \$49,894.75.

H. M. Baruch, Los Angeles, \$50,483.38.
R. R. Bishop, Long Beach, \$51,334.
Gist & Bell, Arcadia, \$58,258.

DREDGING, HARBOR WORKS & EXCAVATIONS

LOS ANGELES, Cal.—Case Constr. Co., 2091 Parnell Ave., awarded contract by county supervisors at \$23.-603.75 (Proposal No. 1), for Guniting of main channel, construction of main diversion structures, etc., for the construction of Spreading Ground No. 2 on Pacoima Wash between Arleta St. and Payton Ave. Quantities of materials involved published in issue of October 14.

LOS ANGELES, Cal.—All bids to construct canals, laterals, lateral diversion structure, measuring flumes and appurtenant work on Pacoima Wash Spreading Ground No. 2, under Proposal No. 2, opened October 10, rejected by county supervisors. The work was ordered done by force account. The items are:

- (1) 25,500 cu. yds. class A excavation;
- (2) 2750 cu. yds. class B excavation;
- (3) 600 cu. yds. backfill;
- (4) 8180 cu. yds. fill;
- (5) 175 cu. yds. class A concrete;
- (6) 310 cu. yds. class B concrete;
- (7) 255 cu. yds. class C concrete;
- (8) 480 cu. yds. rock fill;
- (9) 34,500 lbs. placing of corrugated iron pipes at lateral checks;
- (10) 2070 lbs. placing of corrugated iron pipe.

PORTLAND, Ore.—Hydraulic Dredging Co., Ltd., Central Bank Building, Oakland, Calif., at 8c cu. yd. (\$48,800)

submitted low bid to U. S. Engineer Office, Portland, for dredging in the Columbia river at points between 65 and 75 miles below Portland, involving 635,000 cu. yds. Gilpin Const. Co., Portland and Tacoma Dredging Co., Tacoma, Wash., submitted identical bids at 9.2c cu. yd. Oregon Bridge & Dredging Co., Portland any other bidder at 11c. Award will be made to low bidder.

STOCKTON, San Joaquin Co., Cal.—A. J. Peterson, P. O. Box 1506, Bakersfield, at \$140 submitted low bid to U. S. Engineer Office, Sacramento, for moving back a section of levee, approximately 550 ft. long on the north bank of the San Joaquin River at the Stockton Country Club Point, 3.5 mi. downstream from the city of Stockton, involving moving of approximately 20,000 cu. yds. of material. Complete bids follows:

A. J. Peterson, Bakersfield, \$.082; \$140.

E. J. Warner, Manteca, \$.0885; \$1,770.

Willard, Biasotti & Lovatti, Stockton, \$.11; \$2900.

Delta Dredging Co., Pittsburg, \$.124; \$2480.

C. W. Wood, Stockton, \$.15; \$3000.

California Delta Farms, Stockton, \$.155; \$3100.

R. P. Easley, Antioch, \$.185; \$3700.

W. J. Beatty, Castroville, \$.21; \$4,200.

Olympian Dredging Co., San Francisco, \$.247; \$4940.

LOS ANGELES, Calif.—Clark and Campbell, 1358 E. Manchester Avenue, awarded contract by county supervisors at \$29,304.50 to construct Unit No. 3, San Gabriel River Outlet at Alamitos Bay. Quantities listed in issue of September 30.

SAN DIEGO, Cal.—Standard Dredging Co., Central Bldg., Los Angeles, submitted the low bid to U. S. Engineer, Los Angeles, at 25c cu. yd. for dredging at San Diego Harbor, Spec. No. 33-4, involving 475,000 cu. yds. of material and removing same and placing on northern side of North Island. The only other bid was submitted by the San Francisco Bridge Co. at 26c cubic yard.

SACRAMENTO, Cal.—Daniels Contracting Co., 402 Market St., San Francisco, at \$13,380 submitted low bid to U. S. Engineer Office, California Fruit Bldg., Sacramento, to furnish, deliver and place approximately 12,000 tons of rip-rap stone at Chicery Bend on the Sacramento river, about 4½ miles below the city of Sacramento; stone ranging in size from 15 lbs. to 200 lbs. Complete bids follow:

Daniels Contracting Co., San Francisco, \$1,115 165 lbs.; total \$13,380.

Blake Bros., San Francisco, \$1,311 165 lbs.; total, \$15,720.

Healy Tibbitts Co., San Francisco, \$1,441 160 lbs.; total, \$17,250.

Harbor Tug & Barge Co., San Francisco, \$1,591 155 lbs.; total, \$19,080.

Engineer's estimate, \$1.62; \$19,530.

Bids held under advisement.

SAN BERNARDINO, Cal.—San Bernardino supervisors have appropriated \$39,500 for the employment of labor on water conservation projects in San Bernardino County. George S. Hincley, city engineer of Redlands, has been appointed superintendent of construction for projects in the Santa Ana River and its flood area east of Tippecanoe Ave. The work in the latter area will cost about \$19,500.

SAN FRANCISCO.—Fred O. Henderson, 1133 20th St., San Pedro, at \$11,750 awarded contract by U. S. Engineer Office, San Francisco, for removing the sunken and abandoned schooner harge Simla, lying in Oakland Harbor. Complete bids published in issue of October 1.

REDWOOD CITY, San Mateo Co., Cal.—Proceedings for the formation of the proposed Las Lomas - Atherton Drainage District will come before the Board of Supervisors November 7. District contemplates a bond issue for \$160,000 to finance construction in connection with draining sunken lands east of the foothills where the winter rains collect. In general, the boundaries include about 2,000 acres from Santa Cruz Avenue to Atherton Ave. and from El Camino Real to the foothills in the Menlo-Atherton district. Norman S. Meniffee and Wayne Millington are attorneys for the district.

LONG BEACH, Cal.—Special election will be held Nov. 8 to vote on a \$3,450,000 bond issue to finance the proposed improvement of the inner and outer harbors of the City of Long Beach by the dredging, deepening, widening and improving the channel, slips and turning basins, the entrance and the water front, and the construction and repair of docks, wharves, piers, streets, landings, bulkheads, warehouses and other harbor structures. Maj. R. G. McGlone is the harbor engineer.

PORTLAND, Ore.—Kern & Kibbe, 290 E Salmon St., Portland, at \$33,443 submitted low bid to U. S. Engineer Office, Portland, to construct 5,630 lin. ft. of pile dikes at five points from 34 to 75 miles below Portland. Quantities of materials involved under four schedules noted in issue of September 27. Bid follows: Schedule A, \$24,277; B, \$25,519; C, \$20,097; D, \$23,910. Engineer's estimate: A, \$31,026; B, \$31,935; C, \$23,350; D, \$30,319. Contract award has been recommended.

SEATTLE, Wash.—General Const. Co., 3840 Iowa Ave., Seattle, at \$3.90 cu. yd. (\$27,300) submitted low bid to U. S. Engineer Office, Burke Bldg., Seattle, for removal of 7,000 cu. yds. of ledge rock from the Hoquiam Bluffs. Next two low were: Puget Sound Bridge & Dredging Co., Seattle, \$4.25; Grays Harbor Const. Co., Hoquiam, \$4.50. A channel 100-ft. wide and 18-ft. deep is to be dredged.

SAN DIEGO, Cal.—Until 11 A. M., November 1, bids will be received by Public Works Officer, 11th Naval District, San Diego, for dredging at Naval Operating Base (Supply Depot), San Diego, Spec. No. 7091. The work consists of the dredging of an area adjacent to and parallel with the south face and outboard of the depot pier. The amount to be dredged, including the full one foot allowable overdepth, is approximately 65,000 cu. yds.

Plans obtainable from Public Works Officer, 11th Naval District, San Diego on deposit of \$10, payable to the Chief of the Bureau of Yards & Docks.

MACHINERY AND EQUIPMENT

AMERICAN LAKE, Wash.—Hoffman Combustion Engineering Co., 410 Fort Bldg., Detroit, Mich., at \$17,844 awarded contract by U. S. Veterans' Bureau, Washington, D. C., for stoker equipment for the Veterans' Hospital at American Lake.

YUBA CITY, Sutter Co., Cal.—Until October 28, 7:30 P. M., bids will be received by John P. Onstott, clerk, Yuba City Union High School District, to furnish school bus. Although bids for a complete bus are preferred, bids may be submitted for said bus as a whole or for various parts thereof as in said specifications provided. Chassis bids must include cost of lengthening frame if this is necessary. Specifications obtainable from clerk.

REDONDO BEACH, Los Angeles Co., Cal.—Until 8 P. M., October 27, bids will be received by Redondo Union High School District for one school bus body having a capacity of not less than 45 or more than 50 high school pupils. Chassis will be furnished by district. Full specifications are to be submitted with each bid. Cashier's check for 5% required. Geo. H. Anderson, clerk.

LOS ANGELES, Cal.—Brown-Bevis Co., Los Angeles, at \$15,500, under Spec. 4253, awarded contract by the county purchasing agent to furnish one full - revolving gasoline power shovel, weight 70,000 lbs., or more, gasoline engine, 80-hp., f.o.b. S. P. Ry., Castaic, Calif.

RAILROADS

SAN DIEGO, Cal.—Lipscomb & Arnett, 4367 Florida Street, San Diego, awarded contract by Bureau of Yards and Docks, Navy Department, at \$2,714.53 to construct railroad track at Airship Mast, Eleventh Naval District (Camp Kearney), San Diego, Specifications No. 7065. The work consists of a standard gauge railroad track 4,040 ft. long encircling the airship mast.

SAN FRANCISCO—Extension of the Belt Line Railroad tracks to the south waterfront industrial area at a cost of \$500,000 will be undertaken by the State Board of Harbor Commissioners upon completion of the Third St. Bridge. The bridge is now two-thirds completed and will be in operation shortly after the first of the year. Frank G. White, Ferry Bldg., is chief engineer for the state harbor commission.

FIRE EQUIPMENT

OAKLAND, Calif.—City council rejects bids to furnish 500-gallon, pumping engine, equipped with 100-gallon booster pump for fire department. Low bid was submitted by P. E. Van Pelt, Oakland, at \$5,450. Whether new bids will be asked or a purchase made in the open market is not determined at this time.

RESERVOIRS AND DAMS

MARYSVILLE, Yuba Co., Calif.—T. G. Smith and Wm. Swinyer, Huntington Park, at \$39,900 awarded contract by U. S. Engineer Office, Sacramento, to raise and strengthen an existing levee and construct a section of new levee along the east bank of Feather River from the Lake of the Woods to Starr Bend, approximately ten miles downstream from the city of Marysville. The total length of the levee work is about 3.5 miles and the total quantity of material to be moved is approximately 475,000 cu. yds.

BOULDER CITY, Nev.—Lidgerwood Mfg. Co., Elizabeth, N. J., awarded contract by U. S. Bureau of Reclamation, Denver, Colo., at \$172,110 to furnish, install and paint one electrically operated cableway, capacity 150 tons,

with span approx. 1200 feet, at Hoover Dam, Boulder Canyon Project, Arizona-California-Nevada, Spec. No. 537. Details reported in issue of Sept. 29.

LOS ANGELES, Calif.—Oct. 31 has been tentatively set as the date for opening bids for the San Gabriel Dam No. 1. Hugh A. Thatcher, chairman of the Flood Control Committee of the Board of Supervisors has announced that the board will meet within the next two or three days and approve the new specifications and advertise for bids.

OGDEN, Utah.—Reconstruction Finance Corp. has authorized loan of \$45,620 to city of Ogden to aid city in increasing its water reservoir capacity.

PRESOTT, Ariz.—A loan of \$50,000 for the completion of the construction of two dams to enlarge the Prescott water reservoir capacity, has been granted by the Reconstruction Finance Corporation.

BOULDER CITY, Nev.—Bid to furnish turbines, butterfly valves, and miscellaneous generating and electrical equipment in connection with the Boulder Dam project will be advertised by the U. S. Bureau of Reclamation, Denver, Colo., on approximately the dates shown below. The list of equipment follows:

Four 115,000-hp. and two 55,000-hp. turbines, October 15.
Four 14-ft. and two 10-ft. butterfly valves, October 15.
Six oil pressure governors, Oct. 15.
One 30-ton traveling crane, Nov. 1.
Four million pounds reinforcing steel December 1.

Ten million pounds reinforcing steel, March 1, 1933.
Two thousand tons base and inlet castings for intake towers, cast iron and steel, March 1, 1933.

Four \$2,500 Kv-a generators and 2 40,000 Kv-a generators, March 1, 1933.
Seventy-five hundred tons structural steel for power house, July 1, 1933.

Three 500-ton traveling cranes, July 1, 1933.

Seven 55,000 Kv-a transformers, July 1, 1933.

Four 13,333 Kv-a transformers, July 1, 1933.

Twelve 4000-ampere oil circuit breakers, July 1, 1933.

Two 2000-ampere oil circuit breakers, July 1, 1933.

Six emergency gates for draft tubes, 16-in. square, July 1, 1933.

Two 3000 Kv-a turbines and generators for station service, July 1, 1933.

Switchboard and control apparatus for generators and transformers, Oct. 1, 1933.

LOS ANGELES, Cal.—E. C. Eaton, Los Angeles County Flood Control Engineer, has prepared for the benefit of bidders on San Gabriel Dam No. 1, a statement concerning the revised specifications. Mr. Eaton states that he makes the statement to aid bidders as the completed specifications probably will not be ready for another two weeks. The bids will be opened probably November 14. The statement (verbatim) follows:

Under order of the Board of Supervisors we are elaborating Specifications instead of leaving the bidders free to select their own quarry locations.

In the new Specifications a number of quarry locations in San Gabriel Canyon will be designated, together with estimates of rock and estimates of stripping and waste quantities.

The quarry nearest to the proposed dam will be taken as a base and a definite distance between two established points designated.

Bidders will be required to bid upon unit prices from his quarry as follows:

1. Per yard of Rock accepted and run directly from the quarry and placed in the dam, and measured in accordance with the Specifications.

2. Per yard of rock passed over a Grizzly prior to placing in the dam and measured in place in the dam.

3. Per yard of quarry stripping measured by cross sectioning prior to stripping the quarry.

4. Per yard of waste measured in the waste dumps by cross sectioning the area where waste is placed. Waste is defined as quarry material exclusive of stripping which is rejected at the quarry as unfit for use in the dam and as not warranting passing through the Grizzly. Waste also includes rejected material passing through the Grizzly.

The object of the use of a Grizzly is that our quarry sites are covered with a considerable quantity of loose overburden. We consider it essential to get clean rock in the dam and even with the fullest possible stripping in advance some loose overburden remains and is brought down by the quarry shots. Occasional seams of unacceptable material may be encountered in the quarrying itself.

We have found that to get rid of this material by ordinary steam-shovel sorting methods results in running to the waste pile much well graded sound rock which would be acceptable in the dam.

When such conditions are encountered in the quarry Specifications will require the passing of this rock over a large grizzly either the stationary or some acceptable shaker type that will screen out the dirt and loose material and permit the acceptable material to be placed in the dam. The grizzly will be located on the roads between quarry and dam. In addition to getting bids at this closest quarry a number of other quarry sites will be designated, from each of which bids will be called for as follows.

Per yard additional price over that for rock from nearest quarry and to supply to both rock run directly from quarry to dam and to rock passed over grizzly.

Prices for stripping and for waste to be the same as those bid on nearest quarry.

Obviously the bidders should know the required quantities from each quarry site and separate bids will be called for on minimum quantities for each item from each quarry as follows:

- 0-200,000 cubic yards.
- 201,000-500,000 cubic yards.
- 501,000-1,000,000 cubic yards.
- 1,000,000-1,500,000 cubic yards.
- etc. up to the estimated capacity of the quarries.

Proposal No. 1—will call for contractor handling the entire project.

Alternate Proposal No. 2—will provide for separate contracts as follows:

1. Excavation.
2. Tunnel excavation.
3. Rockfill.
4. Concrete.
5. Drilling and grouting.
6. Placing steel and metal work.

Alternate Proposal No. 3—will provide for separate contracts as follows:

1. Excavate and rekill.
2. Tunnel excavation and placing tunnel concrete.
3. All concrete except tunnel.
4. Drilling and grouting.

5. Placing steel and metal work. Under Alternate Proposal No. 2 where separate contractors may excavate tunnel and place concrete, contractor on tunnel excavation will be paid to neat lines but concrete contractor will be paid for full amount of concrete placed in tunnel.

Under Proposal No. 3 contractor on tunnel excavation and concrete will be paid to neat lines.

Under Proposal No. 1 contractor assumes risks due to flood flows.

Under Alternate Proposals Nos. 2 and 3 contractor constructs stream diversion works and after acceptance District takes all risks from flood flows.

It is hoped by definitely designating quarry locations and paying for acceptable rock and waste to eliminate element of risk on the part of bidders and encourage more close bidding and by subdividing into alternates to give an opportunity to contractors who do not care to bid on the entire work to bid upon such portions as they are equipped to handle.

LOS ANGELES, Cal.—Until 2 P. M. Oct. 31, bids will be received by the county supervisors to supply admixture to use in the construction of San Gabriel Dam No. 2, involving: (1) admixture in cloth sacks, 12 tons, more or less, of 2000 lbs.

F.o.b. plant or shipping point of bidder. E. C. Eaton, County Flood Control Engineer. Mame B. Beatty, Clerk of the Board.

REDWOOD CITY, San Mateo Co., Cal.—Thomas J. Doyle, 1527 17th Ave., San Francisco, at \$2316.58 submitted low bid to city council to construct a reinforced concrete bridge on Hudson St., between Jefferson and Madison Aves., involving:

- (1) 370 cu. yds. excavation;
- (2) 200 cu. yds. backfill;
- (3) 128 cu. yds. concrete;
- (4) 13,070 lbs. reinf. steel;
- (5) 73.5 lin. ft. culvert pipe rail;
- (6) 2 catchbasins.

Complete bids follow:
 Thos. J. Doyle, S. F. \$2316.58
 Harry C. Yates, Redwood City 2395.57
 W. O. Tyson, Redwood City 1396.06
 J. J. Leonard & Sons 2402.03
 Clinton Stephenson, S. F. 2458.35
 Palmer & Tibbs, Menlo Park. 2392.07
 Pacific Truck Service, Inc., San Jose 2615.41
 Frank Bryant, S. F. 2722.30
 Collins & Martin, San Jose. 2844.33
 Neves & Harp, Santa Clara. 3052.98
 Edwin P. Erwen, San Mateo. 3582.81
 Bids held under advisement.

PIPE LINES, WELLS, ETC.

UKIAH, Mendocino Co., Cal.—Thebo Starr & Anderton, Sharon Bldg., San Francisco, at \$9,489, only bidders, awarded contract by city council to fabricate and erect one 50,000-cu. ft. capacity, water-sealed gas holder, two 10x10-ft. gas purifiers and foundations. The bid follows:
 Materials and construction of foundations, \$983.

Materials and labor for construction of two purifiers, \$46.
 50,000 cu. ft. gas holder, \$7,800.
 Two purifiers, \$660.

SACRAMENTO, Cal.—Until Oct. 25, 3 P. M., under Order No. 4939-Sac. 145, bids will be received by U. S. Engineer Office, California Fruit Bldg., to furnish f.o.b. trucks or railroad cars, at Sacramento:
 (1) 80 lin. ft. 10-gauge, corrugated galvanized iron culvert pipe, 24-in. di-

ameter, to be made up in four sections, each 20-ft. long.

(2) three 10-gauge, corrugated galvanized iron coupling bands to fit 24-in. dia. pipe of Item 1. Each band to be 12½-in. wide and complete with bolts, etc.

Specifications obtainable from above office.

SUNNYVALE, Santa Clara Co., Cal.—See "Government Work and Supplies" in this issue. Additional prospective bidders reported for tanks for helium gas storage at Sunnyvale Naval Air Station under Specification No. 6964, bids for which will be opened by the Bureau of Yards and Docks, Navy Department, Washington, D. C. Nov. 2nd.

TERRA BELLA, Tulare Co., Cal.—West Coast Pipe and Steel Co., 2440 E 15th St., Los Angeles, at \$10,637.04 awarded contract by Terra Bella Irrigation District to furnish:
 2,700 ft. 14-in. 12-gauge;
 5,300 ft. 20-in. 12-gauge
 double dipped pipe, wrapped with soil proof wrapping.

D. M. Stanley, Terra Bella, at \$1,157 awarded contract for trenching the above pipe. Complete list of bids follows:

| | |
|--|-------------|
| Furnish Pipe | |
| Los Angeles Mfg. Co., L. A. | \$10,348.82 |
| West Coast Pipe & Steel Co., Los Angeles | 10,637.04 |
| Lacey Mfg. Co., L. A. | 10,807.00 |
| Western Pipe and Steel Co., San Francisco | 10,812.00 |
| Montague Pipe and Steel Co., San Francisco | 11,982.00 |
| E. W. Redman, Fresno | 15,493.63 |
| Laying Pipe | |
| C. F. Nevins, Terra Bella, (18-in.) | \$ 1,052.00 |
| D. M. Stanley, Terra Bella (20-in.) | 1,157.00 |
| Earl Bowen, Strathmore | 1,796.00 |

SEWERS AND SEWAGE DISPOSAL PLANTS

LOS ANGELES, Calif.—Until 10 A. M., Oct. 13, bids will be received by board of public works for repairing Central Outfall Sewer, involving preparation of surface, removing masonry debris and guniting entire upper half of inner surface for a combined length of 2050 ft. Wire reinforcement and admixture will be furnished by city.

MODESTO, Stanislaus Co., Cal.—City Engineer Frank J. Rossi has submitted proposal to city council for the construction of a storm sewer in the Capital Heights eastern residential section, whereby the property owners to be assessed would "work out the payment." The cost is estimated at \$22,300 of which the city would pay \$5758 from the General Fund. Property owners in the district would be given an opportunity to be employed on the project and thereby work out their payments.

LOS ANGELES, Cal.—W. E. Lauer, street lighting engineer, authorized by board of public works to prepare plans for ornamental street lighting system in Silver Lake Blvd. bet. Glendale Blvd. and Virgil Ave. in connection with grade separation structures at Temple St. and Sunset Blvd. Bids on the structures and lighting system will be taken as one project. The proposed lighting system will involve 135 Marbellite No. S-160 single light standards.

REDWOOD CITY, San Mateo Co., Cal.—Until Oct. 31, 8 P. M., bids will be received by E. B. Hinman, county clerk, to construct an outfall sewer at Brisbane, involving:

- (1) 3 burnt brick manholes complete with cast iron frames and covers
- (2) 875 lin. ft. 12-in. vit. sewer pipe, trench lay and backfill, includ. 30 cu. yds. suitable material to be placed above pipe bet. Sta. 4+577.2 and 8+73.6;
- (3) 10 12x6-in. wyes;
- (4) 203 lin. ft. 12-in. cast iron pipe, trench lay and backfill, Sec. A;
- (5) 100 lin. ft. 12-in. c. i. pipe to be placed beneath Bayshore Highway, bored or trench, Sec. D;
- (6) 125 lin. ft. 12-in. c. i. pipe, trench, timber mat, lay, backfill, Sec. B;
- (7) 300 lin. ft. 12-in. c. i. pipe, timber trestle, lay complete, Sec. C.

Certified check 10%, payable to the county required with bid. Specifications obtainable from James S. James, county surveyor.

ALAMEDA, Alameda Co., Calif.—F. W. Snook Co., 596 Clay St., San Francisco, awarded contract at \$10,650 for construction of a water supply system and sanitary sewer system at Benton Field Air Depot, Alameda. Complete bid listing reported in issue of September 29.

FRESNO, Fresno Co., Calif.—City commissioners contemplate a bond issue for \$225,000 to finance construction of extensions to the storm sewer system. Jean Vincenz is city engineer.

WATERWORKS

TONASKET, Wash.—City council sets October 21 as date to vote bonds of \$31,000 to finance replacing water mains in various sections of the city. Cast iron mains will be installed.

ANAHEIM, Orange Co., Cal.—U. S. Pipe & Foundry Co., Los Angeles, awarded contract by city council to furnish c. i. bell and spigot water pipe, F.O.B. trenches as follows:

- 512 lin. ft. 10-in. pipe, A.W.W.A., class B or equal, 87c. ft.
- 3260 lin. ft. 6-in. pipe, A.W.W.A., class B, or equal, 45.5c per ft.
- 3260 lin. ft. 4-in. pipe A.W.W.A., class B, or equal, 31c ft.
- 2000 lbs. fittings, A.W.W.A. standard, 4c lb.

LOS ANGELES, Cal.—The issuance of a block of bonds amounting to \$2,016,000 has been authorized by the directors of the Metropolitan Water District. In authorizing the sale, the board provided that no repayments on the principal are to be made for 15 years. Thereafter the bonds are to be paid off in equal installments over a period of 35 years, with ultimate maturity set at 1982. The funds provided by this first sale will finance the project during the first 60 or 90 days. The Reconstruction Finance Corporation, which has agreed to purchase \$40,000,000 of the \$225,000,000 issue, will submit a bid on this first block when advised.

DEER LODGE, Montana—Lease & Leigland, Great Falls, Montana, at \$17,350 awarded contract by the city council to construct water supply system. Plans for the system were prepared by Burns and McDonnell, Kansas City, Mo.

SAN BRUNO, San Mateo Co., Cal.—City Engineer R. A. Klassen has completed plans for outfall sewer for the Third Addition and Lomita Park,

including pumping plants to carry the sewage into the bay. It is expected that Lomita Park and San Bruno will share the cost, estimated at \$18,000. It is doubtful, however, if the work will be undertaken before spring.

SEATTLE, Wash.—Until October 28, bids will be received by city council for the purchase of bonds of \$1,000,000 of which \$300,000 will finance the extension of the municipal water system north of the city.

VENTURA, Ventura Co., Cal.—Charles F. Zepf, Water Superintendent, has announced that city will purchase 2000 ft. of water pipe to replace broken mains on North Ventura Ave. Emergency bids are being taken from three cast iron pipe firms and one concrete pipe manufacturer.

CAMPBELL, Santa Clara Co., Cal.—Kardetz and Tyson, Redwood City, at \$94 awarded contract by Santa Clara Water Conservation District, San Jose, for construction of the Page Ditch Project. F. H. Tibbitts, consulting engineer for district, Alaska Commercial Bldg., San Francisco.

FRESNO, Fresno Co., Calif.—U. S. Pipe & Foundry Co., Monadnock Bldg., San Francisco, at \$8,627.11 awarded contract by city council to furnish cast iron pipe as follows:

- (1) 2,048 ft. 4-in. Class 150;
 - (2) 1,392 ft. 6-in. Class 250;
 - (3) 896 ft. 8-in. Class 250;
 - (4) 6,000 ft. 10-in. Class 250.
- All above to be B&S type, in 16-ft. lengths. Following is a complete list of the total bids:
- | | |
|---|-------------|
| *Inter Continental Pipe and Mining Co., S. F. | \$ 7,154.00 |
| U. S. Pipe & Foundry, S. F. | 8,627.00 |
| American C. I. Pipe Co. S. F. | 8,734.39 |
| Utilities Sup. Co., L. A. | 10,146.19 |
- *Bid not in accordance with specifications.

SANTA ANA, Orange Co., Cal.—Until 7:30 P. M., October 24, bids will be received by city council to furnish f. a. b. Santa Ana one chlorinator having a maximum capacity of 200 lbs. chloride per 24 hours. Specifications may be seen at the office of DeWitt Dudley, the city engineer. Certified check, cashier's check, or bid bond, 10%. E. L. Vegely, City Clerk.

PLAYGROUNDS & PARKS

SAN MATEO, San Mateo Co., Cal.—Following awards of contract have been made by city council in connection with the construction of the \$20,000 municipal golf course:

Two-Horse Teams—Edward Boicelli, Redwood City, \$3.50 a day with stipulation that \$1.60 will be paid in cash and the balance deferred until receipts from the golf course are available.

Tractors and Grading Machinery—Peninsula Paving Co., Standard Oil Bldg., San Francisco, 60-hp. tractors \$45 a day, accepting \$17 cash and the balance in deferred payments from receipts; 30-hp. tractors, \$30 a day, \$12 in cash and the balance in deferred payments.

Grass Seed—Vincent Seed Co., San Francisco, \$825.

STREETS AND HIGHWAYS

MADERA COUNTY, Calif.—Until Nov. 3, 2 P. M., bids will be received by U. S. Bureau of Public Roads, 461 Market St., San Francisco, for grading 3.841 miles Section D of Route 47 the Oakhurst National Forest High-

way, Sierra National Forest, involving:

- (1) 23 acres clearing;
- (2) 125,500 cu. yds. unclass. excav.;
- (3) 540 cu. yds. unclass. excav., struc.
- (4) 21,100 sta. yds. overhaul;
- (5) 3.841 miles finish earth graded rd.;
- (6) 36 cu. yds. concrete;
- (7) 400 lbs. reinf. steel;
- (8) 2646 lin. ft. reinf. concrete or corrugated metal pipe;
- (9) 64 right of way monuments;
- (10) 6,000 lin. ft. move and reset fence.

Specifications obtainable from above on deposit of \$10, returnable. Checks certified and made payable to Regional Fiscal Agent, U. S. Forest Service. C. H. Sweetser, District Engineer.

TUOLUMNE COUNTY, Cal.—C. G. Willis & Sons, 2119 E 25th, Los Angeles, at \$199,077 submitted low bid to U. S. Bureau of Public Roads, San Francisco, for grading 11.621 miles of Section C1 of Route 4 of the Tioga Road, Yosemite National Park, involving:

- (1) 57 acres clearing;
- (2) 149,000 cu. yds. unclass. excav.;
- (3) 2151 cu. yds. do for structures;
- (4) 40,500 cu. yds. do for borrow;
- (5) 69,500 sta. yds. overhaul;
- (6) 11,500 miles finish earth graded road;
- (7) 100 cu. yds. Class A concrete;
- (8) 181 cu. yds. Class B concrete;
- (9) 41,400 lbs. reinf. steel;
- (10) 1200 lbs. bronze bearing plates;
- (11) 950 cu. yds. masonry;
- (12) 32 lin. ft. 8-in. corr. metal pipe, asphalt dipped;
- (13) 3,820 lin. ft. 18-in. do except not asph. dipped;
- (14) 1,568 lin. ft. 24-in. do;
- (15) 80 lin. ft. 30-in. do;
- (16) 194 lin. ft. 36-in. do;
- (17) 100 cu. yds. hand laid rock embankment;
- (18) 2 tyo A spillway inlets;
- (19) 37,800 cu. yds. mtl. hauling borrow
- (20) 66 sq. yds. asph. plank wearing surface;
- (21) obliterate existing road;
- (22) 104 lin. ft. 42-in. corr. metal pipe
- (23) 80 lin. ft. 48-in. do.

Complete bids follow:

| | |
|--|-----------|
| C. G. Willis & Sons, L. A. | \$199,077 |
| Isbell Const. Co., Carson City | 219,702 |
| Granfield, Farris & Carlin, San Francisco | 243,821 |
| H. M. Baruch and Robinson Roberts Co., Los Angeles | 248,414 |
| M. J. Bevenda, Stockton | 285,778 |
| Youldall Const. Co., S. F. | 312,197 |
| Engineer's estimate | 225,106 |

SUNNYVALE, Santa Clara Co., Cal.—As previously reported, bids will be received November 9, 11 A. M., under Specification No. 7035, for bituminous macadam roads, concrete curbs and gutters and sidewalks, ditches and drain piping, manholes and catch-basins at the Naval Air Station, Sunnyvale. Specifications for this work are obtainable from the Commandant, 12th Naval District, 100 Harrison St., San Francisco, on deposit of \$20, returnable, checks for same to be made payable to Chief of the Bureau of Yards and Docks.

BEVERLY HILLS, Los Angeles Co., Cal.—R. J. Bianco, 5176 Alhambra Ave., Los Angeles, awarded contract by the city council, at \$2.05 per ton for resurfacing portions of Beverly Drive and Sunset Blvd., under Cash Contract, involving:

- Sunset Blvd., 192,818 sq. ft. asphalt concrete resurfacing, average thickness, 2-in.
- Beverly Drive, 439,442 sq. ft. asphalt concrete resurfacing, average thickness, 2-in.

TEHAMA COUNTY, Cal.—Frank C. Cuffe, Box 441, San Rafael, at \$36,598 submitted low bid to U. S. Bureau of Public Roads, San Francisco, for 4.128 miles of grading Section C of Route 21, the Deer Creek Meadows National Forest Highway, Lassen National Forest, involving:

- (1) 22 acres clearing;
- (2) 97,500 cu. yds. unclass. excav.;
- (3) 1,000 cu. yds. unclass. excavation, structure;
- (4) 52,000 sta. yds. overhaul;
- (5) 4.102 miles finish earth graded rd.
- (6) 200 lin. ft. logs for pier posts;
- (7) 24 MFEM untreated timber;
- (8) 3 log truss spans;
- (9) 1,200 sq. ft. crib face;
- (10) 262 cu. yds. Class A concrete;
- (11) 25 cu. yds. Class B concrete;
- (12) 23,020 lbs. reinf. steel;
- (13) 30 cu. yds. cem. rubble masonry;
- (14) 800 lin. ft. 8-in. perf. corr. metal pipe;
- (15) 1,158 lin. ft. 18-in. corr. metal pipe;
- (16) 532 lin. ft. 24-in. do;
- (17) 76 lin. ft. 30-in. do;
- (18) 24,000 lbs. struc. steel;
- (19) 180 cu. yds. H. P. rock fill for log cribs;
- (20) 105 cu. yds. H. L. rock embank;
- (21) 200 cu. yds. crushed gravel or rock for backfill.

Complete bids follow:

| | |
|-----------------------------------|----------|
| Frank C. Cuffe, San Rafael..... | \$36,598 |
| MacDonald & Kahn, S. F..... | 89,815 |
| Chigris & Sutsons, S. F..... | 95,622 |
| Larson Bros, Galt..... | 99,072 |
| Baker & Taylor, Chester..... | 101,554 |
| Hemstreet & Bell, Marysville..... | 106,704 |
| C. T. Molekin, Walnut Creek..... | 108,556 |
| Kennedy Const. Co., Oakland..... | 113,699 |
| Engineer's estimate..... | 109,883 |

EL CERRITO, Contra Costa Co., Cal.—Until October 24, 8:30 P. M., bids will be received by Fred J. Prosser, city clerk, to furnish for one year from October 25, asphalt and road oil; same to be equivalent to products manufactured by members of the American Petroleum Institute. Further information obtainable from the clerk.

LINCOLN COUNTY, Nevada—Bids will be asked shortly (to be opened probably October 26) by S. C. Durkee, State Highway Engineer, Carson City, Nevada, to construct approximately 13.23 miles of highway in Lincoln County, between junction Alamo-Delmar Road and Caliente, involving grading and gravel surface. The bid call on this work, originally set to be opened October 13, was withdrawn.

SUNNYVALE, Santa Clara Co., Cal.—Until November 9, bids will be received by Bureau of Yards and Docks, Navy Department, Washington, D. C., to construct roads and walks in connection with the Naval Air Base at Sunnyvale. Plans obtainable from above office.

MARIPOSA AND MEDERA COUNTIES, Cal.—Oilfields Trucking Co., Taft, at \$1908 awarded contract by U. S. Bureau of Public Roads, San Francisco, to furnish 27,000 gals. fuel oil for sections A and B of the Elk-hurst National Forest Highway, located in Mariposa and Madera Counties.

LOS ANGELES, Calif.—Until 10 A. M., October 26, bids will be received by the general manager, Los Angeles harbor department, City Hall, Los Angeles, to construct parapet wall, coping and curbing for Fish Harbor Mole; Spec. No. 893. The work includes the construction of 2194 lin. ft.

of reinf. conc. parapet wall, 2083 lin. ft. of cem. conc. coping and 300 lin. ft. 8-in. by 18-in. plastered curb. Plans obtainable from Harbor Engineer, Branch City Hall, San Pedro.

RIVERSIDE COUNTY, Calif.—Until November 2, 2 P. M., bids will be received by U. S. Bureau of Public Roads, 461 Market St., San Francisco, for placing 17.4 miles subgrade reinforcement on Section B of Route 70, the Idyllwild - Desert National Forest Highway, San Bernardino National Forest, involving:

- (1) 17.4 miles fine grade subgrade and shoulder;
 - (2) 33,500 cu. yds. sel. material for subgrade reinf.;
 - (3) 1,800 M. gals. watering.
- Specifications obtainable from above on deposit of \$10, returnable. Checks certified and made payable to Regional Fiscal Agent, U. S. Forest Service. C. H. Sweetser, District Engineer.

ROUIT COUNTY, Colo. — S. J. Groves & Sons Co., Minneapolis, Minn. submitted low bid to U. S. Bureau of Public Roads, Denver, Sept. 21, at \$15,743.30 for constructing Project "E" 19-A-2 of the Rabbit Ear Pass Forest Highway Route, Routt National Forest, County of Routt, 5.133 mi. in length, involving in the main:

- 50 acres clearing;
- 25 acres grubbing;
- 310,000 cu. yds. unclassified excav.;
- 1,020 cu. yds. unclass. excav. for structures;
- 142,000 sta. yds. overhaul;
- 5,538 m. finishing;
- 24 to 36-in. C.G.M.P. culverts.

DOUGLAS COUNTY, Nevada—Tiffany. McReynolds, Tiffany, 821 South First St., San Jose., Calif., awarded contract by U. S. Bureau of Public Roads, at \$26,973.50 for 7.952 miles subgrade stabilizer on Sections C and D of Route 3, Glenbrook National Forest Highway, Tahoe National Forest.

MONTEREY COUNTY, Cal.—Pacific Truck Service, Inc., 646 Park Ave., San Jose, at \$2926 awarded contract by State Highway Commission for applying fuel oil to the roadbed between Rocky Creek and Divide, 8.25 miles, involving 1400 barrels heavy fuel oil in place. Complete bids published in issue of Sept. 27.

SAN DIEGO, San Diego Co., Cal.—Until Oct. 21, 2:00 P. M., bids will be received by the State Division of Architecture, Public Works Bldg., Sacramento, for road work at the San Diego State Teachers College. Estimated cost \$15,000.

DEL NORTE COUNTY, Cal.—State Highway Commission, meeting in Eureka, voted to allocate \$500,000 for realignment and resurfacing of the Redwood Highway from Wilson Creek to the Bluffs in Del Norte County, a distance of approximately six miles.

SAN DIEGO COUNTY, Cal.—State Highway Commission, Chas. H. Purcell, State Highway Engineer, preparing plans for highway improvements in San Diego County, as follows:

Grading and paving of 4.4 miles of highway bet. Alpine and Viejas Creek, at an estimated cost of \$125,000. Improvement of highway bet. Alpine and Chocolate Creek, involving 11.6 miles of paving and 3.4 miles of grading. The estimated cost is \$230,000. Funds for these projects have been made available from the gasoline tax

and emergency relief funds of the State Department of Public Works.

LASSEN COUNTY, Cal.—California Const. Co., Standard Oil Bldg., San Francisco, at \$5,722 submitted only bid to F. W. Hazelwood, district engineer, State Highway Commission, Redding, to surface with crusher run base and bituminous treated crushed gravel or stone (plant mix) 0.8 mile bet. Westwood and Susanville.

AGNEW, Santa Clara Co., Calif.—Until Nov. 1st, 2 P. M., bids will be received by State Department of Public Works, Division of Architecture, Sacramento, for oiling roads at the Agnew State Hospital, involving approximately 16,889 cubic yards of bituminous surface treatment. Plans obtainable from above office.

ANAHEIM, Orange Co., Cal.—E. P. Haggood, city engineer, has estimated the cost of the proposed widening or North Los Angeles St., a distance of 1800 ft., at \$40,000. The plans will be approved by the city but contracts will be let by the state and county.

TEHAMA COUNTY, Cal.—Frank C. Cuffe, Box 441, San Rafael, at \$36,598 recommended for award by the U. S. Bureau of Public Roads, San Francisco, for 4.128 miles of grading Section C of Route 21, the Deer Creek Meadows National Forest Highway, Lassen National Forest.

TUOLUMNE COUNTY, Cal.—C. G. Willis & Sons, 2119 E 25th, Los Angeles, at \$199,007 recommended for award by U. S. Bureau of Public Roads, San Francisco, for grading 11.621 mi. Section C1 of Route 4 of the Tioga Road, Yosemite National Park.

SANTA CLARA COUNTY, Cal.—Until November 2, 2 P. M., bids will be received by State Highway Commission to grade and pave with Portland cement concrete, 3.5 miles bet. Whisman Road and Lawrence Station, involving:

- (1) 5,580 cu. yds. rdwy. excav. without class.;
- (2) 66,600 cu. yds. imported borrow;
- (3) 1,904 cu. yds. struc. excav.;
- (4) 81,930 sq. yds. subgrade for pavement;
- (5) 19,345 cu. yds. Class A cement concrete (pave.);
- (6) 8 cu. yds. do for structures;
- (7) 270 lbs. bar reinf. steel (struc.);
- (8) 412,000 lbs. wire mesh reinforcement (pave.);
- (9) 1,150 tons asphalt concrete (type B surface);
- (10) 1,900 lbs. heavy fuel oil;
- (11) 1,640 lin. ft. 18-in. corr. metal pipe;
- (12) 1,094 lin. ft. 12-in. stand. reinf. concrete pipe;
- (13) 600 lin. ft. 10-in. extra strength reinf. conc. pipe;
- (14) 1,100 lin. ft. 12-in. do;
- (15) 500 lin. ft. 14-in. do;
- (16) 14 each irrigation siphon inlet & outlet assemblies;
- (17) 15 each catchbasins complete in place;
- (18) 1,570 each remove trees (size 1);
- (19) 27 each do (size 2);
- (20) 192 each do (size 3);
- (21) 5 each do (size 4);
- (22) 3 each do (size 5);
- (23) 1.1 miles new property fence;
- (24) 5 each fence gates;
- (25) 17 each, culvert markers;
- (26) 184 sta. finish roadway;
- (27) 33 each, monuments complete in place.

State will furnish corrugated metal pipe.

Seattle, Wash.—City council sets November 8 as date to vote bonds of \$1,188,000 to finance grading and paving of streets included in city arterial highway system, as a means of relieving the unemployed.

SAN DIEGO COUNTY, Calif.—Until November 2, 2 P. M., bids will be received by State Highway Commission to grade and pave with Portland cement concrete, 3.4 miles bet. Chocolate Creek and Alpine, involving:

- (1) 180 sta. clear and grub right of way;
- (2) 220,000 cu. yds. rdwy. excavation without class;
- (3) 2,500,000 sta. yds. overhaul;
- (4) 7,100 cu. yds. struc. excav.;
- (5) 39,500 sq. yds. subgrade for pave.;
- (6) 8,400 cu. yds. Class A cem. conc. (pave.);
- (7) 800 cu. yds. do for structures;
- (8) 270,000 lbs. bar reinf. steel (pave. and struc.);
- (9) 1,254 lin. ft. 8-inch corr. metal pipe;
- (10) 60 lin. ft. 18-in. do;
- (11) 2,680 lin. ft. 24-in. do;
- (12) 260 lin. ft. 30-in. do;
- (13) 780 lin. ft. 36-in. do;
- (14) 260 lin. ft. 42-in. do;
- (15) 130 lin. ft. 48-in. do;
- (16) 270 cu. yds. cem. conc. to be removed from existing pave.;
- (17) 6,350 M. gals. water (embank.);
- (18) 1,860 bbls. fuel oil (shoulders and gutters);
- (19) 0.3 mile new property fences;
- (20) 2 each gates complete in place;
- (21) 260 timber guide posts;
- (22) 108 culvert markers;
- (23) 180 sta. finish roadway;
- (24) 50 each monuments complete in place.

State will furnish steel posts, braces wire and fastenings for new property fences and corrugated metal pipe and spillway assemblies.

GRANGE COUNTY, Cal.—D. A. Loomis, 1132 N-Sierra Bonita Street, Pasadena, at \$4951.48 submitted low bid to district engineer, State Highway Commission, Los Angeles, to construct guard rail between San Clemente and Dohmney Drive, involving: 1955 lin. ft. laminated timber guard rail, \$.498;

4400 lin. ft. flexible metal guard rail, \$.25;

2944 lin. ft. cable guard rail, \$.752.
Award of contract recommended to low bidder.

OAKLAND, Cal.—Town of Emeryville has petitioned county supervisors to provide gas tax funds to improve San Pablo Avenue through that community. The cost is estimated at \$27,000 of which Emeryville would pay 25 per cent. Decision will be made when the gas funds have been allocated for the present fiscal year.

STOCKTON, San Joaquin Co., Cal.—Until October 24, 5 P. M., bids will be received by B. L. Traher, city clerk, for graveling Washington Street and proposed extension thereof and graveling and oiling certain roads near wharves in the vicinity of the turning basin for the Port of Stockton, involving:

- (1) 4,000 cu. yds. grading for road;
- (2) 2,300 tons cement road gravel in place;
- (3) 280 cu. yds. place oil macadam pavement;
- (4) 380 bbls. oil for road;
- (5) 15 sta. resurface highway;
- (6) 60 lin. ft. 48-in. corr. iron pipe culvert in place;
- (7) 24 lin. ft. 12-in. do;

- (8) 1 install storm water inlet;
- (9) 4 road crossings, 300 lin. ft. (C. R. C. standard 3A);
- (10) 3 road crossing signs;
- (11) 3 whistle posts;
- (12) 42 lin. ft. reset road barriers;
- (13) 2 acres level lumber storage yd.;
- (14) 24 hours furnish tractor grader and operator, not less than 60-horse power.

Specifications obtainable from Col. B. C. Allin, City Port Director.

SAN DIEGO COUNTY, Calif.—Until October 25, 2 P. M., bids will be received by the State Department of Public Works, Division of Architecture Public Works Bldg., Sacramento, for surfacing various roads at the State Teachers' College grounds at San Diego, totaling approximately .3 mile of Class 1 road and approximately .5 mile of Class 2 road, and approximately 211,200 sq. ft. parking area oiling. Specifications obtainable from above office.

ARIZONA STATE.—For the past year, the Department has been requiring contractors desiring to bid on state work to submit a financial statement every three months, certified to by a certified public accountant. This rating was changed recently, and in the future, financial statements certified to by a certified public accountant will only be submitted every six months, but a supplemental statement is being required every month from the contractor, which is practically nothing more than a trial balance, which does not have to be certified to, but only signed by a member of the firm or officer of the corporation. T. S. O'Connell is the state highway engineer.

SANTA CLARA COUNTY, Calif.—Until October 26, 2 P. M., bids will be received by State Highway Commission to grade and pave with Portland cement concrete, 4.7 miles between Oregon Ave. and Whisman Road, involving:

- (1) 7,730 cu. yds. rdwy. excav. without class;
- (2) 70,000 cu. yds. imp. borrow (type A);
- (3) 91,750 cu. yds. do. (type B);
- (4) 19,250 cu. yds. channel excav.;
- (5) 1,700 cu. yds. struc. excav. (type A);
- (6) 1,950 cu. yds. do (type B);
- (7) 110,400 sq. yds. subgrade for pave.;
- (8) 27,610 cu. yds. Class A cem. conc. (pave.);
- (9) 830 cu. yds. Class A cem. conc. (struc.);
- (10) 5 cu. yds. Class E cement conc. (struc.);
- (11) 928,700 lbs. bar reinf. steel (pave. and struc.);
- (12) 1,720 tons asphalt. conc. (type B surf.);
- (13) 2,551 bbls. heavy fuel oil;
- (14) 2,804 lin. ft. 18-in. corr. metal pipe;
- (15) 160 lin. ft. 24-in. do;
- (16) 238 lin. ft. 30-in. do;
- (17) 1,500 lin. ft. 12-in. extra strength reinf. conc. pipe;
- (18) 10 irrigation siphon inlet and outlet assemblies;
- (19) 30 catchbasins;
- (20) 1,575 lin. ft. reinf. conc. piles;
- (21) 43 remove trees (size 1);
- (22) 14 do (size 2);
- (23) 2 do size 3;
- (24) 7 do size 4;
- (25) 14 do (size 5);
- (26) 24 miles new barbed wire fence;
- (27) 3.1 miles new woven wire fence;
- (28) 23 fence gates;
- (29) 200 timber guide posts;
- (30) 25 culvert markers;
- (31) 249 sta. finish roadway;
- (32) 44 monuments complete in place.

State will furnish corr. metal pipe and flood gates.

LOS ANGELES, Calif.—Plans for a scenic highway bet. Pasadena and Los Angeles via San Rafael Hills, prepared by J. E. Rockhold, county surveyor, have been presented to Harvey W. Hincks, Pasadena city engineer, for approval. The estimated cost is \$660,000. The proposed route would extend from Figueroa St. through Eagle Rock to Chevy Chase Drive in Flintridge, entering Pasadena via Glen Oaks Ave. crossing the El Mirador Ranch and the Pasadena Park Tract. Construction of the road is dependent upon the donation of the right of way by property owners along the route.

HOLLISTER, San Benito Co., Cal.—Director of National Parks, Horace L. Albright, announces \$50,000 appropriation to construct a new control road at the Pinnacles National Park, of which W. I. Hawkins is custodian.

PLACER COUNTY, Cal.—L. C. Seidel, 680 14th St., Oakland, at \$606.75 awarded contract by State Highway Commission, to pave with cement concrete 0.63 mi. near Auburn and construct reinforced concrete arch culvert.

TULARE COUNTY, Cal.—Until Oct. 27, 2 P. M., bids will be received by C. H. Sweetser, district engineer, U. S. Bureau of Public Roads, 461 Market St., San Francisco, for 3,472 miles grading Section D 4 of Route 1, the General's Highway, Sequoia National Park, involving:

- (1) 28 acres clearing;
- (2) 143,000 cu. yds. unclass. excav.;
- (3) 1300 cu. yds. unclass. excavation, structure;
- (4) 132,000 sta. yds. overhaul;
- (5) 3,472 miles finish earth graded rd.
- (6) 2,000 cu. yd. mi. haul sel. material;
- (7) 870 cu. yds. concrete;
- (8) 83,900 lbs. reinf. steel;
- (9) 1100 lbs. place Government furnished reinf. steel;
- (16) 55 cu. yds. masonry;
- (12) 4,220 lin. ft. corr. metal pipe;
- (11) 420 cu. yds. hand laid rock embankment;
- (13) 3 spillway inlets.

Specifications obtainable from above office on deposit of \$10, returnable. Proposal guarantee 5%.

VENTURA, Ventura Co., Cal.—C. W. Pett, County Surveyor, authorized to prepare plans for the construction of a bench highway from Pierpont Bay in Ventura to the west end of Fifth St. in Oxnard. The right-of-way of the proposed highway is to be 100 feet wide.

SAN ANTONIO, Texas.—Until Oct. 25, bids will be received by Constructing Quartermaster, San Antonio, for street paving at Randolph Field, Tex. Appropriation of \$217,100 is available for the work. Specifications obtainable from the Constructing Quartermaster on deposit of \$25, returnable.

DOUGLAS COUNTY, Wash.—Edlund, Pearson & Strom, Seattle, at \$47,530 awarded contract by State Highway Commission for grading 2.7 mi. State Road No. 10 Bridgeport North (Brewster-Coulee City Branch) in Douglas County, involving 133,130 cu. yds. excav., 1239 lin. ft. pipe culverts and other items. Goddell Bros., Wenatchee, Wash., \$49,783; W. T. Butler Co., Seattle, \$49,945, next two low bidders.

YAKIMA COUNTY, Wash.—Meyers & Goulter, Seattle, at \$59,306 for metal pipe and \$59,280 for concrete pipe, submitted low bid to District Engineer, U. S. Bureau of Public Roads, Portland, Ore., for 3.896 mi. Randle Yakima Highway Grading Project No. E-13-L1, National Forest Road Project, involving:

- (1) 15 acres grubbing;
 - (2) 138,350 cu. yds. unclass. excav.;
 - (3) 255,000 sta. yds. overhaul;
 - (4) 3,896 mi. finish earth graded road.
 - (5) 1260 lin. ft. culverts.
- J. A. Lyons, Portland, second low at \$62,275 and \$62,357, for metal and concrete pipe, respectively.

KITSAP COUNTY, Wash.—Allan & Govan, Inc., Olympia, Wash., at \$102,136 awarded contract by State Highway Commission for grade and surface 7.8 mi. State Road No. 21 Poulsbo North, E. C. H. Project No. E-18-133, in Kitsap County, involving 56 acres clearing, 223,225 cu. yds. excav., 42 cu. yds. concrete, 23,900 cu. yds. crushed stone, 414 lin. ft. pipe culverts and other items. Halleran Erss, Seattle, at \$103,227; Cowan & Hubback, Reese & Co., Seattle, \$107,581, next two low bidders.

PIERCE COUNTY, Wash.—Lidral-Wiley, Inc., Securities Bldg., Seattle, at \$69,514 awarded contract by State Highway Commission to grade and surface 2.4 mi. State Road No. 5, Suntop Trail to Forest Project (between Greenwater River and Park), E. C. H. Proj. No. E-184-E, Pierce County, involving 27 acres clearing, 66,000 cu. yds. excav., 8400 cu. yds. crushed stone, 1320 lin. ft. pipe culverts and other items. Engineering Construction Co., Seattle, second low at \$71,887; Frank J. McHugh, Seattle, third low, \$79,339.

OKANOGAN COUNTY, Wash.—S. H. M. Construction Co., Inc., Wenatchee, Wash., at \$15,745 awarded contract by State Highway Commission for stockpiling 23,500 cu. yds. crushed stone surfacing and oil rock on 43.2 mi. The Methow Valley Highway, Pateros to Winthrop in Okanogan County. Joslin & McAllister, Spokane, \$17,390; A. C. Greenwood, Inc., Portland, \$19,740, next two low bidders.

RIVERSIDE, Riverside Co., Calif.—J. E. Elliott, Supervisor of the San Bernardino National Forest, has announced to Riverside board of supervisors that the original allocation of \$120,000 for surfacing the Pines-to-Palms Highway had been scaled down to \$70,000 by U. S. Forestry Department. Permanent improvement of the road is estimated to cost \$500,000. The \$70,000 allocation is designed to cover the grading of 17.4 miles beyond Keen Camp, the material to be furnished by the county from washes near the route. The work will require 200,000 cu. yds. material. Two sources are available, viz.: property owned by C. E. Bunker and the property owned by R. T. Garner, Jr. The county has requested the department to include approximately one mile additional on the descent end.

OAKLAND, Calif.—City council has started proceedings to improve a portion of 22nd St. bet. Broadway and Telegraph Ave. Quantities of materials involved will be published shortly. Walter N. Fickstad, city engineer.

VEN'FURA, Cal.—Oilfields Trucking Co., Taft, at \$1266.50 awarded contract by State Department of Public Works

for road work at the Ventura School for Girls at Ventura, involving 4500 ft. of road work, 13 ft. wide, to be

- OAKLAND, Cal.**—City Engineer Walter N. Fickstad prepares plans and specifications to improve portions of 22nd St., between Broadway and Telegraph Ave. Estimated cost, \$3,003,95. Project involves:
- (1) 9875 sq. ft. grading;
 - (2) 213 lin. ft. conc. curb with guard;
 - (3) 216 sq. ft. concrete gutter;
 - (4) 7844 sq. ft. pavement; asph. concrete surface course, 2-in. thick, laid on Portland cement concrete foundation 6-in. thick;
 - (5) 1674 sq. ft. cement sidewalk;
 - (6) 1 duplex lighting standard with appurtenances.

- TRINITY COUNTY, Cal.**—Young & Son, Ltd., 599 Colusa Ave., Berkeley, at \$65,525 submitted low bid to, and recommended for award by U. S. Bureau of Public Roads, San Francisco, for 4.503 miles grading Section A of Route 5, the Douglas City-Peanut National Forest Highway, Trinity National Forest, involving:
- (1) 26 acres clearing;
 - (2) 100,000 cu. yds. unclass. excav., type A;
 - (3) 14,500 cu. yds. do. type B;
 - (4) 18,000 cu. yds. unclass. excavation, structure;
 - (5) 118,000 sta. yds. overhaul;
 - (6) 4.427 miles finish earth graded rd.
 - (7) 120 MFBM treated timber in place
 - (8) 62 cu. yds. Class A concrete;
 - (9) 134 cu. yds. Class B concrete;
 - (10) 4,000 lbs. reinf. steel;
 - (11) 758 lin. ft. 18-in. 16-gauge corr. metal pipe in place;
 - (12) 1,400 lin. ft. 24-in. 14-gauge do.;
 - (13) 128 lin. ft. 24-in. 12-gauge do.;
 - (14) 58 lin. ft. 36-in. 12-gauge do.;
 - (15) 1,096 lin. ft. 18-in. 16-gauge corr. irrigation pipe;
 - (16) 25 cu. yds. hand-laid riprap in place;
 - (17) 230 cu. yds. hand-laid embankment;
 - (18) 108 right of way monuments;
 - (19) 2,200 lin. ft. move and reset fence
 - (20) 20 cu. yds. base course;
 - (21) 850 sq. yds. bituminous wearing surface.

- Complete bids follow:
- (A) Young & Sons, Berkeley.....\$65,526
 - (B) Baker & Taylor, Chester.....70,790
 - (C) Hemstreet & Bell, Marysville.....73,154
 - (D) Larsen Bros., Galt.....77,549
 - (E) F. C. Cuffe, San Rafael.....79,294
 - (F) E. C. Coats, Sacramento.....84,007
 - (G) MacDonald & Kahn, S. F.....89,517
 - (H) Kennedy Const. Co., Oakland.....90,186
 - (I) L s b l Const. Co., Carson City, Nev.....91,712
 - (J) Chigris & Sutso, S. F.....92,311
 - (K) A. G. Goerig, Yosemite.....95,088
 - (L) Engineer's estimate.....103,177

OAKLAND, Cal.—Transit Concrete Co., 1400 foot of Broadway, Oakland, at \$2,622.50 awarded contract by City Port Commission to furnish 4,500 cu. yds. of quarry waste fill for Middle Harbor Road.

SHASTA COUNTY, Cal.—Milton A. Purdy, 15 Spear St., San Francisco, at \$11,668 submitted low bid to State Highway Commission, Redding, for grading 0.6 mile at west city limits of Redding. Complete bids will be published in a later issue.

ELDORADO COUNTY, Cal.—Force Const. Co., 70 Bellevue Ave., Piedmont at \$132,529 recommended for award by U. S. Bureau of Public Roads, San Francisco, for 3.555 miles of grading Section E of Route 32, Placerville-

Lake Tahoe National Forest Highway, Eldorado National Forest. Complete bids published in issue of Oct. 15.

MARIPOSA COUNTY, Cal.—W. B. Baker & Co., 15 Harriet Street, San Francisco, at \$15,492 recommended for award by U. S. Bureau of Public Roads, San Francisco, to furnish and install complete power, lighting, telephone and semaphore signal systems in the highway tunnel on Section A5 of Route 2, the Wavona Road, Yosemite National Park. Complete bids published in issue of October 13.

- MARIPOSA COUNTY, Cal.**—Granite Construction Co., Bin 9, Watsonville, at \$181,395 submitted low bid to U. S. Bureau of Public Roads, San Francisco, for 23.63 mi. placing of crushed rock base course on Sections A1, A2, A3, A4, A5 (Port.) B1, B2 (Port.) of Route 2, the Wavona Road, Yosemite National Park. Award recommended to low bidder. Involves:
- (1) 20,000 cu. yds. unclass. excav.;
 - (2) 23.63 mi. fine grading subgrade & shoulders;
 - (3) 4,500 M. gals. watering embankment;
 - (4) 3800 M. gals. watering;
 - (5) 53,600 tons cur. rock base course;
 - (6) 8000 tons supp. crushed rock;
 - (7) 1600 cu. yd. ml. haul unclass. cur. rock.

- Complete bids follow:
- Granite Constr. Co., Watsonville, \$181,395.
 - Hemstreet & Bell, Marysville, \$185,302.
 - M. J. Bevanda, Stockton, \$198,933.
 - A. Teichert & Son, Sacramento, \$229,470.
 - C. W. Wood, Stockton, \$226,976.
 - Isbell Const. Co., Carson City, Nev., \$211,026.
 - Triangel Rock & Gravel Co., San Bernardino and Hall Johnson, Alhambra, \$284,790.
 - United Concrete Pipe Co., Los Angeles, \$309,361.
 - Engineer's estimate, \$245,139.

- MONTEREY, CAL.** — S. Ruthven, Seaside, at \$230 for Proposal 1 and \$1292.50 for Proposal 2) submitted low bid to Quartermaster, Presidio of Monterey, for construction of approx.:
- (1) 20,000 sq. ft. asphaltic concrete surface (topping);
 - (2) 960 lin. ft. lip gutter;
 - (3) 660 lin. ft. concrete curb;
 - (4) 128 lin. ft. 10-in. galv. iron corr. culvert;
 - (5) 6250 lin. ft. concrete gutter;
 - (6) 125 concrete tent platforms.
- Complete bids follow:
- L. Sartorio, S. F.....(1) 2916.00
 - S. Ruthven, Seaside.....(2) 7317.50
 - S. Ruthven, Seaside.....(1) \$2380.00
 - S. H. & W. E. Hooker, Monterey (incomplete).....(1) 4292.50
 - S. H. & W. E. Hooker, Monterey.....(1) 723.00
 - M. J. Murphy, Carmel.....(1) 5906.75
 -(2) 5617.50

ORTING, Wash. — U. S. Pipe and Foundry Co., at 33c ft. awarded contract by town trustees to furnish and deliver a quantity of cast iron pipe. Other bids: American C. I. Pipe Co., 23c; Pacific States C. I. Pipe Co., Portland, Ore., 39c.

SACRAMENTO, Cal.—A. Teichert & Son, 1846 37th St., Sacramento, at \$1,326.55 awarded contract by city council to improve Serra Way from easterly line of Alhambra Blvd. to center line of 34th St. Complete bids published in issue of October 8.

BUILDING NEWS

CHURCHES

Construction To Be Resumed.

CATHEDRAL Cost, \$100,000
SAN FRANCISCO. California and
Mason Streets.

Completion of three bays of nave and
aisles, etc. (reinforced concrete
construction).

Owner—Grace Cathedral.

Architect—Lewis P. Hobart, Crocker

Bldg., San Francisco.

Engineer—T. Renneberg, Crocker

Bldg., San Francisco.

Contractor—Dinwiddie Constr. Co.,

Crocker Bldg., San Francisco.

Preparing Plans.

CHURCH Cost, \$25,000

PASADENA. Los Angeles Co., Cal.

Washington St. and Holliston Ave.

Reinforced concrete Class A church

(50x140 ft.) to seat 740; plaster ex-

terior, cast stone trim; wood roof

trusses, leaded glass, shingle tile

roofing, etc.

Owner—Immanuel Baptist Church.

Architect—Frederick Kennedy Jr., 15

S. Elmoline St., Pasadena.

To Be Done By Day's Work.

CHURCH Cost, \$—

FITTSBURG, Contra Costa Co., Cal.

One-story frame church (32x60).

Owner—Methodist Episcopal Church

(Rev. Myron D. Sunde, pastor).

Architect—Not Selected.

Supt. of Const.—P. F. Nicholls, 1345

Birch St., Pittsburgh.

Contract Awarded.

CHURCH Cost, \$25,000

LOS ANGELES, Cal. NW 94th Street

and Budlong Avenue.

Two-story and basement frame and

stucco church (95x112) to seat 475.

Owner—Los Angeles Baptist City Mis-

sion Society.

Architect—Marsh, Smith and Powell,

Architects' Bldg., Los Angeles.

Contractor—Chas. Gardner, Citizens'

National Bank Bldg., Los Angeles.

FACTORIES AND WARE- HOUSES

Plans Being Prepared.

FACTORY Cost, \$800,000

ELMHURST, Alameda Co., Calif.

Two-story concrete yeast factory.

Owner—Standard B r a n d s, Inc., 595

Madison Ave., New York City.

Engineer—G. J. Patitz, 595 Madison

Ave., New York City.

Plans and specifications will not be

ready before July, 1933.

WILMINGTON, Los Angeles Co.,

Cal.—Consolidated Steel Corp., Slaun-

son and Eastern Avenues, Los Ange-

les, is constructing a pressure distil-

late stabilizing unit at Wilmington for

the Union Oil Co. It will cost about

\$170,000.

Plans Being Completed.

WAREHOUSE, ETC. Cost, \$85,000

SAN FRANCISCO. No. 1900 Bryant

Street.

Three and one-half-story and base-

ment Class B reinforced concrete

warehouse (82x100 feet), and one-

story Class C reinforced concrete

garage with steel trusses (82x100).

Owner—Best Food Products Co., 1900

Bryant St., San Francisco.

Engineer—K. Theill, 580 Market St.,

San Francisco.

Bids will be asked in about two

weeks.

Contract Awarded.

ADDITION Cost, \$—

Ventura, Ventura Co., Cal.

Reinforced concrete addition to pack-

ing plant (150x100 ft.); wood roof

trusses, concrete floors and walls,

steel sash, etc.

Owner—Ventura Citrus Association.

Architect—W. W. Ache, 1616 4th Ave.,

Los Angeles.

Contractor—Wm. P. Neli Co., Inc.,

4814 Loma Vista St., Vernon.

SAN BRUNO, San Mateo Co., Cal.

—The American Brake Shoe Co., 74

NW Montgomery St., San Francisco,

has purchased property on Linden

Ave., San Bruno, and will construct a

\$50,000 factory early next summer.

Further details will be given at that

time.

TEHAMA CO., Cal.—J. P. Brennan,

Redding, at \$9,498 submitted low bid

to district engineer, State Highway

Commission, Redding, to erect main-

tenance buildings in Tehama County.

At Loss Creek, 9 miles west of Ches-

ter: truck shelter, gasoline and oil

house, septic tank and leaching field.

Near Mineral, truck shelter, bunk-

house, gasoline and oil house, wood

shed, septic tank and leaching field,

and cook house.

The above work comprises excava-

tion, concrete and masonry work, car-

penry and mill work, lathing and plas-

tering, sheet metal work, painting and

glazign, plumbing and electric wiring.

Preparing Preliminary Plans.

PRINTING PLANT Cost, \$100,000

SAN FRANCISCO. Washington Street

near Montgomery St. (125x127-ft.)

Two-story reinforced concrete print-

ing plant.

Owner—Edward Barry Co., 32 Clay St.

Street.

Architect—H. A. Minton, 522 Market

St., San Francisco.

Bids will be asked in about two

weeks.

Plans Being Completed.

PRINTING PLANT Cost, \$100,000

SAN FRANCISCO. Washington St.

near Montgomery St. (125x127 ft.)

Two-story reinforced concrete print-

ing plant.

Owner—Edward Barry Co., 32 Clay St.

San Francisco.

Architect—H. A. Minton, 525 Market

St., San Francisco.

Bids will be asked in about two

weeks.

To Ask Bids Shortly.

PUBLIC MARKET Cost, \$1,400,000

PORTLAND, Oregon. Front Street.

Four-story and mezzanine fireproof

public market (616x140-ft.).

Owner—Public Market Co., C. L. Wil-

son, general manager.

Architect—Lawrence, Holford, Allyn &

Bean, Portland.

Will contain quarters, 50x200-ft., for

cold storage rooms and quarters, ap-

proximately 100x400-ft. for dry stor-

age. Provision will be made for ap-

proximately 320 stalls.

SEATTLE, Wash.—A loan of \$300,000

to finance construction of a new ter-

terminal for the Port of Seattle will be

sought from the Reconstruction Fi-

nance Corporation, it is announced by

Col. George E. Lamping, president of

the commission. The proposed ter-

terminal would be built on the site of

the old Skinner and Eclay shipyards.

OAKLAND, Cal.—Bids are being

received by G. B. Hegardt, Secretary,

Port Commission, Grove St. Pier, Oak-

land, and will be opened either Oct.

31 or Nov. 7 for furnishing and in-

stalling complete automatic springler

systems for the following:

(1) Ninth Avenue Pier.

(2) Market Street Pier.

(3) Grove Street Pier.

(4) Outer Harbor Terminal.

GARAGES AND SERVICE STATIONS

Bids Opened.

GARAGE Cost, \$14,000

SACRAMENTO, Sacramento Co., Cal.

J Street, between 6th and 7th Sts.

Two-story reinforced concrete garage

(concrete floors) L-shaped, 40x50

feet in front, 80x50 feet in rear.

Owner—Diacoma & Dallosto.

Architect—Charles D. Dean, California

State Life Bldg., Sacramento.

Low Bidder—J. Johnson, 1819 23rd

St., Sacramento.

Following is a complete list of bids:

J. Johnson, Sacramento.....\$14,907

W. C. Keating, Sacramento..... 16,950

Gene Kenyon, No. Sacramento..... 16,984

Yoho & Dauger, Sacramento..... 17,070

Chas. Unger, Sacramento..... 17,722

C. J. Hopkinson, Sacramento..... 17,941

Azevedo & Sarmiento, Sacto..... 18,200

Frank Maloney, Sacramento..... 18,250

Henry Finuigan, Sacramento..... 18,323

Holdener Constr. Co., Sacto..... 20,723

Bids held under advisement.

Preparing Plans.

SERVICE STATION Cost, \$10,000

OAKLAND, Alameda Co., Calif. NW

35th and Hopkins Streets.

Super service station.

Owner—Shell Oil Co., Shell Bldg., San

Francisco.

Plans by Eng. Dept. of Owner.

Contract Awarded.

GARAGE Cont. Price, \$14,967

SACRAMENTO, Sacramento Co., Cal.

J Street between 6th and 7th Sts.

Two-story reinforced concrete garage

(concrete floors) L-shaped, 40x50

feet in front, 80x50 feet in rear.

Owner—Diacoma & Dallosto.

Architect—Charles D. Dean, California

State Life Bldg., Sacramento.

Contractor—J. Johnson, 1819 23rd St.,

Sacramento.

GOVERNMENT WORK AND SUPPLIES

PANAMA CANAL ZONE.—Unt 11

October 24, 10:30 A. M., under Sched-

ule No. 2798, bids will be received by

Purchasing Officer, Panama Can a l,

Washington, D. C., to furnish miscel-

laneous furniture, steel lockers and

metal and woodworking shop tools for

the Cristobal High School. Specifica-

tions on file in office of Daily Pacific

Builder and may be inspected by those

interested. Copies of the specifica-

tions are obtainable from the Assis-

tant Purchasing Agent, Fort Mason,

San Francisco.

AMERICAN LAKE, Wash.—Hoffman Combustion Engineering Co., 410 Fort Bldg., Detroit, Mich., at \$17,544 awarded contract by U. S. Veterans' Bureau, Washington, D. C. for stock equipment for the Veterans' Hospital at American Lake.

WEISER, Idaho—Until 3 P. M., November 11, bids will be received by the Treasury Department, Office of the Supervising Architect, Washington, D. C., for the construction of the U. S. Post Office at Weiser, Idaho. Plans may be obtained from the architect checks to be made payable to the Treasurer of the United States. Jas. A. Wetmore, acting supervising architect. Appropriation for the building is \$110,500.

BOULDER CITY, Nev.—See "Reservoirs and Dams" in this issue. Bids to be asked by U. S. Reclamation Bureau, Denver, Colo., for miscellaneous generating and electrical equipment in connection with Boulder Dam project.

WASHINGTON, D. C.—Bids are being received by the Bureau of Supplies and Accounts, Navy Department, Washington, D. C., to furnish and deliver supplies and equipment for various Pacific Coast navy yards and stations, further information concerning the schedules listed being obtainable from the Navy Purchasing Office, 100 Harrison St., San Francisco.

Bids Close October 11

Puget Sound, 1 motor-driven metal cutting band saw; sch. 8772.
Western yards, cocks, faucets and valves; sch. 8776.
Puget Sound, 41,150 lbs. calcium chloride; sch. 8779.

Los Angeles, San Francisco or Seattle, 3090 lbs. petroleum-residuum; sch. 8789.

Mare Island, 500 lbs. copper nails; San Diego, 870 lbs. copper tacks; Mare Island, 1460 lbs. do.; sch. 8778.

San Diego, 900 ft. coil chain; Mare Island, 1500 ft. do.; San Diego, 1500 ft. weldless chain, 1900 ft. do, 936 ft. do; Mare Island 7056 ft. do, 549 ft. do, 1826 ft. do; sch. 8780.

Bids Close October 18

Mare Island, 206 ball bearings; sch. 8785.

Mare Island, 100 grease cups, brass; 100 do, 56 brass oil cups, 185 do; sch. 8786.

Mare Island, 21,840 ft. steel wire rope; sch. 8790.

Western yards, 12 searchlights and spares; sch. 8791.

Puget Sound, 1000 lbs. aluminum foil; sch. 8796.

Western yards, 8000 lbs. manganese linoleate; sch. 8797.

Western yards, 5000 gals. coal-tar naphtha; sch. 8798.

Puget Sound, steel forgings; sch. 8819.

Mare Island and Puget Sound, radiant and air heaters and spare heating elements; sch. 8792.

Mare Island, 444 fire extinguishers, carbon dioxide; sch. 8800.

Mare Island, 5000 lbs. rigging leather; sch. 8806.

Puget Sound, 1 coil spreader and former; sch. 8808.

Mare Island, 40,000 lbs. hydrochloric acid; sch. 8784.

Mare Island, 715 gals. black insulating varnish; sch. 8820.

Puget Sound, 8 electric baking ovens and spares; sch. 8814.

Puget Sound, approximately 8000 lbs. sheet copper; sch. 8804.

Puget Sound, transmitters and indicators and spare parts; sch. 8781.

Bids Wanted—To Close Nov. 1, 11 A. M.

QUARTERS Cost, \$60,000
SAN FRANCISCO, Presidio.
Four double sets of non-commissioned officers' quarters (brick construction, tile roof).

Owner—United States Government.
Plans by Constructing Quartermaster, Fort Mason.

Contract Awarded.

POST OFFICE Cost, \$105,580
PALO ALTO, Santa Clara Co., Cal.
Hamilton Ave., Waverly and Gilman Sts.

One-story, mezzanine floor and basement Class A Post Office (concrete walls, city tile roof, terra cotta, marble, tile work, etc.)

Owner—United States Government.
Architect—Birge M. Clark, 310 University Ave., Palo Alto.

Contractor—A. Nelson, 242 Ocean Ave. San Francisco.

SACRAMENTO, Cal.—San Francisco Bridge Co., 503 Market St., San Francisco, at \$12,500 submitted low bid to U. S. Engineer Office, Sacramento, for removing and disposing of the remains of 12 vessels which burned and sank on August 28, 1932, and which are located in the west side of the Sacramento river between the I and M Street bridges. Complete bids follow:
S. F. Bridge Co., S. F. \$12,500
Olympian Dredging Co., S. F. 13,733
Siems-Helmets Co., S. F. 19,970
River Line, Sacramento 22,456
Havisdie Co., S. F. 23,013
Thos. Rigging Co., Oakland 23,490
Delta Dredging Co., Pittsburgh 28,888
Bids held under advisement.

SAN ANTONIO, Texas.—Until Oct. 25, bids will be received by Constructing Quartermaster, San Antonio, for street paving at Randolph Field, Tex. Appropriation of \$217,100 is available for the work. Specifications obtainable from the Constructing Quartermaster on deposit of \$25, returnable.

LOS ANGELES, Cal.—Architects John and Donald B. Parkinson, 808 Title Insurance Bldg., and Architects John C. Austin and Frederick M. Ashley, Chamber of Commerce Bldg., have been authorized by the Treasury Department to proceed with the preparation of working drawings for Los Angeles' new federal building to be constructed at Main and Temple Sts. The architects have completed cubic sketches for the structure in accordance with authority issued by the Department in August, 1931. The site, which fronts on Main, Temple and Spring Sts., is 525x300 feet. It is understood that the new building will be a height-limit structure, of Class A construction, and will absorb the present federal building. It will cost over \$5,000,000.

(9467) 1st report Sept. 7; 2nd Sept. 14, 1932. 7

Bids Wanted—To Close Nov. 4, 11 A. M.

OFFICERS' QUARTERS \$125,200
FORT LEWIS, Washington.
One field officers' quarters, three company officers' quarters and ten non-commissioned officers' quarters.

Owner—United States Government.
Plans by Construction Quartermaster Fort Lewis, Washington.

Plans obtainable from the Quartermaster at Fort Lewis.

SAN DIEGO, Cal.—Lipscomb & Arnett, 4367 Florida Street, San Diego, awarded contract by Bureau of Yards

and Docks, Navy Department, at \$3,714.53 to construct railroad track at Airship Mast, Eleventh Naval District (Camp Kearney), San Diego. Specifications No. 7065. The work consists of a standard gauge railroad track 4,040 ft. long encircling the airship mast.

WHEELER FIELD, T. H.—Until November 1, under Circular No. 2, bids will be received by Office of the Department Quartermaster, Construction Division, Fort Shafter, T. H., for construction of one administration building, 1 annex building and 1 photographic laboratory together with certain roads and utilities for same at Wheeler Field, T. H. Plans obtainable from above office on deposit of \$100, returnable.

WASHINGTON, D. C.—Bids are being received by the Bureau of Supplies and Accounts, Navy Department, Washington, D. C., for cash and deliver supplies and equipment for various Pacific Coast navy yards and stations, further information concerning the schedules listed being obtainable from the Navy Purchasing Office, 100 Harrison St., San Francisco.

Bids Close Oct. 25

Mare Island and Puget Sound, approximately 175 distribution panels and spares; sch. 8794.

Mare Island, 70,000 pts. liquid metal polish; sch. 8838.

Mare Island, 8,000 ft. flexible steam hose; sch. 8831.

Mare Island, 9,000 ft. cotton fire hose and 13,000 ft. pneumatic tool hose; sch. 8833.

San Diego, five boiler water gages; sched. 8868.

Mountain View, 9 structural steel towers, 6 steel sections and 18 steel tower heads; sch. 8835.

Mare Island, one motor truck; sch. 8837.

East and west yards, water meters; sch. 8846.

Mare Island, 650 canvas folding cots; sch. 8853.

East and west yards, 1 motor-driven turret lathe; sch. 8836.

Mare Island, approx. 800,000 pounds plate steel; sch. 8857.

Mare Island, 50,700 lbs. sheet steel, sch. 8856.

San Diego, 200,000 lbs. cotton wiping cloths; Mare Island, 800,000 lbs. do; Puget Sound, 200,000 lbs. do; sch. 8855.

Puget Sound, steel forgings; sch. 8854.

Mare Island, 3,400 lbs. lubricating graphite; Puget Sound, 1,000 lbs. do; San Diego, 4,700 lbs. lubricating grease

Mare Island, 16,000 lbs. do; sch. 8849.

Puget Sound, two motor-driven turret lathes; sch. 8844.

Mountain View, four self-supporting extension ladders; sch. 8834.

East and west yards, rust-preventive compound, cutting oil, lard oil, soluble oil, petroleum; sch. 8859.

Mare Island, nine 40-gallon capacity aluminum steam-jacketed kettles and 14 40-gal. capacity do; sch. 8843.

East and west yards, brass and steel bolts and nuts; sch. 8827.

East and west yards, bolts and nuts, steel, and lag screws; sch. 8826.

San Diego, 150 sets wire boiler tube brush sets; sch. 8850.

Mare Island, 13,600 lbs. brass angles; sch. 8853.

Mare Island, 230 sq. yds. linoleum; Puget Sound, 530 sq. yds. do; San Diego, 2,000 sq. yds. do; Mare Island, 14,653 sq. yds. do; sch. 8866.

East or west yards, 48 work benches, 10 shop foreman desks, 16 stools, 9 mechanics' hanging tool cabinets and 12 locker sections; sch. 8874.

Mountain View, 4 steel motor overhaul stands; sch. 8873.

FAIRBANKS, Alaska—Standard Electric Co., Springfield, Mass., submitted low bid to Treasury Department, Washington, D. C., for furnishing and installing time clock systems in the Post Office building, Fairbanks, Alaska.

Contract Awarded.
POST OFFICE Cost, \$263,660
RENO, Washoe Co., Nevada, No. 21
 Mill Street.
 Three-story Class A Post Office (terra cotta and stone exterior finish, marble corridors, etc.); 190x50 ft.)
 Owner—United States Government.
 Architect—F. J. DeLongchamps, Gazette Bldg., Reno.
 Contractor—MacDonald Engr. Co., 1 La Salle St., Chicago, Ill.

BERKELEY, Alameda Co., Calif.—Scott-Buttner Electrical Co., 19 Grand Ave., Oakland, at \$883 submitted low bid to Construction Engineer, Berkeley, to furnish and install ten directional and 19 wicket electrical signs, under drawing No. 33-700. Following is a complete list of the bids:
 Scott-Buttner Co., Oakland.....\$ 883
 Brumfield Electric Co., S. F.....1,093
 Electric Prod. Corp., Oakland.....1,215
 Bids referred to Washington for award.

SUNNYVALE, Santa Clara Co., Cal.—Fred W. Snook, 596 Clay St., San Francisco, awarded contract by Bureau of Yards & Docks at \$20,890, for refrigeration and ice-making equipment for Naval Air Station, Sunnyvale; Spec. No. 6852. The work will consist of motor-driven compressors, condensers, liquid receiver, freezing tank, brine pumps, brine coolers, brine agitator, can dump, ice crane, can filler, manual starting equipment, safety devices, wiring and complete piping systems; a natural draft cooling tower system with motor-driven circulating pumps, spray nozzles and piping; construction of cold storage rooms, including insulation, doors, floors and equipment for handling and storing foods; also automatic electric refrigerators and bottle cooler and brine-refrigerated display case.

OKLAND, Alameda Co., Cal.—Standard Electric Time Co., Springfield, Mass., submitted low bid to Treasury Department, Washington, D. C., for furnishing and installing time clock systems in the Post Office building, Oakland.

ALAMEDA, Alameda Co., Calif.—F. W. Snook Co., 596 Clay St., San Francisco, awarded contract at \$10,650 for construction of a water supply system and sanitary sewer system at Benton Field Air Depot, Alameda. Complete bid listing reported in issue of September 29.

SAN FRANCISCO—H. H. Larsen, 64 South Park, desires sub-bids on all portions of the work in connection with the construction of the non-commissioned officers quarters to be constructed at the Presidio for the U. S. Government, for which bids will be opened November 1, 11 A. M.

BOULDER CITY, Nev.—Lidgerwood Mfg. Co., Elizabeth, N. J., awarded contract by U. S. Bureau of Reclamation, Denver, Colo., at \$172,110 to furnish, install and paint one electrically operated cableway, capacity 150 tons, with span approx. 1200 feet, at Hoover Dam, Boulder Canyon Project, Arizona-California-Nevada, Spec. No. 537. Details reported in issue of Sept. 29.

SUNNYVALE, Santa Clara Co., Cal.—E. C. Nickel, 912 Michelorena St., Los Angeles, awarded contract by the Bureau of Yards and Docks at \$51,920 for furnishing and installing all wires, conduits, junction boxes, lighting fixtures, receptacles, power outlets, circuit breakers, switches, remote control stations, transformers, cutouts, potheads, distribution cabinets and all other equipment necessary for the systems at Naval Air Station, Sunnyvale; Spec. No. 7053.

FORT GEORGE WRIGHT, Wash.—Until October 21, bids will be received by Constructing Quartermaster, Fort George Wright, to erect four double sets of non-commissioned officers' quarters. Estimated cost, \$54,000. Deposit of \$15 required for plans obtainable from above.

FORT DOUGLAS, Utah—Until October 12, bids will be received by Constructing Quartermaster, Fort Douglas, to erect one double set of non-commissioned officers' quarters. Estimated cost \$13,500. Deposit of \$15 required for plans obtainable from above.

FORT LAWTON, Wash.—Until Oct. 20, bids will be received by Constructing Quartermaster, Fort Lawton, to erect two double sets of non-commissioned officers' quarters at Fort Lawton. Estimated cost \$27,000. Plans obtainable from above on deposit of \$15, returnable.

PEARL HARBOR, T. H.—Until 11 A. M., November 2, bids will be received by the Bureau of Yards and Docks, Navy Department, Pearl Harbor, T. H., for electrical work for engine and aircraft overhaul shop at the Fleet Air Base, Pearl Harbor; Specification 7024.

Complete Bid Listing. Cost, \$136,000
ADDITION
 Billings, Montana.
 Three-story and basement addition (61 x107 ft.) and remodeling Post Office (stone and brick facing).
 Owner—United States Government.
 Plans by Supervising Architect, Treasury Dept., Washington, D. C.
 Low Bidder—W. D. Lovell, 1415 8th St., Minn., at \$135,700.

Following is complete list of bids:
 W. D. Lovell, Minn.....\$135,700
 E. A. Moline.....135,875
 Meinecke-Johnson Co.....139,256
 Hiram Lloyd Bldg. & Constr. Co.....142,393
 Jerome C. Boespflug.....143,679
 McLaugh Bros.....144,225
 Rosen & Fischel.....147,725
 McCarthy Bros. Constr. Co.....150,000
 Joseph H. Lorenz.....152,842
 Chas. Weitz' Sons.....160,900
 Geo. H. Lounsbury & Son.....162,357
 Wm. MacDonald Constr. Co.....170,000
 Bids held under advisement.

BOULDER CITY, Nevada—California firms desiring to make contacts with purchasing departments at Boulder City may be interested to know that the Boulder City Company is a subsidiary of the Six Companies, Inc., and was organized to operate the Boulder City Department Store and all housing, hospitalization, and other activities. V. G. Evans, Boulder City, Nevada, is the general manager. Representatives who wish to secure business from the Boulder City Department Store, should first contact Arthur E. Brown, manager, who will then introduce them to the department manager. The latter will make the actual selections.

SUNNYVALE, Santa Clara Co., Cal.—Frederick W. Snook Co., 596 Clay St., San Francisco, at \$225,475 submitted low bid to Bureau of Yards and Docks, Navy Department, for concrete pavements, railroad tracks, metal clad partitions, and drainage, plumbing and heating, air conditioning, helium and gasoline systems in the hangar; and one-story reinforced concrete gasoline pumping and ethylizing building and equipment at the Naval Air Station, Sunnyvale. Specification No. 6596. Newport News Contracting and Engineering Co., Lee Hall, Virginia, submitted second low bid at \$237,800.

Complete list of bids will be published shortly.

PALO ALTO, Santa Clara Co., Cal.—Until October 26, 2:30 P. M., bids will be received by Supervising Superintendent of Construction, U. S. Veterans' Hospital, Palo Alto, for constructing and finishing at the U. S. Veterans' Hospital, Palo Alto, dietitian's office, coat room, and vegetable cold storage room in Building No. 204. This work will include excavating, plain and reinforced concrete work, hollow building tile, carpentry, lathing and plastering, stuccoing, roofing and sheet metal work, hardware, painting, plumbing, heating, electrical work, cork insulation, refrigerant piping, pipe covering, valves and fittings, self-contained direct expansion cooling unit for cold storage room, falence tile, quarry tile, metal shelving, cold storage doors, and all other items as shown or specified.

...Separate bids will be received for (a) general construction, consisting of all work in connection with the construction of the dietitian's office and coat room and removal of windows in existing dietitian's office, and bricking up openings, stuccoing, etc., required in connection with these windows; also all plumbing, electrical work, except wiring in connection with cooling unit; and (b) for construction of vegetable cold storage room including ceiling framing, cork insulation, refrigerant piping, cooling unit, cold storage doors, quarry tile floor, falence tile walls, all electrical work in connection with cooling unit. Plans obtainable from above office.

SUNNYVALE, Santa Clara Co., Cal.—Frederick W. Snook Co., 596 Clay St., San Francisco, at \$20,890 submitted low bid on item one to Bureau of Yards and Docks, Navy Department, under Spec. No. 6852, for refrigerating and ice making equipment at the Naval Air Station at Sunnyvale. Second low bid was submitted by the York Ice Machinery Corp., Philadelphia, at \$22,139.

Complete list of bids will be published shortly.

SUNNYVALE, Santa Clara Co., Cal.—E. C. Nickel, 912 Michelorena Street, Los Angeles, at \$51,920 submitted low bid to Bureau of Yards and Docks, Navy Dept., to furnish and install wires, conduits, junction boxes, lighting fixtures, receptacles, power outlets, switches, circuit breakers, remote control stations, transformers, cutouts, potheads, distribution cabinets and all other equipment necessary for the systems at the Naval Air Station, Sunnyvale, under Spec. No. 7053. Second low bid was submitted by Severin Electric Company of San Francisco at \$54,900.

SUNNYVALE, Santa Clara Co., Cal.—Dinwiddie Construction Co., Crocker Bldg., San Francisco, at \$222,600 sub-

mitted low bid to Bureau of Yards and Docks, Navy Department, Washington, D. C., under Specification No. 6956, for concrete pavements, railroad tracks, metal clad partitions, and drainage, plumbing and heating, air conditioning, helium and gasoline systems in the hangar; and one-story reinforced concrete gasoline pumping and ethylizing building and equipment at the Naval Air Station, Sunnyvale. Frederick W. Snook, San Francisco, previously reported as low bidder, was second low at \$225,000. Newport Contracting and Engineering Co., Lee Hall, Va., third low at \$237,800 and Robert E. McKee, Los Angeles, fourth low at \$239,700.

PACIFIC COAST.—Twenty-nine construction projects have been authorized for the U. S. Lighthouse Service costing \$1,945,671, in which the following Pacific Coast projects are included:

Alaska.—\$285,000, new lighthouse tender to replace the tender Fern.

Cape Hinchinbrook, Alaska.—\$48,000, complete moving light station to point back of crumbling cliffs.

Ketchikan, Alaska.—\$12,500, construction of buoy shed and other necessary work.

Point Loma, Calif.—\$6,685 for seawall.

Los Angeles.—\$62,000, construction of wharf, warehouse and keeper's dwelling.

California.—\$12,175, replacing steam fog signal plant at East Brother Island, light station.

Juan de Fuca Strait, Wash.—\$11,800, establishment of lighted bell buoy on Partridge Bank.

CALIFORNIA—Additional Post Office building projects, authorized under provisions of the Emergency Relief and Construction Act, were announced October 5 by the Secretary of the Treasury and the Postmaster-General. California cities allocated buildings are: Bell, Carmel, El Monte, Hollister, Huntington Beach, Los Gatos, Madera, Montebello, Oceanside, Paso Robles, Roseville, Santa Clara, Santa Paula, Sebastopol, South Pasadena, Susanville and Tracy. The cost of these buildings will be less than \$100,000 each. Treasury Department will advertise for bids shortly for building sites in the cities named and immediately after selection of sites will start the preparation of plans. A few additional cities are under consideration for new post offices and an announcement as to the location of these projects will be made within a few weeks.

Contract Awarded.
POST OFFICE Cont. Price, \$49,000
 ST. JOHNS, Oregon.
 Fireproof post office.
 Owner—United States Government.
 Architect—M. F. Stokes, Commerce Bldg., Portland.
 Contractor—Anderson Constr. Co., 682 E-39th St., Portland.

BOISE, Idaho—Until 2 P. M., Oct. 27, bids will be received by the Treasury Department, Office of the Supervising Architect, Washington, D. C., for painting plaster, etc., in the U. S. Post Office and Court House at Boise, Idaho. Specifications may be obtained from the custodian of the building or from the supervising architect in Washington.

SUNNYVALE, Santa Clara Co., Cal.—Dinwiddie Const. Co., Crocker Bldg., San Francisco, at \$222,600 awarded the contract by Bureau of Yards and

Docks, Navy Dept., Washington, under Specification No. 6956, for concrete pavement, railroad tracks, metal clad partitions, and drainage, plumbing and heating, air conditioning, helium and gasoline systems in the hangar; and one-story reinforced concrete gasoline pumping and ethylizing building and equipment at the Naval Air Station, Sunnyvale.

SAN FRANCISCO.—Until Oct. 25, 10 A. M., under Circular No. 928-33-75, bids will be received by Quartermaster Supply Officer, General Depot, Ft. Mason, to furnish Manila rope, as follows:

- 1 coil, 1125-ft. 9-thread, 5/16-in.; 400 lbs. 1200-ft., 15-thread, 7/16-in.;
- 6 coils, 750-ft., 3-strand, 1-in., 3-in., circular;
- 1 coil, 1500-ft., do;
- 1 coil, 750-ft. 3-strand, 1 1/4-in. 3 1/4-in., circular;
- 1 coil, 750-ft. 3-strand, 1 5/16-in. 4-in., circular;
- 6 coils, 750-ft. 3-strand, 1 1/2-in., 5-in., circular;
- 1 coil, 750-ft. 3-strand, 2-in., 6-in., circular.

Specifications obtainable from Quartermaster Supply Officer.

Bids Wanted—To Close November 7, 3 P. M.
POST OFFICE Cost, \$135,000
STILLWATER, Oklahoma.
 Class A Post Office.
 Owner—United States Government.
 Plans by Supervising Architect, Treasury Dept., Washington, D. C.

OAHU, T. H.—Until 11 A. M., December 7, bids will be received by the Bureau of Yards and Docks, Navy Department, Washington, D. C., for painting interiors of buildings at the Naval Ammunition Depot, Oahu, T. H.; Specification No. 7047. Bidding data may be obtained from the Bureau, or the Commandant, Fourteenth Naval District, Pearl Harbor, T. H., or the Commandant Twelfth Naval District, 100 Harrison St., San Francisco, upon deposit of a check or postal money order for \$50 payable to the Chief of the Bureau of Yards and Docks.

Plans Being Completed.
HOSPITAL BLDGS. Cost, \$1,500,000
SAN FRANCISCO, Fort Miley.
 Six-story reinforced concrete hospital (300 beds) 3-story concrete administration building, nurses' home, garage and storehouses, laundry, etc. (prepared roof).
 Owner—United States Government.
 Plans by U. S. Veterans' Administration, Veterans' Hospital, Palo Alto to Washington in about one week.
 Completed plans will be forwarded

HALLS AND SOCIETY BUILDINGS

Feing Done By Day's Labor.
LODGE BLDG. Cost, \$18,000
SANTA CRUZ, Santa Cruz Co., Cal.
 No. 206 Pacific Avenue.
 Three-story Class C reinforced concrete lodge building, tile and composition roof, hot air heating system, ventilating system, hardwood and pine floors.
 Owner—Royal Order of Moose (H. L. Lord in charge), Santa Cruz.
 Architect—Edwards & Schary, 550 Montgomery St., San Francisco.
 Work has been started by owner on a day's labor basis.

SAN LEANFRO, Alameda Co., Cal.
 City council will purchase site at Bancroft and Pala Ave. on which the

county of Alameda proposes to erect a Veterans' Memorial Building to cost \$80,000. Plans for the structure will be prepared by Architect Henry H. Meyers, Kohl Bldg., San Francisco.

October 13, 1932
Suh-Contracts Awarded.
COMMUNITY CENTER

SAN FRANCISCO. Contract Price, \$150,512
 Presidio Avenue.
 Two-story and basement reinforced concrete community center.
 Owner—Jewish Community Center, S. M. Ehrman, chairman, 68 Post St., San Francisco.
 Architect—Hyman & Appleton, 68 Post Street and Arthur Brown Jr., 251 Kearny St., San Francisco.
 Contractor—Bartlett & Hill, 918 Harrison St., San Francisco.
Marble—Jos. Musto Sons-Keenan Co., 535 North Point St.
Steel Sash—Detroit Steel Products Co., 111 Sutter St.
 Other awards previously reported.

Contract Awarded.
LIGHTING FIXTURES

PLEASANTON, Alameda Co., Cal.
 Lighting fixtures for Veterans' Memorial.
 Owner—County of Alameda.
 Architect—Henry H. Meyers, Kohl Bldg., San Francisco.
 Contractor—K. A. Grant, care Maxwell Hardware Co., 1320 Washington St., Oakland.

HOSPITALS

SAN LUIS OBISPO, San Luis Obispo Co., Cal.—County supervisors have purchased a site in Johnson Avenue, San Luis Obispo, on which to erect a new tubercular home. The structure will have a capacity of 24 beds. Kitchen service will be provided by the county general hospital. Plans for the structure will probably be submitted at the October 17 meeting of the county supervisors when bids for construction will be asked.

Bids Wanted—To Close Oct. 26th, 2:30 P. M.

REMODELING Cost, \$—
PALO ALTO, Santa Clara Co., Calif.
 Remodeling kitchen, etc. (cooling system, etc.)
 Owner—United States Government.
 Plans by Supervising Supt. of Construction, Veterans' Hospital, Palo Alto.

To Ask Bids Oct. 14—To Be Opened November 16.
INSTITUTE BLDGS. Cost, \$400,000
SAN FRANCISCO, Potrero Ave. near 20th Street.

Five-story Class A steel frame and reinforced concrete psychopathic institute building (tar and gravel roof, steam heating system to connect to main plant, etc.)
 Owner—City and County of San Francisco.
 Architect—Alfred I. Coffey and Martin J. Rist, associated, Phelan Bldg.
 Bids will be taken on a general contract basis with separate bids for mechanical and electrical work.

SALINAS, Monterey Co., Cal.—County supervisors contemplate the erection of a tubercular unit at the county hospital to provide accommodations for 28 patients. The cost, estimated by Dr. R. M. Portier, county health officer, is placed at \$8000 with \$2000 additional for equipment.

Bids Wanted—To Close October 24th, 11 A. M.

ALTERATIONS Cost, \$4000
SAN JOSE, Santa Clara Co., Cal.
Alterations to frame service building for county hospital.

Owner—County of Santa Clara.
Architect—Binder and Curtis, 35 W San Carlos St., San Jose.

Plans Being Figured—Bids Close Nov. 16th, 2:30 P. M.

INSTITUTE BLDG. Cost, \$400,000
SAN FRANCISCO. Potrero Ave. and 22nd St.

General construction for 5-story Class A steel frame and reinforced concrete psychopathic institute bldg. (tar and gravel roof, steam heating system to connect to main plant, etc.)

Owner—City and County of San Francisco.

Architect—Alfred I. Coffey and Martin J. Rist, associated, Phelan Bldg.

Bids for general construction are being received by S. J. Hester, secretary, Department of Public Works, 2nd floor, City Hall. The estimated cost is \$310,000. Plans are obtainable from the Bureau of Architecture, 2nd floor, City Hall.

POWER PLANTS

MODESTO, Stanislaus Co., Calif.—Until November 7, 11 A. M., bids will be received by C. S. Abbott, secretary, Modesto Irrigation District under Item E-19, to furnish and deliver three outdoor type induction regulators. Certified check 5% payable to district required with bid. Specifications obtainable from secretary.

ALAMEDA, Alameda Co., Calif.—Burns, McDonnell and Smith, consulting engineers, will make a survey for the city of Alameda to determine if the municipal light and power plant should continue to purchase electricity or operate its own generating plant.

ESCONDIDO, San Diego Co., Cal.—John H. Chase, special engineer employed by the city, authorized by city council to prepare plans and specifications for the proposed new municipal electric system. Chase reported to the city that a Diesel power plant and distribution system could be installed by the city at a saving to property owners. City attorney has been authorized to start condemnation proceedings against the San Diego Consolidated Gas and Electric Company to acquire that company's system.

BOULDER CITY, Nev.—See "Reservoirs and Dams" in this issue. Bids to be asked by U. S. Reclamation Bureau, Denver, Colo., for miscellaneous generating and electrical equipment in connection with Boulder Dam project.

PUGET SOUND, Wash.—Until Oct. 19, under Specification No. 7022, bids will be received by Bureau of Yards & Docks, Navy Department, Washington, D. C., to furnish and deliver Puget Sound, one 2,000-kw. turbo-alternator for Puget Sound Navy Yard. Deposit of \$5 required for plans, obtainable from the Bureau or the Commandant of the Navy Yard at Puget Sound.

VERNON, Los Angeles Co., Calif.—Contracts for furnishing evaporator equipment, condensers and deaerating heater to be installed in new power plant under construction on Soto St., awarded by the city council as follows:

Thomas Machinery Co. at \$9900 for

one set of two effect evaporators with flash and surge tanks, valves, etc. C. F. Braun Co. at \$1990, for one condenser and one condensate heat exchanger with traps or drains, valves etc.

Hacker Pipe & Supply Co. at \$1250 for deaerating heater with vent condenser and storage tanks, with control valves, etc.

VERNON, Los Angeles Co., Calif.—Until 8 P. M. October 17, bids will be received by city council to furnish insulated weatherproof wire. Specifications obtainable from Howard S. McCurdy, chief engineer. T. J. Furlong, city clerk.

LOS ANGELES, Calif.—Wm. Davidson, Chief County Mechanical Engineer, 1006 Hall of Records, will prepare new specifications for installation of two steam generating units in the power house at the County General Hospital. The previous specifications called for two 500-hp. water-tube boilers designed for battery setting, including burners, breeching, stack piping, foundations and all appurtenances including the removal of two 250-hp. Stirling boilers. At the present time, the committee has not determined whether the new equipment will be added to present battery or whether the proposed boilers will replace the existing equipment, in which case the contract would include the removal of the old equipment. There is also a possibility that the new specifications may call for one 1000-hp. plant in lieu of two 500-hp. units. A definite decision will probably be reached within the next ten days or two weeks.

LOS ANGELES, Cal.—Until 2 P. M., October 24, bids will be received by County Supervisors for installation of switchboard and service for power house at County Farm, near Downey, involving:

- (1) steel supporting frame and platform complete with new feeder distribution switchboard;
- (2) switching equipment for high tension Edison service;
- (3) new set of generator control panels;
- (4) complete set of connections for all apparatus as specified.

Wm. Davidson, 1006 Hall of Records, County Mechanical Engineer. Plans obtainable from Mame E. Beatty 501 Hall of Records, county clerk.

PUBLIC BUILDINGS, FIRE HOUSES AND JAILS

Final Plans Approved. Cost, \$7500

LIBRARY JACKSON, Amador Co., Cal.
Two-story brick library (26x50 feet); concrete foundations, tile roof, hot air heating system, linoleum on pine floors.

Owner—County of Amador.
Architect—W. E. Coffman, Forum Bldg., Sacramento.

Final plans have been approved and bids will be asked shortly.

Plans Being Figured—Bids Close Nov. 7, 2 P. M.

LIBRARY JACKSON, Amador Co., Cal.
Two-story brick library (26x50 feet); concrete foundations, tile roof, hot air heating system, linoleum on pine floors.

Owner—County of Amador (Leotta M. Huberty, County Clerk), Jackson.

Architect—W. E. Coffman, Forum Bldg., Sacramento.
Certified check 10% payable to county clerk required with bid. Plans ob-

tainable from the architect on deposit of \$25, returnable.

SALINAS, Monterey Co., Cal.—Salinas Electric Works, 272 Main Street, Salinas, at \$1,673 awarded contract by city council to furnish and install electroliters around the new municipal auditorium.

Preliminary Plans Complete—To Vote Bonds To Finance.

JAIL Cost, \$200,000
SAN JOSE, Santa Clara Co., Calif. Market Street.

Four-story reinforced concrete county jail (accommodations for 148 prisoners, with ultimate capacity of 225 including offices of sheriff and jail administration).

Owner—County of Santa Clara, Henry A. Pfister, county clerk.
Architects—Binder and Curtis, 35 W San Carlos St., San Jose.

Bond election for \$200,000 will be held November 8th to secure funds to finance construction. The bonds will be for a 25-year period, paying five per

SCHOOLS

Bids Wanted—To Close October 26. SCHOOL ADDITIONS Cost, \$100,000

LOS ANGELES, Los Angeles Co., Cal. No. 1521 N. Highland Ave.

Two-story reinforced concrete school addition (87x141 ft.); 22 rooms, wood roof trusses, cast stone facing, reinforced concrete vault, etc.

Owner—L. A. City School District.
Architect—Marsh, Smith & Powell, Architects Bldg., Los Angeles.

Bids Wanted—To Close October 19. SCHOOL ADDITION Cost, \$63,000

VAN NUYS, Los Angeles Co., Cal. NE Topeka Drive and Collins St.

Two-story Class B addition to school (cast stone trim, steel lockers, incinerator, steel rolling doors, hol-Owner—L. A. City School District.
Architect—Armand Monaco, Pershing Square Bldg., Los Angeles.
low tile trim, etc.)

Bids Wanted—To Close Oct. 19. SCHOOL ADDITION Cost, \$34,000

LOS ANGELES, Los Angeles Co., Cal. Vernon Avenue, bet. Ascot and Compton Avenues.

Two-story brick and concrete addition to school (60x221 ft.); 15 rooms, tile roof, wood roof trusses, tile and marble work, lockers, etc.

Owner—L. A. City School District.
Architect—Allen Ruoff and A. C. Munson, Title Insurance Bldg., Los Angeles.

BERKELEY, Alameda Co., Cal.—Until Nov. 1, 8 P. M. bids will be received by Clara F. Andrews, Secretary of Berkeley Board of Education, to furnish and install 1000 steel lockers for the Berkeley High School. All previous bids were rejected, the lowest bid being submitted by Lyon Metal Products Co., 58 Sutter St., San Francisco, at \$3525.

PANAMA CANAL ZONE.—Until October 24, 10:30 A. M., under Schedule No. 2798, bids will be received by Purchasing Officer, Panama Canal, Washington, D. C., to furnish miscellaneous furniture, steel lockers and metal and woodworking shop tools for the Cristobal High School. Specifications on file in office of Daily Pacific Builder and may be inspected by those interested. Copies of the specifications are obtainable from the Assistant Purchasing Agent, Fort Mason, San Francisco.

PACIFIC

25c
per Copy

SKILL - INTEGRITY



RESPONSIBILITY

CONSTRUCTOR

CONSOLIDATED WITH

Building and Engineering News

IN THIS ISSUE



NOVEL CONSTRUCTION METHODS ARE
FEATURES AT MARIN BOMBING BASE

By S. P. McCasland, Associate Editor

SATISFACTORY BIDS ARE RECEIVED ON
GOLDEN GATE BRIDGE PROJECT

TAX DIVERSION MENACE TO BE STRESSED
AT PAVING CONFERENCE

GEORGE WESTINGHOUSE BRIDGE IMPROVES
LINCOLN HIGHWAY

THE EVOLUTION OF FORTIFICATIONS
AROUND SAN FRANCISCO BAY

By O. W. Degen, C. E., Q. M. Corps, Fort Mason, California

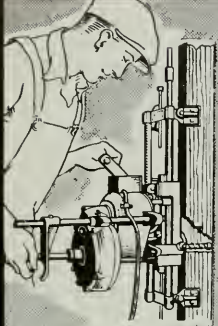
WHAT'S WRONG WITH THE BUILDING
INDUSTRY?

By F. H. Eichler

UNIT BID LISTINGS
CONSTRUCTION NEWS SUMMARY



WAPPAT *Electric* TOOLS



Are Built to Last Longer

Cuts production costs . . . Speeds up the job . . . Makes for greater efficiency . . .
A size and type for every purpose.

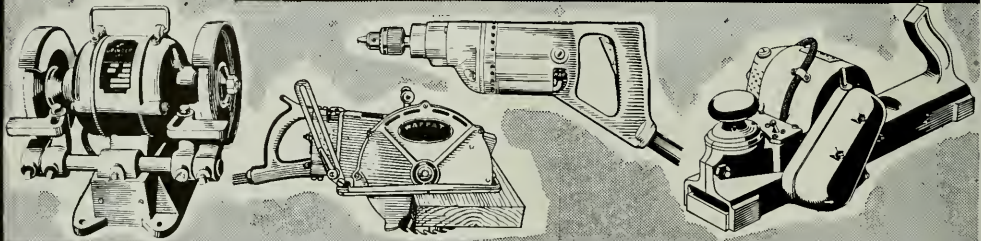
Ask for a Demonstration

M. N. THACKABERRY

228 First Street, San Francisco
KEarny 4467

TOOLS RENTED

308 E. Third St., Los Angeles
MUtual 7508



COLTON CEMENT



Uniform Quality : Service : Satisfaction

Manufactured by

CALIFORNIA PORTLAND CEMENT COMPANY

1228 PACIFIC MUTUAL BUILDING

Mills at Colton, California

TR. 1271

Los Angeles



DOuglas 0948

“TITAN” The Air Hose
With the
Red Cover

A responsible hose that resists extreme external wear . . . An oil-proof rubber tube that remains intact after hours of exposure to lubricating oils.

A fabric construction that carries a safety factor of five-to-one in pressure resistance.

Hercules Equipment & Rubber Co.
11 MISSION STREET SAN FRANCISCO

PACIFIC CONSTRUCTOR

With which is Consolidated Building and Engineering News

Official Publication of the Associated General Contractors of America
for the Eleven Pacific Coast States

SAM B. EUBANKS, *Editor*

S. P. McCASLAND, *Assoc. Editor, Am. Soc. C. E.*

VOL. 15

SAN FRANCISCO, CALIF., NOVEMBER 1, 1932

No. 20

Vote "NO" on Proposition No. 4

DEFEAT of Senate Constitutional Amendment No. 22, which is proposition No. 4 on the November ballot, by a large majority is imperative if the people of California want to prevent depletion of highway funds and safeguard the State's program of highway construction and maintenance.

The proposed amendment would divert the State's share of the gross receipts tax paid by motor vehicle transportation companies from the highway to the general fund. The immediate effect would be to divert some \$500,000 a year from highway purposes.

Actually, however, it is the opening wedge in still further diversions of State highway funds. An attack on the State gasoline tax money is to be made in the Legislature. It is proposed to divert approximately \$92,000,000 over a period of years to payment of interest and redemption on outstanding road bonds.

The Amendment must be defeated by a large majority, as notice from the people of California that they will tolerate no interference with the State highway program nor its orderly financing!

Proposition No. 4 would reduce the State funds available for highway construction and maintenance, and would be an entering wedge for wholesale diversion of gasoline tax funds to non-highway purposes.

Under present State law municipalities receive aid from State highway funds in building links through cities to connect with the highway system. The amount of

aid extended is in the discretion of the State Department of Public Works, and totalled \$2,500,000 in the last biennium. Every dollar of this represented a saving to local taxpayers.

The depletion of State highway funds through Proposition No. 4 would mean elimination of this permissive feature and withdrawal of aid to cities. Therefore cities which are now asking for a more generous allowance of State aid and for a portion of gas tax money, stand to lose tremendously under No. 4.

The League of California Municipalities, a state-wide organization for the preservation of public roads financing, representing two hundred and fifty-five California cities, is vigorously opposing Proposition No. 4 and is waging a very active campaign to defeat the measure by a huge majority.

A similar campaign is being waged by the Highway Protective Committee, another state-wide organization, seeking to prevent depletion of highway funds and to safeguard the State's program of highway construction and maintenance.

In addition to the above organization waging active campaigns against the Amendment, directors of the Allied Truck Owners, have taken a decided stand against the proposal and have passed resolutions to that effect.

Defeat Proposition No. 4 on the November Ballot—Vote "NO."

Vote "NO" on Proposition No. 4

Limit Stakes and Levels

By THE EDITOR

A minimum wage of 40 cents and a 40-hour week will be specified in the contract for extensive water main extensions in Cincinnati.

The International Association of Bridge, Structural & Ornamental Iron Workers passed a resolution at their annual convention in St. Louis condemning further wage cuts and authorizing union officials to oppose any proposed reductions.

With a view to relieving the unemployment situation, the Seattle city council has provided a proposal on the November ballot for a \$1,188,000 bond issue to finance the grading and paving of streets included in the city's arterial highway system.

Hand labor requirements on highway work in Colorado are reported to have resulted in an increase of from 10 to 25 per cent in bids recently received for highway work as compared with bids that would have been possible had it been possible to use machines.

According to "Street Accidents," a monthly publication of the police department of New York City, 3334 children are alive today who would not have been were it not for the accident prevention and safety education work in that city during the past four years. Safety—first, last and always—pays.

A cut of from \$300,000 to \$500,000 in the \$19,000,000 highway construction program for the state of New Jersey has been ordered by Governor Moore as part of his campaign to reduce state expenditures. The Governor has urged the State Highway Commission to spread the saving out as much as possible over its entire program rather than cut off whole items of work, also to introduce staggered working hours as an economy measure, rather than cut the number of its employees.

The 1932 national wage scale published by the Builders Association of Chicago is now being distributed. Hourly wage rates of all classifications of building mechanics and laborers in 125 principal cities of the United States and Canada are shown. The current scale sells for one dollar, and the years to 1932 are \$1.50 a copy. This scale, in addition to showing wage information, indicates whether closed or open-shop conditions exist, and also the weekly hours of employment.

To prevent an influx of unemployed into California following announcement of a loan of \$62,000,000 for the San Francisco-Oakland Bay Bridge by the Reconstruction Finance Corporation, Hollis Thompson, city manager of Berkeley, urges that steps be taken by the bridge authority to issue a warning throughout the country that no workers are needed for the gigantic development. The Berkeley city manager, conferring with bridge authority officials in San Francisco, advocated that only those unemployed who were residents of California at the time the Refinance Corporation announced its loan be given work on the bridge.

LOCAL CONTRACTORS ONLY ON MARYLAND STATE HIGHWAY WORK

In a call for bids on the construction of concrete should-ers on certain highways in Maryland, the Maryland State Roads Commission has announced that only bids from contractors who are residents of Maryland or from corporations the majority of whose outstanding stock is held by residents of Maryland, will be accepted. Only residents of the state are to be employed on the work.

This action has been made possible by the fact that all the funds used for the particular work in question are state funds.

Pre-qualification of the bidders will be required. On road work contractors will be required to pay a minimum hourly wage of 35 cents for unskilled labor with increases of from 25 to 50 per cent for semi-skilled and skilled labor. A minimum of 25 cents an hour is specified for unskilled labor on the bridge work included in the bidding.

FEDERAL BUILDING PROGRAM

TO DATE EXCEEDS \$89,000,000

Already 239 buildings costing \$89,391,219 have been erected by the Federal government in a public buildings program which eventually will cost \$700,000,000.

There is available for the work \$496,463,942 authorized by Congress in addition to the \$100,000,000 allowed by the relief act.

In the original program beside the buildings completed the treasury has under contract 390 projects which will cost \$311,472,923 and has purchased sites for buildings in the District of Columbia costing \$28,047,504.

Further 121 projects are either on the market, the bids for construction have been received or the specifications are being drawn. These projects when completed will cost \$38,340,300.

HIGHWAY CONTRACTS IN U. S.

SHOW BIG GAIN IN SEPTEMBER

Highway construction awards during September were the highest for the year, averaging \$12,300,000 per week, as compared with \$7,500,000 for August and \$8,800,000 for June, the second high month, according to Engineering News-Record, New York. Road contracts averaged \$7,400,000 in September, 1931. All heavy engineering construction contracts reported for September (five weeks) amounted to \$114,487,000, of which \$100,972,000 represents public works. Federal contracts were rather low, totalling \$23,353,000. Private work amounted to \$13,515,000.

AGENT WANTED—The manufacturer of a proven highway guard desires live representatives in strategic locations. Representatives should have acquaintance with municipal, county and state highway officials, and engineers and contractors in the road building industry. Complete promotional backing by million dollar company for local organization or individual who can produce.

Address your reply, giving all important facts and your territory limits to Martin H. Kidder, 760 W. Polk St., Chicago, Illinois, who represents the manufacturer.

TEXAS URGES 40-HOUR WEEK—Governor Balzar of Nevada has received a copy of a resolution adopted by the Texas senate favoring a forty-hour labor week and has been asked to have it submitted to the Nevada legislature. The resolution has been sent to the governors of all states with a view to setting in motion a nation-wide movement for the adoption of the short labor week.

Novel Construction Methods Are Features At Marin Bombing Base

By S. P. McCASLAND, *Associate Editor*

THE job of providing satisfactory drainage for the Marin Bombing Base has turned out to be a rather large order. Ordinarily, we think of a drainage job in terms of rather small change, but it is readily apparent that this is no such project, from the fact that the Basalt Rock Co. dredged about a half a mile of channel in order to ship in aggregate for trench backfill.

The landing field is located about 7 miles north of San Rafael on a 600 acre flat which is entirely below sea level, the average elevation being about -3. For this reason it is necessary to lay tile on very slight grades in order to avoid excessive depths at the outlet. This, of course, necessitates very accurate laying and careful placing of backfill. In addition, the tiles must be up to a very high standard of quality and be very uniform in thickness, so that breaks in the grade line may be reduced to a minimum. In order to keep the grade under constant control and avoid any delay in checking, the contractor, Earl W. Helpe, has two survey parties on his payroll. These gentlemen keep the ditches to exact requirements and in addition to maintaining the grade see that excess excavation is eliminated.

Specifications require a trench width 6 inches greater than the outside diameter of the tile, and this exact width is excavated, in spite of the fact that it means working to very close dimensions. The attempt to secure such accuracy has been very successful and a saving has resulted, not only in the cost of excavation, but also in the quantity of crushed rock backfill.

It has been found necessary to backfill before the open ditch has had time to dry out, as the nature of the soil causes considerable grief if the trench is left open for too long a time. There is a layer of surface soil about 2 feet thick which is comparatively dry and not at all troublesome. However, the soil beneath this dry blanket contains considerable moisture and is consequently susceptible to high shrinkage on drying. The shrinkage causes deep vertical cracks and regularly formed columns of soil break off into the trench in a most peculiar manner. It has been found better to keep the job well backfilled than to use extensive shoring. Although the trench depth reaches 7 ft. 6 in. in many places, very little shoring has been necessary.

Specifications require a 3-inch layer of crushed stone in the bottom of the trench to form a foundation for the tiles. This layer is graded accurately, and the tiles placed after which they are again checked for grade from a string which is stretched between grade nails on more or less permanent stakes. Paraffine paper supplied by the Paraffine Companies, Inc., is used on top of all joints, covering half the circumference of the tile. Backfilling is accomplished by backing trucks up to the trench and dumping through a special chute, which causes vertical fall of the aggregate. In this way, it is possible to avoid disturbing the position of either the tile or the paraffine paper.

A sub-contract for all backfilling is held by the Basalt Rock Company of Napa, also engaged in furnishing rock for other phases of the Bombing Base project. The drainage job usually takes about 1,000 cubic yards of rock a day, in two classes: $\frac{3}{4}$ inch for filling all but the top 12 inches, and 1 inch for this upper layer. Rock is brought in by way of the canal previously mentioned, dredged especially for the purpose by the Basalt Rock Company. This

method of transportation has been very successful and has proved to be most economical, in spite of the large cost of the canal.

The channel provides a depth of about 4 feet at high water, which is sufficient for most barges of the company. One tug of shallow draft works between bunkers and an anchorage which has been established in the deeper waters of the bay, about $\frac{3}{4}$ mile south. This small tug works the flood tides and, due to the short haul, can move enough material during this interval to keep the bunkers supplied. On days when requirements exceed the capacity of the canal, material is brought in by rail and distributed from a second set of bunkers at the railhead.

Equipment at the rail bunkers is interesting, being rather more elaborate than might be expected. Aggregate is elevated to the necessary height with a belt conveyor operated by a Model A Ford motor. This inclined conveyor discharges into a second conveyor at right angles to the first. The second conveyor and its motor are mounted on a level track on top of the bunkers and by rolling along this track the secondary conveyor can be made to discharge into any one of five bunkers. The setup also includes equipment for charging Transmix concrete trucks, although the use of these trucks is rather light at present, concrete work not having started in earnest.

In order to protect the field at flood tide, a rolled filled dike is being constructed from the level of the field to about elevation -3. The dike is built of material which is excavated from an adjacent ditch in one operation. The ditch averages about 6 feet deep by 12 feet wide and provides an outlet for the tile drainage system. Drainage water will be pumped out at a pumping plant at the northeast corner of the field. It is planned to use the existing plant of the California Packing Corp., which is located in the same vicinity, as an emergency unit. Some idea of the size of the proposed units can be had from this existing plant, which contains a battery of three 36-inch pumps. Seventy-five thousand cubic yards of material were moved in connection with the dike, all of which was dragline work.

Trenching for the drain tile is accomplished by a Barber-Green trenching machine and two Cleveland "baby diggers." The Barber-Green is used for trenches over 18 inches wide and the Clevelands on smaller work. A northwest yard and a quarter dragline is being used on the dikes, which are compacted by LeTourneau sheepfoot rollers. These rollers are also successfully used to prepare some of the temporary roads for truck travel. Material excavated from the drain tile trenches is distributed over the field with a Caterpillar "60" leaning wheel grader, a Caterpillar "30" and LeTourneau bulldozer, and a MacMillan smizer. Tile was furnished by Gladding Bros. of San Jose.

Personnel includes George Russell, general superintendent, and O. B. Misz, contractor's engineer, for the Earl W. Heple Co. A. G. Streblov is the guiding genius for the Basalt Rock Company, and Frank W. Seltingere is the Government chief Engineer.

IMPORTATION OF FOREIGN STEEL IS COSTLY TO AMERICAN WORKERS

Heavy imports of foreign steel last year resulted in depriving 240,000 American workmen of a week's work, J. T. Thomsen of St. Louis, the other day told members of the American Institute of Steel Construction, at the tenth annual meeting of that body in Pittsburgh. This situation is still continuing, the speaker said, and makes it difficult for America to recover from the depression.

Mr. Thomsen's speech in full follows:

The importation of steel from Continental Europe to the United States has increased rapidly in the past two years and due to the very low percentage of operations the loss of this tonnage has been felt very keenly by our American mills.

It is well known that foreign steel is being delivered to our coastal cities at prices which are demoralizing not only to the price structure for plain material—but also to that for fabricated material. Many of the very low prices made on fabricated material in certain parts of our country, particularly in the southwest can be ascribed, in part, to the use of foreign sections.

The rolling mill interests are making very vigorous efforts to prevent the importation of foreign steel, alleging that the statutes against dumping are being violated. They will probably meet with some success in this direction. We have also had some legislation preventing the use of foreign steel. It would be well, however, for the Structural Steel Industry, as a whole, to consider whether the use of this imported steel is not detrimental to its own welfare.

The fabricating business may properly be considered as a part of a basic industry. Those of us who are dependent on it for a livelihood know that only a small portion of our output can be considered as a necessity. We know too that only in times of full employment of the American people do we have a good volume of business. Department of Commerce figures show that approximately 200,000 tons of steel were imported from Europe to the United States in the first six months of 1932. This meant the loss of a week's work for 120,000 men. In 1931 our imports totalled 370,000 tons which meant the loss of a week's work for 240,000. In addition to these direct losses of labor by the employes of the steel industry, there is probably an almost equal loss in the combined employment of those engaged in the mining and transportation required in production and delivery of the finished steel to its destination.

The transportation of raw materials used in the manufacture of steel and the transportation of the finished product make up a very important part of the tonnage handled by our railroads. These same railroads are large consumers of steel of all kinds as well as structural steel. The use of imported steel means a very considerable loss in employment and revenue by our railroads and has its effect on their inability for financial reasons to make normal purchases from our industry.

The steel industry itself is a large consumer of fabricated material and its lack of business together with the demoralization resulting from imported steel prevents it from making its normal purchases from our own industry.

We have heard much in the past two years about our tariff policy and it is easy for many to be internationally minded and maintain a liberal attitude regarding the advantages of a free interchange of products between nations but those of us in the fabricating industry are vitally concerned in the return of normal employment of the citizens of our country. Until we do accomplish this we cannot expect to have anything like a reasonable demand for structural steel. Even if there were no other reason,

we would seem to be justified in arriving at the conclusion that the use of imported steel is detrimental to the best interests of the structural steel industry.

The present conditions are abnormal; the outgrowth of world-wide shrinkage of markets, currency depreciation, foreign exchange restrictions and industrial desperation; and if the use of domestic steel will help restore our home markets, those of us in the structural steel business should be willing to do our part.

ALLIED TRUCK OWNERS OPPOSED TO CONSTITUTIONAL AMENDMENT 22

RESOLUTION PASSED AT SPECIAL MEETING
BOARD OF DIRECTORS
ALLIED TRUCK OWNERS
September 28, 1932

WHEREAS, the electorate of the State of California will have before it on the ballot at the general election in November a proposed Constitutional Amendment, known as Constitutional Amendment No. 22; and

WHEREAS, the intent and purpose of this proposed amendment is to authorize that the State's portion of the gross receipts taxes from motor vehicle transportation companies be diverted into the general fund in place of using said funds for highway purposes as now provided by law; therefore, be it and it is hereby

RESOLVED, that Allied Truck Owners, a non-profit corporation of the State of California, through its Board of Directors, views the proposed Constitutional Amendment Number 22 as inimical to the best interests of the commercial users of the highways of California, inasmuch as the approval of such an amendment thereafter would open the way to the charge that said motor vehicle transportation companies pay no direct and exclusive taxes for the construction and maintenance of the highways.

BE IT AND IT IS HEREBY FURTHER RESOLVED, that members of the Allied Truck Owners, and all other truck owners in California, should be advised to vote "NO" on said proposed Constitutional Amendment.

NEW SYNCHRONOUS MOTOR—A new synchronous motor developed for industrial and general purpose applications is announced by the Ideal Electric & Manufacturing Co., Mansfield, Ohio. The new unit, designated as the "Self-Syn" motor, requires no external excitation, the exciter winding, direct current commutator, etc., being integral with the motor itself. The motor is started with a hand-operated compensator in the same manner as an ordinary induction motor. The motor possesses the ability to resynchronize itself automatically after having been pulled out of step by a line voltage dip or a momentary overload.

CONCRETE FORM CLAMP—A quick-action clamp for securing and clamping concrete forms is announced by the Frederick N. Ritchie Co., 113 N Centre St., Orange, N. J. The clamp consists of a tie member with a wedge-retaining element and a wedge cooperating with it for holding the forms in the assembled position. The Colt form clamp, so called, with the attached wedge is one unit, made of malleable iron and having cup pointed, case hardened set screws. The manufacturer states that the clamp can be applied in 15 seconds and that one blow of the hammer will clamp and lock the forms. The clamp can be used on 1/4- 3/8- 1/2- 3/4-in. round rods or with wire.

Satisfactory Bids Received On G. G. Bridge--\$35,000,000 Project

THE final step preparatory to awarding contracts and commencing construction of the Golden Gate Bridge, a \$35,000,000 project, taken October 14, when directors of the Golden Gate Bridge and Highway District opened bids on eight contracts in connection with the structure.

Low bidders on the various units of the work are:

Cable Suspendors and Accessories: John A. Roebling Sons Co., San Francisco, \$5,855,000.

Main Piers: Pacific Bridge Co., Portland, Ore., \$2,935,000.

Anchorage: Bridge Builders, Inc., San Francisco, \$1,859,854.

San Francisco and Marin Approach Spans: Bridge Builders, Inc., \$934,800.

Presidio Road: Bridge Builders' Inc., four bids ranging from \$996,000 to \$1,011,000.

Sausalito Road: Chigris and Sutsos, San Francisco, \$59,780.

Paving Main Approach Spans: Clinton Construction Co., San Francisco, \$555,000.

Electric Work: Alta Electric & Mechanical Co., Inc., San Francisco, \$154,470.

Bridge Builders', Inc., is an organization composed of the Raymond Concrete Pile Company and Bechtel-Kaiser and Warren and Company with headquarters at 155 Sansome Street, San Francisco.

The Golden Gate Bridge will be financed through a bond issue of \$35,000,000 voted by the Golden Gate Bridge and Highway District comprising the counties of San Francisco, Marin, Sonoma, Del Norte and a portion of Mendocino.

Plans call for a bridge whose total length from bridge head to bridge head is 6,400 feet but from portal to portal 8,943 feet. The estimated cost of the completion of this structure and its approaches amounts to \$32,815,000. The location of the course of the bridge runs slightly northwest from Fort Point on the San Francisco shore to Lime Point on the Marin County shore.

The total distance shore to shore, i. e., the width across the Golden Gate along the center line of the bridge is 5,357 feet. The distance from the Marin shore to north pier is 52 feet and from the San Francisco shore to the south pier is 1,105 feet. The main span distance center to center of the piers is 4,200 feet, the longest ever undertaken. The maximum depth of the water through the Golden Gate is 378 feet at the center of the channel.

The clearance height is 210 feet at the piers, increasing to 220 feet at the center measured from the mean higher high water and under maximum deflection. The elevation of the bridge floor at the piers is 242 feet 11 inches above mean higher high water.

The most prominent features of the Golden Gate bridge are the two great steel towers carrying the cables which support the structure. These towers will be 700 feet high measured from the tops of the pier and 809 feet 7 inches from the bed of the bay on the San Francisco side.

There will be two cables for the bridge resting on cast steel saddles at the tops of the towers and anchored on shore. Each cable will be 7,700 feet long and 36½ inch in diameter and will contain approximately 27,500 steel wires of 0.196 inch in diameter laid parallel to each other and strung from anchor to anchor in one continuous operation then wrapped with galvanized steel wire and compacted by means of a special device for that purpose.

From center to center between the two cables is 90 feet. A 60-foot roadway for six lanes of traffic and two 10-foot walks are provided.

The capacity of the bridge with six lanes for traffic amounts to 259,200 automobiles for 24-hour day.

EARL KELLY IS NAMED NEW STATE PUBLIC WORKS DIRECTOR

Earl Lee Kelly, chairman of the state highway commission, has been drafted by Governor Rolph as director of the state department of public works, filling the vacancy created when Col. Walter E. Garrison was discharged.

The governor made this statement upon his return from Los Angeles, where he interviewed numerous candidates for the position. After announcing his intention to draft Kelly, Rolph summoned him for a conference. Kelly previously had said that he was not seeking the position, but that if the governor wanted him to take it, he would.

Kelly accepted the \$10,000 a year position after a brief conference with the governor, saying he appreciated the honor and would try to fill the job to the best of his ability.

Governor Rolph said he had received about 1500 applications from men wishing to have the directorship, or the \$5,400 a year deputy directorship from which James I. Herz was removed with Garrison, or the \$4,500 assistant directorship from which Albert S. Banks resigned.

MELVILLE DOZIER RESIGNS AS SOUTHERN CALIF. SECRETARY

Melville Dozier, Jr., for the last seven years manager of Southern California Chapter, Associated General Contractors of America, has resigned that position, effective October 31, to engage in private consulting engineering practice. Dozier's resignation was accepted with regret by the directors of the Chapter. During his seven years' service with that organization he did much to promote the interests of the construction industry and assisted in gaining for it a measure of recognition commensurate with its importance.

Dozier has had a wide and varied experience in engineering and construction over a period of 33 years, enriched with invaluable contacts in public affairs and legislative matters. His engineering work has covered a diverse field, including highways, hydraulic projects, flood control and irrigation, harbors, railroads and reclamation, in all of which he has achieved success.

TREMENDOUS INCREASE IN GAS TAX DIVERSION THIS YEAR

Diversion of gasoline tax and motor vehicle license fees will total \$250,000,000 this year, Charles F. Abbott, executive director of the American Institute of Steel Construction, stated recently in an address before the conference held by Babson's Statistical Organization on the Emergency Quota Plan to restore purchasing power. The states are diverting approximately \$100,000,000 of such funds, Mr. Abbott said, and in addition, the federal government will collect \$150,000,000 from its emergency levies on gasoline, oil, sale of automobiles and parts and accessories.

During the past five years automobile registrations increased 40 per cent, while road construction increased but 13 per cent. The statement is frequently made that we have sufficient highways in the United States, Mr. Abbott says. This is incorrect. There are scarcely 150,000 miles of rural pavement in the United States, according to the American Association of State Highway Officials, he pointed out, and it is estimated that if 100,000 more miles were built during the next five years, we would still not have enough for 1937 needs.

Yet the diversion of motor vehicle fees and gas taxes goes forward on an increasingly large scale. Two years ago only \$15,000,000 of the gasoline taxes and motor license fees were diverted from road building. Last year \$20,000,000 were diverted. It proved so easy to take these amounts that this year \$250,000,000 are being taken, Mr. Abbott states.

The amounts collected from gasoline taxes have increased steadily, it is shown by figures collected by the National Automobile Chamber of Commerce. While motor vehicle registration fees dropped \$11,000,000 in 1931 from the 1930 collections, the gas tax receipts went up \$42,000,000 for the same year. Gas taxes collected in 1931 totalled \$536,397,458, registration fees, \$344,337,654 and personal property and municipal taxes were \$145,000,000. The total motor vehicle taxes collected during 1931 are shown to have totalled \$1,025,735,112.

Unthinking people claim that motor traffic is subsidized by the government, Mr. Abbott states, but in the face of these figures it appears that motor traffic is very remunerative to the government. If such is the case, he argues, would not more and better highways prove even more economical to the public? Good roads reduce the cost of car operation at least one cent a mile over the cost of driving a car over poor roads and over first-class pavements the cost has been reduced two cents a mile.

ENGINEER TITLE BROADENED—A change has been made in the rule governing the granting of the special title "structural engineer," by the California Board of Registration for Civil Engineers, to include the acceptance of experience in general structural work. The original rule of the board provided that only those with structural experience in connection with buildings were eligible. Legal opinion held that such a rule was not in accord with the law and the rule was revised accordingly. Requirements of applicants for the special title include 3 to 5 years of responsible charge in structural lines (any branch) for eligibility for examination. With more than five years' experience an applicant may be granted the title without examination. At present about 250 applicants have been granted the title structural engineer, including many in bridge and heavy construction work.

CITY AND COUNTY BUDGET CUTS INVOLVE ABOUT \$50,000,000

Approximately \$50,000,000 has been slashed from California city and county budgets for the current fiscal year, as compared with budget requirements for 1931-32, a State Chamber of Commerce report estimates.

The report, based on a survey of the chamber's committee on governmental expenditure and taxation, said definite figures from twenty-five of the fifty-eight counties and sixty of the 103 cities of more than 5,000 population showed total budget cuts of \$42,227,056. It was estimated the total from all counties and cities would reach \$50,000,000.

Los Angeles Cut Big

Los Angeles County, the report said, showed the largest budget reduction. The county cut \$18,385,919 from combined school and county expenditure estimates. San Francisco County was second with a reduction of \$4,652,433 for schools and city and county government. Other large reductions reported by counties were:

Ventura, \$1,114,678; Alameda, \$1,001,533; San Joaquin, \$865,791; Orange, \$841,342; Riverside, \$799,823; Santa Barbara, \$629,617; San Bernardino, \$496,990; Stanislaus, \$454,561; Santa Clara, \$433,802; Monterey, \$416,758.

Fourteen of the twenty-five counties supplying figures reported both a decrease in tax rate and total assessed property valuation, the report said. Nine counties cut their assessed valuation totals and the city and county of San Francisco decreased its tax rate and increased its assessed valuations by adding property not hitherto included in the tax base list.

The report added: "All but one of the twenty-five counties reporting showed decreases of the totals required for school purposes. In nineteen of the counties, 306 of the 1,382 school districts covered will levy no district tax for the current year which means that these districts will rely entirely upon state and county grants for their support."

"How generally the economy movement has affected municipalities is shown by the fact that fifty-four of the sixty reporting decreased their budget estimates for this year to effect a total reduction of \$10,468,594. Thirty-five of the sixty cities cut their tax rates and ten kept the rate at the same level as last year although the majority, like the counties, lowered their totals of assessed valuations. Los Angeles cut \$5,035,000 from its budget of last year, Long Beach \$1,486,311 and Oakland \$1,219,990.

Move More Dirt Faster with LE TOURNEAU Equipment

A complete line of grading machinery—designed by a contractor—developed on actual construction jobs—built to stand continuous use under the worst conditions.

ENGINEER'S CONSULTATION FREE

R. G. LE TOURNEAU, INC.

Wilson Way at Roosevelt

Stockton, Calif.

Tax Diversion Menace Will Be Stressed At Paving Conference

THE Tenth Annual Asphalt Paving Conference will be held at the Roosevelt Hotel, New Orleans, from December 5th to 9th with a business and technical program designed to consider current problems of most importance to national, state and county highway officials, engineers, technologists and contractors. An entertainment program has been designed so as to make the Crescent City trip memorable for all who attend the meeting. The conference will be held under the auspices of The Asphalt Institute and The Association of Asphalt Paving Technologists.

J. E. Pennybacker, Managing Director of The Asphalt Institute and in charge of all arrangements, has announced that scheduled highlights include an explanation by S. S. Lewis, Pennsylvania Secretary of Highways, of how that state is successfully solving its farm-to-market road problem, and an address by Thomas H. MacDonald, chief of the United States Bureau of Public Roads. Representatives of seventy-five asphalt road equipment manufacturers will contribute authentic information on the latest technical developments pertaining to road building, thus making the conference serve as a clearing-house of the latest advances in road construction. Because the ever-increasing diversion of gasoline tax funds from road building purposes, amounting to more than \$20,000,000 last year, threatens the existence of gasoline taxes as a main sinew of road building, W. R. Boyd, executive vice-president of the American Petroleum Institute, will deliver a comprehensive address on that subject.

The Pennsylvania phase of county road building, which has been in the spotlight of national attention since Governor Pinchot made this type of practical farm relief a vital issue in his 1930 election, will be described by Highway Secretary Lewis from the angle of its adaptability to township needs of other states. Already 2,269 miles of the Pinchot 20,000 miles project have been completed at a cost of only \$5,300 a mile. The plan was originally adopted by the Governor mainly through recognition that, although paving progress had been remarkable in his state during the preceding ten years, the conviction of highway engineers was that dependence upon high-type pavements alone would never have lifted Pennsylvania farmers out of the mud.

The main function of the forthcoming conference, explained Mr. Pennybacker, is to help road officials and engineers solve the nationally vital question of how to make smaller road budgets meet ever-expanding road building programs. Making the road fit its traffic will be a theme handled from the various technical, official and budgetary angles of everyone present.

The various conference subjects and speakers have been bracketed under the various groups of persons most likely to be concerned with each specific address and relevant subject of discussion.

Highway Officials

Thomas H. MacDonald, Chief, U. S. Bureau of Public Roads. (Subject of address not yet announced.)

"How Pennsylvania is Solving the Farm-to-Market Road Problem"—S. S. Lewis, secretary of highways, Pennsylvania.

"The Menace of Tax Diversion"—W. R. Boyd, executive vice-president, American Petroleum Institute.

Committee Reports.

Highway Engineers

"Factors Determining the Choice of Road Mix or Plant Mix, Respectively, for Low Cost Graded Aggregate Surfaces"—Representative of State Highway Department of California.

"Road Mix with Macadam Aggregate"—O. W. Merrill, director of highways, Ohio.

"Asphalt as a Resurfacing Medium for Pavements"—Elmer Lawton, deputy highway commissioner, New York.

"Hot Mix and Its Place in the Highway Program"—Larry B. West, president, West Construction Company.

"Oil Mat Surfaces"—W. V. Buck, state highway engineer, Kansas.

"Cutback Asphalts—Their Characteristics and Use"—Prevost Hubbard, chemical engineer, Asphalt Institute.

"Asphalt Priming Material—Character and Use"—W. H. Foushee, senior bituminous engineer, North Carolina Highway Department.

"Emulsified Asphalt for Highway Construction and Maintenance"—J. G. Campazzie, president, Headley Emulsified Products Company, Philadelphia.

"Emulsified Asphalt in Penetration Type Construction"—V. L. Ostrander, Shell Eastern Petroleum Products, Inc., Albany.

"Emulsified Asphalt for Mixing Type Construction"—C. L. McKesson, director of engineering and research, American Bitumuls Company, San Francisco.

"Emulsified Asphalts for Surface Treatments and Maintenance Methods"—J. S. Miller, Jr., director, technical bureau, The Barber Asphalt Company, Maurer, New Jersey.

"Developments in Asphaltic Types in Canada"—Representative, Ontario Department of Highways.

"Specifications for Liquid Asphalt Products"—E. F. Kelley, chief, Division of Tests, U. S. Bureau of Public Roads.

Paving Technologists

Annual meeting and technical session of The Association of Asphalt Paving Technologists on Dec. 7 and 8.

"Relative Viscosities of Liquid Asphaltic Materials at Various Test Temperatures"—J. T. Pauls, highway engineer, U. S. Bureau of Public Roads.

"Fundamental Properties of Mineral Fillers for Asphalt Mixtures"—J. S. Miller, Jr., director, technical bureau, The Barber Asphalt Company.

"Method and Apparatus for Recovery of Bitumen"—Gene Abson, director, Chicago Testing Laboratory.

"Estimation of Moisture in Cold Mixes"—A. R. Ebberts, technical director, Colprovia Roads, Inc.

"Laboratory Compression of Asphalt Paving Mixtures—Double Plunger Method"—H. L. Howe, president, The Association of Asphalt Paving Technologists.

Committee Reports.

Paving Contractors

"Developments in Road Equipment and Its Use"—B. E. Gray, highway engineer, The Asphalt Institute.

Discussion by technical representatives of manufacturers for the purpose of bringing out in detail all advances in equipment and its use in recent years.

Motion pictures.

The first session will start Tuesday, December 6, with an opening address by Governor O. K. Allen of Louisiana, followed by addresses from T. S. Walmsley, Mayor of New Orleans, William H. Kershaw, president of The

Asphalt Institute, and Henry L. Howe, president of The Association of Asphalt Paving Technologists. Mr. Ker-shaw will preside as chairman of the first day's meeting.

Local arrangements are in charge of Bryson Vallas, general chairman.

Entertainment features, starting on Monday, December 5, with an informal reception and dance, will include a "Night on the Mississippi," Tuesday evening, comprising a boat ride on the river with dancing, cabaret and an oyster bar operating during the entertainment, a visit to the races on Wednesday with free admission tickets being provided, followed by an inspection of the local airport, highway and Mississippi River revetment work.

On Thursday at 2 P. M. the ladies will have a sight-seeing tour through the old French quarter (Vieux Carre), along with a shopping tour and a visit to Hibernia Tower. There will be a supper dance on Thursday evening; a bridge party for the ladies will also be scheduled some time during the week.

One evening will be left entirely open so as to provide time for visitors to arrange private dinner or supper parties at the various noted local cafes. Friday, December 9, will be devoted to a golf tournament starting at 9 A. M.

All railroads in the United States and Canada have granted a reduced rate of one and one-half fare for the round trip for those tending the conference, which includes the option of returning home by a different route.

WHITEHURST HEADS TICKET OF AMERICAN ROADS ASSN.

H. C. Whitehurst, director of highways, District of Columbia, has been nominated for president of the American Road Builders' Association for the year 1933-34. Ballots will be distributed to members for the election of officers and directors following the closing of nominations on November 10.

The slate proposed by the nominating committee of the association follows:

For President: H. C. Whitehurst, Director of Highways, District of Columbia, Washington, D. C.

For Vice-Presidents: E. L. Benedict, Vice-President, Pittsburgh Steel Co., Pittsburgh, Pa. Chas. M. Upham, Engineer-Director, American Road Builders' Association, Washington, D. C. Grover C. Dillman, State Highway Commissioner of Michigan, Lansing, Mich. Stanley Abel, Supervisor, Fourth District, Kern County, Taft, Cal.

For Treasurer: James H. MacDonald, Consulting Road and Paving Expert, New Haven, Conn.

For Directors, term ending 1936: T. J. Mahony, Chairman, Highways Advisory Board, Province of Ontario, Toronto, Ontario, Canada. Otto S. Hess, Engineer-Manager, Kent County Road Commission, Grand Rapids, Mich. H. J. Kaiser, Kaiser Paving Company, Oakland, Cal. W. M. Kinney, General Manager, Portland Cement Association, Chicago, Ill. Wm. P. McDonald, Wm. P. McDonald Construction Company, New York, N. Y. George F. Schlesinger, Chief Engineer and Managing Director, National Paving Brick Association, Washington, D. C. Carl O. Wold, Vice-President, Caterpillar Tractor Co., Peoria, Ill.

MULTISTAGE CENTRIFUGAL PUMPS—Multistage centrifugal pumps with single suction impellers are described in catalog B-5, distributed by the De Laval Steam Turbine Co., Trenton, N. J. These pumps are built with as many as seven stages in one casing and for heads up to or exceeding 1,600 lbs. per sq. in. The distinguishing features of design include horizontally split casings with one piece diaphragms, labyrinth wearing rings and a hydraulic system providing for axial thrust.

PERFORMANCE OF ACE CRUSHER WINS PRAISE OF CONTRACTORS

The Ace Unitary Two Stage Reduction Crusher, which is in daily operation producing road surfacing rock for a section of the Skyline Highway, is creating quite a sensation among contractors, highway engineers, country supervisors, road equipment distributors and manufacturers of crushing and screening plants.

This crusher is demonstrating its ability to receive quarry run rock up to as large as 14x20-in. and at one pass through the machine produce four classifications ranging from 1/4-in. to a maximum of 1-in.; the output being declared by many to be the most uniform and most cubic-form aggregate that has ever been produced by a crusher of any type. Among the many advantages is the fact that it can be easily started from dead still with a full capacity load of rock between the jaws.

Of special interest to rock producers is the fact that it replaces two crushers, doing the work of both primary and secondary crushers; has a capacity more than double that of any crusher of equal weight; operates smoothly and economically and is readily adaptable for installation in either a permanent quarry set-up or a portable plant requiring a minimum of accessory equipment.

This crusher, in which are incorporated the most desirable features of the oldest and most practical crushers, plus advanced ideas of design, was briefly described in a recent issue of this publication. It is operating under the management of M. Butler on a contract with the State Highway Department and is located in the Skyline Quarry, three and a half miles south of the Redwood City-La Honda intersection on the Skyline Highway, about 42 miles south of San Francisco. The ACE crusher is manufactured and marketed by Aggregates Crushing Equipment, 934 Brannan Street, San Francisco.

GASOLINE TAX COLLECTIONS SHOW GAIN OF SEVEN PER CENT

Gasoline taxes collected by the state for the three months ending September 30, 1932, amounted to \$9,811,-881.94, an increase of about 7 per cent over the amount collected during the same quarter last year.

This was disclosed today by State Controller Ray L. Riley in announcing the apportionments to the various counties. The fifty-eight counties will receive a total of \$3,270,827.32, and \$6,541,254.62 will go to the state division of highways, for maintenance and construction of state highways.

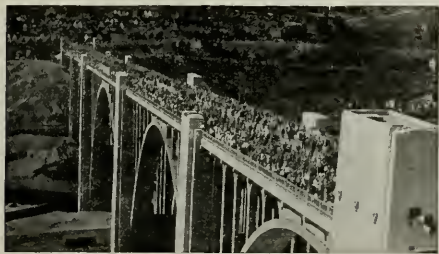
ARMCO INGOT IRON PIPE—"Long Service from Armco Ingot Iron Pipe" is the title of a booklet describing the characteristics of pure iron for use in pipe lines. Engineering data are given for spiral welded, straight seam welded, riveted and lock bar pipe. In addition, the general characteristics of the material, uniformity, rust resistance and weldability are given discussion.

ROADS 6,000 YEARS OLD—Six thousand years is probably a conservative estimate of the age of the road that, in two branches, comes into the United States in the southwest corner of Texas. Geologists claim that the region around the El Paso Valley of the Rio Grande has changed little in 10,000 years, while geologists and archaeologists both, agree that the oldest peoples used the trails now known as U. S. 62 and U. S. 80 close to El Paso, Texas, and as U. S. 85 north of El Paso.—(The Highway Magazine.)

George Westinghouse Bridge Improves the Lincoln Highway

FOLLOWING the recent dedication ceremony, the 1510 foot long George Westinghouse bridge joining two newly located sections of the Lincoln Highway 12 miles east of Pittsburgh was thrown open to traffic thereby removing one of the worst bottle necks in the country according to highway engineers. The new bridge, spanning the industrial Turtle Creek Valley 200 feet below, is part of a five mile highway improvement by the State of Pennsylvania and Allegheny County costing 4 million dollars. Pennsylvania engineers estimate that 6171 motor vehicles will use the new roadway and bridge every 24 hours and that the route will save 20 minutes in traveling time for each vehicle. Collectively, this will save three months of wasted time for the traveling public every day.

At the dedication ceremony, A. L. Humphrey, chairman of the dedication committee of the Pittsburgh Chamber of Commerce presided. John S. Fischer, former governor of Pennsylvania, was the principal speaker. Herman H. Westinghouse, brother of the late George Westinghouse, for whom the bridge is named, cut the ribbon as the signal for traffic to move. Music was furnished by the massed bands of the Westinghouse Electric and Westinghouse Airbrake companies.



Named in honor of the parent of today's universal alternating current and many other fundamental electrical developments, the George Westinghouse Bridge spanning the historic Turtle Creek Valley on the Lincoln Highway near Pittsburgh was recently dedicated. The 1,510-foot structure is part of a five-mile improvement costing \$4,000,000 which will shorten traveling time for motorists 24 minutes. The middle arch of the bridge is 425 feet long, clears the Pennsylvania railroad tracks by 200 feet and is the longest reinforced concrete arch in the United States.

Other speakers included Governor Clifford Pinchot, A. W. Robertson, chairman of the board of Westinghouse Electric; Commissioner Charles C. McGovern of Allegheny County; and J. Lysle Stuart, former secretary of the Pennsylvania highways department.

State highway engineers estimate that the improved and relocated section of the Lincoln Highway will carry 80 per cent of the traffic that now passes through the narrow, winding streets of East Pittsburgh and Turtle Creek boroughs. This will relieve the congestion on the winding borough streets where local traffic is made heavy by industrial and business activities.

Total cost of the improvement approximates \$4,000,000 of which the bridge cost \$1,750,000. Federal, state and county monies were applied on the several different contracts. Roadways run from 42 to 60 feet in width, the bridge is 1,510 feet long and 200 feet high above the tracks, streets and bridges that carry surface traffic. An 18 story building could be erected under the center arch.

No grade is steeper than four and one-half per cent and for more than three miles there is no intersection. The bridge is composed of five open spandrel ribbed arches, the middle one of which, 425 feet long, is the longest reinforced concrete arch in the United States. Only one in the world is longer.

Bridge construction involved 39,000 cubic yards of excavation and the placing of 73,350 cubic yards of concrete. Reinforcing steel weighed 3,700,000 pounds. Giving each man 75 pounds, it would take the entire United States army of 4,000,000 men to carry the bridge.

Ramps and a hillside road lift the through traffic from the valley level to the bridge and sufficient right-of-way was obtained to permit widening the pavements from four to six traffic lanes when conditions require. Foot bridges and underpasses have been constructed for the safety of pedestrians.

From the bridge 6,963 feet east to East McKeesport the newly located East McKeesport Boulevard runs through two huge cuts and over two high fills. The larger of the fills is 900 feet long, 125 high and 450 wide at its base. A concrete tube or tunnel was built under this fill to take care of the Dickson Run Road from East Pittsburgh to McKeesport. Michael Paris, Inc., of Pittsburgh, was the contractor and the cost was \$827,686.

West from the bridge is the sidehill road and ramp section, 8,555 feet long. Curving easily from the bridge, the new pavement becomes a shelf in the side of the hill, gradually dropping toward the elevation of Ardmore Boulevard and meeting the two 30-foot roadways of that thoroughfare in long ramps that are bridged over the street car tracks and the street which carries the local traffic. The Herkner Company, of Cleveland, were the builders and the cost was \$1,137,780. Included in this contract was the Fall Run culvert, a reinforced concrete box 3,000 feet long, 10 feet wide, six feet high, and costing approximately \$200,000. This structure was necessary to permit the proper engineering and location of the ramps and boulevard.

A new 30-foot pavement parallel to the streetcar tracks on the north side and matching the existing pavement on the south. This section is 11,148 feet long connecting the newly located portion of the highway with Penn avenue at the east line of Wilkingsburg, opposite Rebecca street. The McCrady Construction Company, Braddock, laid the pavement and the contract price was \$298,062.

Braddock's Defeat of 1755, the Whisky Rebellion of 1794 and other events of historical interest took place within a short distance of the bridge site. The Edgar Thompson Works, the first of the Carnegie steel mills, is on one side of the bridge, while the East Pittsburgh works of the Westinghouse Electric and Manufacturing Company is on the other.

WATER SOFTENERS — The application of zeolite water softeners to the treatment of boiler feed water is described in a 36-page booklet just published by the Permutit Co., 440 Fourth Ave., New York. It is illustrated with photographs and diagrams, and contains tabulated data, conversion tables, factors, reactions, etc. Copies may be obtained free upon request to the company.

The Evolution of Fortifications Around San Francisco Bay

By O. W. DEGEN, C. E., Q. M. Corps, Fort Mason, California

THE original inhabitants of California, long before the Spanish regime, were of the yellow race, coming from China, Siberia and Japan by way of the Aleutian Islands and the Bering Sea. They attained their highest culture and development in Mexico, Guatemala and Honduras, and what may be termed the Maya civilization.

The Spanish regime over California dates back to 1521-1822, and the Mexican rule from 1823 to 1848.

Early History

By command of the Spanish Viceroy, Don Antonio Maria Bucarley, Lieut. Colonel Dan Juan Bautista de Anza started an expedition from Tubac in Mexico in 1774 to explore the bay of San Francisco, and on March 28, 1776, chose the Cantil Blanco (white cliff), the present Fort Winfield Scott, for the location of a fort. He set aside 3,000 veras for the present military reservation of Presidio and Fort Winfield Scott. After Anza left, the command was turned over to Lieut. Don Joseph Joachim Morago, who might be called the original builder of the Presidio of San Francisco, which was built in the form of a square 275 feet on each side. These walls were of redwood palisades. They were replaced in 1778 by adobe walls of same dimensions. After Lieut. Morago's death, the command was temporarily transferred to Lieut. Gonzales, who stayed only about eighteen months. The command then fell to Ensign Sal, who acted until the arrival of Lieut. Jose Dario Arguello, who was in command until March 1, 1806. It was on March 4, 1792, that Ensign Sal submitted to the governor, Jose Antonio Romeu, the first plan for a fort, with a description as to how it was to be built. It was built in the form of a square 50 yards wide, three sides of which were to be occupied by adobe walls and houses built of mud and stones. The fourth side was protected by a primitive palisade fence. All the structures were roofed with tules, exposed to fire and wind. So poor was the construction, and so slow the building, that by the time a building or wall was erected, repairs would have to be made on the previous work. However, the elements won a victory; drift sand and storms demolished the fort, and a new one was erected in 1794 on the site of the present Fort Point before the bluff was cut down.

New Plans Approved

Plans for this fort were prepared under Lieut. Jose Dairo Arguello by Miguel Costanso, Engineer of Fortifications, and submitted to Governor Jose Joaquin de Arrillago, who approved same and ordered the construction, naming it Castillo de San Joaquin. The fort was at first garrisoned by a corporal and six artillerymen, and the armament consisted of eight 12-pounder guns, cast in Spain, and sent to the Spanish Viceroy, Conde de Ravilla Gigedo. The cost of this fort was \$6,400. It was built of 10-foot wide adobe walls with stone magazines laid up in mud and braced by redwood posts. It was built in an irregular form of a square 210 feet north and south and 140 feet east and west, with two main entrances. On two sides was a wide esplanade and in the center the barracks consisted of two large rooms, and a portico in size about 60 and 30 feet, also of adobe with tule roof. Under the Spanish regime the entire force stationed over California in 1794 was only 218 men. If we look back and consider that the whole of California could be policed by such a small force, consider the hardships endured in

traveling, and beset by Indians on all sides, great credit should be given those conquistadores.

The fort was considerably rebuilt with stones and in general, made more formidable in the years that followed until in 1808, 1812 and 1813 severe earthquakes damaged the walls and barracks of this fort and practically wrecked the Presidio. In 1816 the Castillo de San Joaquin was rebuilt, partly of brick and stone. All magazines were brick lined. These bricks were 11 inches wide, 15 inches long and 2½ inches thick. In 1820 the fort mounted 20 guns, among which were 3 24-pounders.

Mexican Occupation

We come now to the close of the Spanish regime in 1822 and enter the Mexican occupation. During the Mexican occupation of California, as far as military defenses were concerned, no improvements worth mentioning were made, mostly due to the lack of funds and increased political unrest and the gradual influx of foreigners, principally Americans. By the treaty of Guadalupe Hidalgo, on February 2, 1848, Alta California passed into the possession of the United States. The phenomenal development of San Francisco and bay region may be judged by the following: In 1844 there were only 39 houses in San Francisco, and in 1847 there were 157 houses and 459 inhabitants. Today it has close to 700,000 inhabitants. In 1849 repairs were made to the old fort and four 32-pounders and two 8-inch howitzers were mounted in addition to the old armament. In 1851, under the direction of General Hitchcock, who was then in command of the Third Division at Benicia, the Chief of Engineers was directed to appoint a board of engineer officers to devise and draw up plans for a modern fort. These plans were approved and in 1853 the work of taking down the old Fort San Joaquin commenced and the bluff was cut down to the waters' edge and a new brick fort started, with Colonel L. Mason, of the Engineer Department in charge. He was in turn succeeded by Major J. G. Barnard, Lieut. Col. R. E. DeRussy, Major Z. R. Tower, Lieut. G. W. C. Lee, and Captain I. F. Gilmer. The fort was finished in 1861 and in 1862 the armament installed consisting of 28 42-pounders and 2 24-pounders in third tier; nine 8-inch Columbiads and 12 24-pounders in second tier, 28 8-inch Columbiads and two 24-pounders in third tier; nine 10-inch Columbiads, 17 8-inch Columbiads and 11 32-pounders in fourth tier, or 127 guns in all.

The plan of Fort Point is a partial counterpart of Fort Sumpter. The fort provided for quarters for all officers and men, storage of supplies for the garrison and of ammunition. Water was stored in large concrete tanks under the floor of the fort. The fort is built mostly of brick with stone trimmings, stone flagging on main floors, and an asphaltic roof. The workmanship of all the brick and stone work on this fort may be classed as excellent in all details. The cost was close to \$2,800,000, exclusive of the cost of armament and granite sea wall. The wages paid during the construction were: Master mason, \$250 per month; masons, bricklayers, stone cutters, \$5.00 per day; carpenters, \$4.00 per day; laborers, \$2.00 per day; blacksmiths, \$5.00 per day; foremen stone cutter, \$5.50 per day; foreman carpenter, \$5.00 per day; roofer, \$6.00 per day.

(Continued on Page 15)

CO-OPERATIVE CONSTRUCTION CREDIT

CONSTRUCTION INDUSTRIES' CREDIT BUREAU

(A non-profit, membership owned and operated association affiliated with the National Association of Credit Men)

F. H. Eichler, Chairman

333 MONTGOMERY STREET, SAN FRANCISCO

A. J. McGarry, Mgr.

WHAT'S WRONG WITH THE BUILDING INDUSTRY?

An address before the Bank Credit Men of San Francisco by Frank H. Eichler of the Construction Industries Credit Bureau.



F. H. EICHLER

Perhaps a few lines from Kipling's "The Law of the Jungle" will bring us quickly to the fault—

Now this is the law of the Jungle—
As old and as true as the sky;
And the Wolf that shall keep it
May prosper, but the Wolf that
Shall break it must die.
As the creeper that girdles the tree trunk
The law runneth forward and back—
For the strength of the pack is the wolf,
And the strength of the Wolf is the pack.

This bit of poetry depicts an old truth—*Cooperation*; or rather the lack of it that has a strangle hold on the Building Industry. I don't mean to infer that the building industry is composed of a lot of wolves. To the contrary, some of our best minds are allied with this ancient, honorable and basic industry, rather, will you please think of the situation with me as one of malnutrition. "Building's Anaemia," I think, would perhaps be a better title for the subject.

What has brought about this malady, this lack of red blood corpuscles, as it were, in the building industries' business constitution?

Startling as it may seem to you who are well grounded in what are sound fundamentals and practices of credit granting, one of the principal causes of the building industries' sufferings today lies at the door of credit grantors.

Credit men have been feeding them the wrong food. Overloading the Industries' business system with a particularly poor brand of credit, perhaps best labeled as

Unwarranted Credit. This unwarranted credit has created a particular type of "Bacteria" in the blood stream of the industry known as the Irresponsible Contractor.

So you see, there is a direct connection—Unwarranted Credit is keeping the Irresponsible Contractor alive; keeping him in business. He is a man fostered by the Credit Man. He has been multiplying at a startling rate. It is not exaggeration, I think, to say he bids fair to ruin the entire industry if not promptly and adequately dealt with.

Realizing that this problem is the concern of the credit profession and those who profess its sound principles and policies, the National Association of Credit Men took cognizance of the situation and made a thorough study of the ailment. Out of this careful and long study the National Association has developed an "anti-toxin" as it were, which many of the Credit Profession and of the Building Industry hail as the only practical method of counteracting the "germ" of irresponsibility.

That "anti-toxin" or remedy should be the vital concern of every man in credit work, be it in the Banking, Commercial or Construction Field, who profess allegiance to the doctrines of our National Constitution—equal rights and honest credit.

The National Association, through its affiliated Associations of the principal cities of the United States, has fostered the establishment of specialized departments known as Construction Industries Credit Bureaus. The functions of these bureaus has placed at the command of those engaged in, or serving, the building industry, a sound credit control medium built upon the rock of credit experience and credit reserve. The service of the Construction Industries Credit Bureaus are not unlike those developed as departments of the various units of the National Association of Credit Men, and if properly used, will do for the business industry what has been done for the stabilization of credit in other commercial lines of endeavor.

I do not intend to take your time in a detailed explanation of these various services that I mention. Your own affiliated unit of the National Association of Credit Men, here in San Francisco, operating under the trade style of the Credit Managers' Association of Northern and Central California, is actively serving this territory through well organized departments, specializing in particular fields of commerce.

I think it more my duty to the building industry and the credit profession to exhort you to stand with those progressives in the industry who are using the facilities of our Construction Industry Credit Bureau in honest endeavor to save this great and fundamental industry from further depredations. Stand with those financiers, manufacturers, distributors, contractors and sub-contractors and encourage them to regulate credit, establish standard practices, a standard of honor, and understanding throughout the industry.

There is no attempt being made to put anybody out of business or take away from anyone that which properly belongs to him—just an honest effort to stabilize the construction industry in the most logical and sound manner—by educating its components as to what are sound credit practices and that the logical source for proper credit facil-

ities and credit information is the Construction Industries Credit Bureau of the Credit Managers' Association. In this way it will be possible for the construction industries to eliminate the unwarranted carrying of delinquent creditors through ignorance or lack of co-operation.

It is the duty, in my opinion, of the members of the credit profession to see that competition in terms is not practiced to the detriment of the properly financed, experienced, skilled, resident builders of our city.

You, gentlemen, enter the picture in a very important and grave manner. You control the purse strings; you are the ones to whom those of the building industry turn for advice. Yours is the power to disseminate sound credit practices, to educate material men and contractors that they should give credit only where credit is due. This can only be done by intelligent use of credit checking and control facilities of a reputable, non-partisan credit organization, your Credit Association in San Francisco.

You are particularly well situated to gain an insight of the character of credit practices being indulged in by material dealers and others of the industry—scrutinize their accounts receivable—see whether your money is borrowed for current activities or going to a lot of leeches they have been carrying on their backs for years.

Here is what happens when credit men carry delinquent debtors year in and year out—they throw those men in competition with legitimate contractors; those are the men who set the standard; those are the men who set the price at which the job must go. What is the result? Let us hope that the legitimate contractors of our city will not be forced by these ruinous practices to the same degraded policies and their consequent poor workmanship or skimped material jobs before our help reaches them.

It is, I am confident, an obvious fact to you, gentlemen, that much good can be done for the construction industry by the better informed and more enlightened credit managers of banking and commercial institutions—therefore, I plead with you, in the interest of those who have spent years acquiring their skill, specialized knowledge, and who have their money invested, home and family here, receive not a deaf ear, but that you will investigate and disseminate and join in with our Construction Industries Credit Bureau activities so that these people may receive a just return on their investment and build structures that will endure for you, the public and our city.

Support your local Association in this work as active members of the Bureau and preach the gospel of the fallacy of unwarranted credit.

**FARMERS SHOULD PAY "GAS TAX"
SAYS FEDERAL CONSERVATION BOARD**

Farmers should not be exempt from paying taxes on gasoline used in the business of farming, when thirty-three States levy taxes of 4 to 7 cents per gallon upon gasoline used on city streets, the technical and advisory committee of Federal Oil Conservation Board declared in its fifth report to President Hoover.

This contention was expected to produce political repercussions in the agricultural belt as the board's report was signed by four members of the President's cabinet—Secretary of Interior Wilbur, Secretary of War Hurley, Secretary of the Navy Adams and Secretary of Commerce Chapin.

The attack on exempting farmers from gasoline taxes pointed out that the practice originated in Oregon in 1919, in arguing the need for uniform gasoline tax laws. The report stated:

"With thirty-three States levying taxes of 4 to 7 cents per gallon it is inequitable to exempt gasoline used by the farmer in his business of farming and to impose the tax upon gasoline used only for business purposes on city streets, as for delivery service and taxicabs."

Among the requirements for workable uniform gasoline-tax laws, the board said the rate should not be unduly high, which invites evasions and that the funds yielded by the tax should not be diverted to uses other than for the benefit of motor vehicles, adding:

"A properly written uniform gasoline-tax law, thoroughly enforced, will do much to abate present conditions which are contrary to the best interests of the industry, the public, and the State, and which in some areas are becoming almost intolerable."

Asserting the American oil industry "gives indications of being the first basic industry to emerge from the world depression," the board earnestly urged an interstate compact among the oil producing States to co-ordinate production with joint estimates of demand, coupled with Federal control over imports.

Pointing to the agreement entered into by the Governors of Oklahoma, Kansas and Texas in 1931 and the committee representing Governors of ten States, functioning as the Oil States' Advisory Committee, the report stated:

"Bills are pending in Congress to authorize an interstate agreement to place this common sense work on a permanent basis."

**TRIAL
SUBSCRIPTION BLANK**



**Daily
Construction Reports**

PACIFIC CONSTRUCTOR,
545 Mission Street,
San Francisco, Calif.

.....1932

Dear Sirs:

Send me WITHOUT COST for a period of one week, sample copies of PACIFIC CONSTRUCTOR DAILY NEWS SERVICE covering up-to-the-minute tips on work contemplated, bids wanted, bids opened and contracts awarded for all types of engineering construction, materials and equipment.

Name.....

Address.....

City.....

EVOLUTION OF FORTIFICATIONS

(Continued from Page 12)

Mastic Melts

The following firms furnished materials for Fort Point: All the granite was furnished by G. Griffith, Mormon Island Quarries near Folsom, at \$20.00 per ton of 14 cubic feet. Bricks being the largest item in its construction, had to be obtained wherever possible. Most of the face brick, costing \$30.50 per thousand, were made by J. Clay at Russian Hill. Common bricks were furnished by G. H. Harrison, warden at San Quentin, for \$13.00 per thousand; by John Fisher, from South San Francisco, at \$14.00 per thousand; by P. Lubbersmeier, from California City, at \$14.00 per thousand. John Lansman of Sacramento, received \$12.00 per thousand; also P. Callighunt & Co. of Sacramento. Prices were for delivery on wharf at Fort Point. Lime was furnished by Samuel Adams of San Francisco, at \$2.25 per barrel; and also by Davis & Jordan. Scotch flagging was furnished by Daniel Gibb & Co. at 40 cents per square foot. The J. L. Mott Co. of New York, furnished a large part of the heavy iron castings, and another part was furnished by P. Donahue of San Francisco. The unit cost for castings ranged from 3 to 6 cents per pound. The iron railings and balustrade was erected by John McKibbin, stairbuilder of San Francisco, at \$3.50 per foot. All the coal was furnished by A. J. Ramsdall, at \$24.00 per ton. Hay for the animals was furnished by Sherman & Dutton, at \$16.00 per ton. All the mastic for the roof came from New York by boat, costing \$140.00 per ton. The first cargo of mastic arrived in the ship "Dashaway" and it cost the Government \$100.00 per day demurrage because the mastic had melted in the hold of the vessel and had to be cut out, a slow process. The roofer for this job had to be obtained from New York, the Government paying his passage, costing \$100.00 second class.

Fort Completed

No sooner had Fort Point been finished when the granite sea wall was constructed at a cost of \$140,000. The batteries on the bluff were also started. The Lime Point reservation, comprising Forts Baker and Barry, was purchased at a cost of \$200,000. At the same time Fort Point was constructed the batteries at Alcatraz Island were under construction. We find that during the Civil War great activities were taking place in the way of building fortifications around San Francisco Bay, and an extremely large amount of money expended for that purpose. In addition to the 127 guns mounted at Fort Point there were 50 15-inch Rodman guns in batteries along the bluff from the oil tanks at Fort Winfield Scott to the road at Baker's Beach. On the Lime Point reservation were the Gravelly Cove batteries of 12 15-inch guns, bluff batteries of 21 15-inch guns and 12 mortars. Point Cavallo battery had six 15-inch guns and Cavallo battery 15 15-inch guns, two mortars and one 20-inch gun.

Alcatraz Island mounted 13 batteries of 36 15-inch guns, and Black Point (Fort Mason) three 15-inch, six 10-inch guns and six 24-pounders.

How evolution has effected fortifications and its arm-

ament in a comparatively short space of time is marvelous. The silent sentinel at the Golden Gate is now the only reminder, except a few old brick magazines—but no guns—of that period of any of the bay posts. With the construction of breech loading cannon all the fortifications were at once made useless, and after millions of dollars had been expended. Since 1880 a new type of fortification had been adopted and new concrete emplacements erected on the site of some of the old brick batteries. All the old converted rifles were discarded and sold as junk. Also the large amount of ammunition. Most people are familiar with the present type of fortifications around the Bay—all open batteries, some with disappearing guns, and some with fixed guns and mortars in deep concrete pits. In this category was also the Zalinski dynamite gun at Fort Winfield Scott. All these batteries were designed to withstand direct bombarding by ships at sea. In 1914 this type of fortification reached its highest point of efficiency. Today these batteries with their armaments are practically useless. After millions of dollars have been expended by the United States and the great European powers for present day fortifications they have been made obsolete today by the great advance in science, only a fleeting moment in the march of evolution. All the powers of the world stand before a new problem, far greater and more difficult and tremendously more costly. Indeed, every government in the world is trembling at the enormous expense of new armaments and fortifications to meet the new demands exacted by science in aviation, in chemical warfare, in aerial torpedoes and in submarines.

Future Possibilities

The next step in the evolution of fortifications and armament will be underground fortifications and drift tunnels with over 150 feet of rock and earth covering over same; all guns to project out of cliffs and mountain sides and to be of extremely long range and of large caliber; with automatic ventilating and filtering schemes against gas attacks. All strategic points will be honey-combed with underground tunnels, underground quarters for officers and men, underground railways and transportation facilities, water supply, etc. Large seaports will be forced to build underground emergency quarters for its entire civilian population. In other words, underground cities. Just imagine an underground bomb and gasproof city with electric lights, water, sewers, ventilation, etc., for a population of 700,000, which would require at the lowest calculation 3500 acres of floor space, costing not less than 1750 million dollars, and 350 millions for new type fortifications and armaments for San Francisco alone. It is a foregone conclusion that no country today is in a position to carry out a new program of fortifications to meet the scientific advancement on account of cost. It would bankrupt every nation on earth.

In the final analysis of development of science in warfare, the abolition of guns and powder and substituting electric rays on concentrated ethereal waves, the war of machines the economic blockade, the elimination of oxygen for breathing, the destruction of life by the very elements of nature, will put a stop to war forever and create a world union out of sheer necessity for the self-preservation of mankind.

THE SOLANO IRON WORKS

GRADER BLADES — FRESNO SCRAPERS — PACIFIC SCRAPERS

THIRD AND ALLSTON WAY

BERKELEY, CALIF.

BERKELEY 0311

UNIT BID SUMMARY

Compiled from the Daily News Service of Pacific Constructor

TUOLUMNE RIVER BRIDGE—STANISLAUS COUNTY—STATE

STANISLAUS COUNTY, Cal.—J. F. Knapp, 916 Financial Center Building, Oakland, at \$229,960 submitted low bid to State Highway Commission, Sacramento, to construct a bridge across the Tuolumne River near Modesto, consisting of three 80-ft. deck plate girder spans, one 55-ft. 6-in. steel stringer span; thirty-nine 4-ft. steel stringer spans and one 36-ft. 2-in. steel stringer span, on concrete piers and bents with pile foundations, involving:

- (1) 4370 cu. yds. struv. excav.;
- (2) 120 cu. yds. gravel backfill;
- (3) 28,300 lin. ft. furnish crec. Doug. fir piles incl. test piles;
- (4) 3380 lin. ft. furnish untr. Doug. fir piles incl. test piles;
- (5) 1045 drive crec. and untr. Doug. fir piles incl. test piles;
- (6) 1220 cu. yds. Class "A" cement conc. (footing blocks);

- (7) 4060 cu. yds. Class "A" cement conc. (struc.);
- (8) 640,000 lbs. bar reinf. steel;
- (9) 2,032,000 lbs. struc. steel (deck);
- (10) 155,000 lbs. struc. steel (railing);
- (11) 23,000 lbs. cast steel;
- (12) 62 M. ft. b. m. redwood timber, sel. all-heart struc. grade;
- (13) 1 lot lighting equipment;
- (14) 4100 lin. ft. traffic stripe;
- (15) 1 lot misc. items of work.

- Complete bids follow:
- (A) J. F. Knapp, Oakland, \$229,960.
 - (B) Hartmann Const. Co., and G. A. Graham, Bakersfield, \$234,275.40.
 - (C) M. E. McGowan, San Francisco, \$234,981.
 - (D) Rocca & Caletti, San Rafael, \$235,435.00.
 - (E) Mittry Bros., Los Angeles, \$238,029.00.
 - (F) Sharp & Fellows, Los Angeles, \$230,533.30.

- (G) J. F. Shepherd, Stockton, \$240,291.60.
- (H) Herbert M. Baruch and Robinson-Roberts Co., L. A., \$240,560.40.
- (I) Peninsula Paving Co., San Francisco, \$241,183.20.
- (J) Healy-Tibbitts Const. Co., S. F., \$242,211.
- (K) Mercer-Fraser Co., Eureka, \$242,306.95.
- (L) Bodenhamer Const. Co., Oakland, \$244,959.40.
- (M) George Pollock Co., Sacramento, \$248,439.40.
- (N) Lord & Bishop, Sacramento, \$255,171.80.
- (O) Ward Eng. Co., San Francisco, \$256,062.00.
- (P) MacDonald & Kahn, San Francisco, \$259,520.65.
- (Q) Oberger Bros., Los Angeles, \$268,407.05.

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (E) | (G) | (H) |
|------|---------|---------|---------|---------|---------|---------|---------|---------|
| (1) | \$ 1.75 | \$ 2.96 | \$ 1.80 | \$ 1.50 | \$ 3.25 | \$ 1.25 | \$ 4.55 | \$ 2.10 |
| (2) | 2.00 | 1.50 | 2.50 | 2.60 | 2.50 | 2.00 | 2.45 | 2.25 |
| (3) | .50 | .52 | .40 | .49 | .55 | .50 | .455 | .486 |
| (4) | .25 | .26 | .20 | .22 | .25 | .26 | .22 | .21 |
| (5) | 7.00 | 8.00 | 14.00 | 11.20 | 6.50 | 9.00 | 8.00 | 8.30 |
| (6) | 10.00 | 10.70 | 8.00 | 12.30 | 8.10 | 9.50 | 11.00 | 9.00 |
| (7) | 15.00 | 13.40 | 15.00 | 12.80 | 15.85 | 15.50 | 12.00 | 14.00 |
| (8) | .032 | .0315 | .03 | .0302 | .033 | .0325 | .03 | .0329 |
| (9) | .04 | .04 | .04 | .0405 | .042 | .042 | .04 | .0454 |
| (10) | .07 | .074 | .08 | .07 | .0625 | .08 | .08 | .075 |
| (11) | .09 | .11 | .10 | .12 | .09 | .10 | .095 | .091 |
| (12) | 50.00 | 66.70 | 65.00 | 55.00 | 78.00 | 60.00 | 48.00 | 63.00 |
| (13) | 7500.00 | 7690.00 | 7500.00 | 7500.00 | 6800.00 | 7700.00 | 6665.00 | 8200.00 |
| (14) | .125 | .14 | .15 | .15 | .15 | .13 | .12 | .085 |
| (15) | 800.00 | 1834.00 | 2124.00 | 5680.00 | 1600.00 | 1000.00 | 9600.00 | 600.00 |

| | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) |
|------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| (1) | \$ 1.50 | \$ 2.00 | \$ 1.80 | \$ 2.50 | \$ 2.50 | \$ 3.00 | \$ 2.55 | \$ 4.71 | \$ 4.40 |
| (2) | 2.45 | 2.00 | 1.50 | 1.90 | 2.00 | 2.00 | 2.00 | 2.08 | 5.00 |
| (3) | .45 | .45 | .43 | .45 | .43 | .50 | .47 | .50 | .48 |
| (4) | .20 | .20 | .19 | .23 | .18 | .21 | .20 | .22 | .21 |
| (5) | 15.00 | 10.00 | 7.25 | 12.00 | 10.00 | 15.00 | 8.50 | 8.67 | 11.25 |
| (6) | 9.00 | 8.00 | 11.00 | 12.00 | 15.65 | 12.00 | 10.45 | 9.25 | 10.65 |
| (7) | 14.50 | 17.00 | 16.00 | 15.00 | 16.95 | 16.00 | 17.25 | 17.63 | 17.85 |
| (8) | .03 | .035 | .0333 | .035 | .0307 | .0325 | .033 | .0318 | .0347 |
| (9) | .042 | .04 | .04 | .04 | .04 | .041 | .0435 | .0457 | .0419 |
| (10) | .0942 | .08 | .12 | .08 | .069 | .08 | .085 | .091 | .0767 |
| (11) | .115 | .10 | .10 | .10 | .08 | .12 | .11 | .127 | .10 |
| (12) | 61.00 | 60.00 | 59.00 | 62.00 | 60.00 | 63.00 | 62.00 | 64.45 | 70.00 |
| (13) | 8100.00 | 7500.00 | 7500.00 | 8500.00 | 7275.00 | 7000.00 | 8615.00 | 9050.00 | 7800.00 |
| (14) | .12 | .10 | .085 | .10 | .10 | .15 | .14 | .115 | .15 |
| (15) | 1150.00 | 500.00 | 375.00 | 1000.00 | 1200.00 | 1000.00 | 700.00 | 1133.00 | 2200.00 |

HUDSON ST. BRIDGE—REDWOOD CITY

REDWOOD CITY, San Mateo Co., Cal.—As previously reported, Thomas J. Doyle, 1527 17th Ave., San Francisco, at \$2,316.58 submitted low bid to city council to construct a reinforced concrete bridge on Hudson St. between Jefferson Ave. and Madison Ave., involving:

- (1) 370 cu. yds. excavation;
- (2) 230 cu. yds. backfill;
- (3) 128 cu. yds. concrete;
- (4) 13,070 lbs. reinf. steel;
- (5) 73.5 lin. ft. culvert pipe rail;
- (6) 2 catchbasins.

- Complete bids follow:
- (A) Thos. J. Doyle, San Francisco, \$2,316.58.
 - (B) J. J. Leonard & Sons, San Francisco, \$2382.03.

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) |
|-----|--------|-------|--------|--------|--------|--------|--------|--------|--------|---------|-----|
| (1) | \$ 385 | \$ 34 | \$.44 | \$.85 | \$.55 | \$.60 | \$.75 | \$.80 | \$.50 | \$ 1.00 | |
| (2) | .185 | .274 | .22 | .45 | .55 | .60 | .50 | .55 | .25 | .875 | |
| (3) | 12.40 | 12.38 | 11.70 | 11.25 | 11.70 | 11.70 | 12.50 | 14.00 | 16.00 | 16.78 | |
| (4) | .63 | .022 | .033 | .035 | .03125 | .0294 | .04 | .03 | .0425 | .041 | |
| (5) | 1.48 | 1.78 | 2.50 | 1.40 | 2.15 | .21 | 2.00 | 2.35 | 2.00 | 3.41 | |
| (6) | 21.75 | 23.75 | 35.00 | 20.00 | 25.00 | 26.40 | 30.00 | 32.50 | 30.00 | 19.00 | |

- (C) Harry C. Yates, *Redwood City, \$2395.57.

- (D) W. O. Tyson, Redwood City, \$2,396.06.
- (E) Clinton-Stephenson Co. San Francisco, \$2458.35.
- (F) Palmer & Tibbs, Menlo Park, \$2,592.07.
- (G) Pacific Truck Service, Inc., San Jose, \$2615.41.
- (H) Frank Bryant, San Francisco, \$2,722.30.
- (I) Collins & Martin, San Jose, \$2,844.33.
- (J) Neves & Harp, Santa Clara, \$3,052.98.
- (K) Edwin P. Erwen, San Mateo, \$3,582.81.

- Unit bids follow:

HANFORD, Kings Co., Calif.—Following bids received by city council to furnish and install complete two 1,000-gal. Fire Underwriters' pumps; all bids being taken under advisement:

- Byron Jackson Co. \$8571.00
- Wesco Chippewa Co. \$841.50
- Woodin & Little \$777.00
- Scott Machinery Co., Bid A, \$3987;
- Bid B, \$8687, and Bid C, \$8287.
- Fairbanks Morse Co., A, \$8295; B, \$7804, and C, which specified certain wiring changes to cut costs, \$457 less than Bid A.

BELMONT, San Mateo Co., Calif.—Date will be set shortly by Belmont County Water District to vote bonds of \$45,000 to finance improvements to water system, involving:

- (A) 600,000-gal. capacity reservoir in the hills of Belle Mont near Notre Dame College;
- (B) 5,500 ft. 8-in. pipe line in Ralston Blvd. and Notre Dame Ave. leading to the reservoir.

SAN GABRIEL DAM NO. 2—VALVES & ACCESSORIES

LOS ANGELES, Cal.—Bids for furnishing outlet valves and accessories for San Gabriel Dam No. 2 opened by county supervisors October 17, follow:

PROPOSAL NO. 1

(1) Valves No. 1 and No. 2—Two 84-in. butterfly valves complete, including hydraulic operating mechanism, static head 226 ft., operating head 226 feet;

(2) Valve N. 3—one 84-in. butterfly valve complete, including hydraulic operating mechanism, static head 192 ft., operating head 192 feet;

(3) Valve No. 4—one 84-in. butterfly valve complete, including hydraulic operating mechanism, static head 154 ft., operating head 154 feet;

(4) Valve No. 5—one 84-in. butterfly valve complete, including hydraulic operating mechanism, static head 109 ft., operating head 109 feet;

(5) Valve No. 6—one 84-in. butterfly valve complete, including hydraulic operating mechanism, static head 73 ft., operating head 73 feet;

(6) one 30x30-in. sluice gate complete with hydraulic operating mechanism, static head 233 ft., operating head 100 feet.

PROPOSAL NO. II

Furnishing Type A tunnel liner for San Gabriel Dam No. 2, delivered f.o.b. cars district's freight yard, Azusa.

(1) one tunnel liner, Type A, consisting of five sections fabricated of cast steel, 44,920 lbs.

PROPOSAL NO. III

Furnishing Type B tunnel liners for San Gabriel Dam No. 2.

(1) five Type B tunnel liners, con-

sisting of three sections each, fabricated of structural steel shapes and steel plate, 62,000 lbs.

E. C. Eaton, county flood control engineer, 202 N Broadway. The bidders were:

(A) Goslin - Birmingham Mfg. Co., Birmingham, Ala.—Prop. I, \$22,400; Prop. 2, \$3600. Guaranteed time of delivery, Prop. No. II, Feb. 15, 1933.

(B) The Pelton Water Wheel Co., San Francisco—Prop. I, \$26,733.

(C) Chapman Valve Co., Los Angeles—Prop. I, \$27,586.

(D) Hardie-Tynes Mfg. Co., Birmingham, Ala.—Prop. I, \$29,994; Prop. II, \$3256.70. Guaranteed time of delivery, 90 days; Prop. III, \$3503, delivery, 90 days.

(E) Southwest Welding & Mfg. Co., Inc., Alhambra—Prop. III, \$3060. Delivery, 60 days.

(F) California Steel Products Co., 490 Bay St., San Francisco.—Prop. III \$3547. Delivery, 60 days after award of contract.

(G) Joshua Hendy Iron Works—Prop. I, \$33,095.

(H) Warman Steel Casting Co., Huntington Park—Prop. II, \$5835.60. Delivery 90 days.

(I) Western Pipe & Steel Co.—Prop. III, \$3348. Delivery, 10 days.

(J) Consolidated Steel Prod. Corp., Ltd.—Prop. I, \$29,900; Prop. II, \$3705.90. Delivery Feb. 1, 1933. Prop. III, \$3472. Delivery Feb. 1, 1933.

(K) Lacy Mfg. Co., Los Angeles.—Prop. III, \$2790. Delivery, 60 days after receipt of order.

The unit bids were:

| | (A) | (B) | (C) | (D) | (E) | (G) | (J) |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| (1) | \$3600.00 | \$4451.00 | \$4655.00 | \$4833.00 | \$5310.00 | \$5075.00 | \$5075.00 |
| (2) | 3600.00 | 4451.00 | 4535.00 | 4833.00 | 5310.00 | 5070.90 | |
| (3) | 3600.00 | 4451.00 | 4535.00 | 4833.00 | 5310.00 | 4950.00 | |
| (4) | 3600.00 | 3865.00 | 4290.00 | 4833.00 | 5310.00 | 4165.00 | |
| (5) | 3600.00 | 3865.00 | 4290.00 | 4833.00 | 5310.00 | 4165.00 | |
| (6) | 890.00 | 1199.00 | 926.00 | 996.00 | 1235.00 | 1400.00 | |

PROPOSAL NO. II—(I) (A) \$.0801; (D) \$.0725; (H) \$.13; (J) \$.0825.
 PROPOSAL NO. III—(I) (D) \$.0565; (E) \$.049355; (F) \$.05721; (I) \$.054; (J) \$.056; (K) \$.045.

STORM DRAIN—GLENDALE—CITY

GLENDALE, Los Angeles Co., Cal.—Schelling Co., 1031 N Fairmount Rd., Burbank, awarded contract by the city council October 15 at \$42,044.59 to construct storm drain in Chevy Chase Drive, but not including the intake to same above Sinclair Ave., nor grates nor manhole frames under Cash Contract, involving:

- (1) 36 ft. 18-in. centrif. cast concrete pipe, 1500-D;
- (2) 7950 ft. 36-in. do;
- (3) 190 ft. 48-in. do;
- (4) 200 ft. 48-in. centrif. cast concrete pipe, 1000-D;
- (5) 22,000 ft. 6-in. concrete paving;
- (6) 19 manholes;
- (7) 2 catchbasins;
- (8) 1 catchbasin to be remodeled;
- (9) 450 sq. ft. 5½-in. asph. concrete paving;
- (10) 125 sq. ft. 3-in. asph. conc. paving

(11) 1100 lin. ft. concrete grade. The city has appropriated \$55,518. J. C. Albers is the city engineer. The bids were:

- (A) Schelling Company.....\$42,044.59
- (B) Floyd Shofner.....48,606.25
- (C) J. Sutalo & M. Ramljak.....51,413.25
- (D) Grancich & Grancich.....57,288.12
- (E) Gogo & Rados.....56,716.90
- (F) Mlagenovich & Gillespie.....51,145.60
- (G) R. A. Wattson.....45,610.21
- (H) Lynch-Cannon Eng. Co.....45,018.21
- (I) J. C. Hickey.....53,847.75
- (J) Artukovich Bros.....43,063.75
- (K) M. N. Guho.....49,492.43
- (L) Martin Const. Co.....49,319.00
- (M) Leo Mletich.....54,930.00
- (N) Chutuk, Kordich, Vukoje-ovich.....48,754.41
- (O) Heuser & Garnett.....42,329.25

Unit bids follow:

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) |
|-----------|--------|--------|--------|--------|--------|--------|----------|----------|--------|--------|--------|
| (A) | \$2.29 | \$4.22 | \$6.24 | \$6.16 | \$1.15 | \$4.00 | \$125.00 | \$140.00 | \$2.15 | \$1.50 | \$5.50 |
| (B) | 3.00 | 4.85 | 8.00 | 7.90 | .18 | 35.00 | 250.00 | 350.00 | .25 | 1.15 | .50 |
| (C) | 3.00 | 5.45 | 10.00 | 10.00 | .10 | 35.00 | 200.00 | 350.00 | .35 | 1.50 | .50 |
| (D) | 3.67 | 5.80 | 7.23 | 7.13 | .20 | 50.00 | 500.00 | 25.00 | .18 | 1.12 | 1.00 |
| (E) | 3.25 | 5.47 | 7.00 | 7.00 | .25 | 60.00 | 300.00 | 500.00 | .25 | 2.00 | 1.00 |
| (F) | 2.69 | 5.10 | 7.10 | 7.00 | .20 | 35.00 | 600.00 | 220.00 | .20 | 2.50 | .50 |
| (G) | 2.35 | 4.61 | 7.00 | 6.65 | .16 | 36.00 | 204.50 | 195.00 | .185 | 1.14 | .70 |
| (H) | 2.91 | 4.46 | 6.78 | 6.92 | .17 | 45.69 | 127.92 | 188.12 | .193 | 1.13 | .89 |
| (I) | 3.00 | 5.70 | 7.65 | 7.55 | .15 | 27.00 | 150.00 | 200.00 | .20 | 1.15 | .50 |
| (J) | 2.25 | 4.45 | 7.50 | 7.00 | .12 | 35.00 | 175.00 | 250.00 | .20 | 1.15 | .50 |
| (K) | 2.63 | 5.00 | 8.50 | 8.00 | .13 | 55.00 | 514.00 | 200.00 | .20 | 1.15 | 1.20 |
| (L) | 3.25 | 5.10 | 6.20 | 6.10 | .16 | 48.00 | 248.00 | 35.00 | .20 | 1.12 | .50 |
| (M) | 3.00 | 5.40 | 7.00 | 7.00 | .17 | 80.00 | 200.00 | 500.00 | .17 | 1.14 | 2.00 |
| (N) | 4.61 | 4.61 | 7.85 | 7.85 | .23 | 50.00 | 200.00 | 200.00 | .23 | .23 | .80 |
| (O) | 2.25 | 4.25 | 7.50 | 7.40 | .135 | 41.00 | 400.00 | 260.00 | .22 | 1.13 | .44 |

BIDS OPENED

TULARE COUNTY, Calif.—Gist and Bell, 130 Bonita St., Arcadia, at \$197,428 submitted low bid to the United States Bureau of Public Roads, San Francisco, for 3,472 miles grading Section D4 of Route 1, the Generals Highway, Sequoia National Park, involving:

- (1) 28 acres clearing;
- (2) 143,000 cu. yds. unclass. excav.;
- (3) 1300 cu. yds. unclass. excavation, structure;
- (4) 132,000 sta. yds. overhaul;
- (5) 3,472 miles finish earth graded rd.
- (6) 2,000 cu. yd. mi. haul sel. material;
- (7) 870 cu. yds. concrete;
- (8) 83,900 lbs. reinf. steel;
- (9) 1100 lbs. place Government furrow mished reinf. steel;
- (10) 55 cu. yds. masonry;
- (11) 102 lin. ft. 8-in. asph. dipped corrugated metal pipe;
- (12) 890 lin. ft. 18-in. corr. metal pipe
- (13) 1,428 lin. ft. 24-in. do;
- (14) 420 cu. yds. hand laid rock emb.
- (15) 3 spillway inlets.

Complete bids follow:

- (A) Gist & Bell, Arcadia, \$197,428.
- (B) Yglesias Bros., Inc., San Diego, \$220,720.
- (C) H. M. Baruch Corp. and Robinson-Roberts, Los Angeles, \$224,495.
- (D) Engineer's estimate, \$203,904.

Unit bids follow:

| | (A) | (B) | (C) | (D) |
|----------|----------|----------|----------|----------|
| (1) ... | \$700.00 | \$600.00 | \$600.00 | \$600.00 |
| (2) ... | .88 | 1.00 | 1.05 | .95 |
| (3) ... | 2.00 | 2.00 | 2.00 | 1.50 |
| (4) ... | .03 | .04 | .03 | .03 |
| (5) ... | 500.00 | 400.00 | 300.00 | 400.00 |
| (6) ... | .15 | .30 | .35 | .20 |
| (7) ... | 36.00 | 40.00 | 41.00 | 35.00 |
| (8) ... | .05 | .08 | .055 | .06 |
| (9) ... | .01 | .03 | .04 | .03 |
| (10) ... | 25.00 | 20.00 | 20.00 | 25.00 |
| (11) ... | 1.00 | 1.50 | 1.00 | 1.00 |
| (12) ... | 1.50 | 2.00 | 1.90 | 2.00 |
| (13) ... | 2.25 | 3.00 | 2.40 | 2.25 |
| (14) ... | 8.00 | 5.00 | 6.00 | 4.00 |
| (15) ... | 25.00 | 30.00 | 25.00 | 15.00 |

AWARD

STOCKTON, San Joaquin Co., Cal.—Willard, Biasotti, & Lovatti, 40 West Clay St., Stockton, at \$6580.99 awarded contract by city council for graveling Washington St. and proposed extension thereof and graveling and oiling certain roads near wharves in the vicinity of the turning basin for the Port of Stockton, involving:

- (1) 4,000 cu. yds. grading for road;
- (2) 2,300 tons cement road gravel in place;
- (3) 280 cu. yds. place oil mac. pave.;
- (4) 380 bbls. oil for road;
- (5) 15 sta. resurfacer highway;
- (6) 60 lin. ft. 4-in. corr. iron pipe culvert in place;
- (7) 24 lin. ft. 12-in. do;
- (8) 1 install storm water inlet;
- (9) 4 road crossings, 300 lin. ft. (C. R. C. standard 3A);
- (10) 3 road crossing signs;
- (11) 3 whistle posts;
- (12) 42 lin. ft. rest road barriers;
- (13) 2 acres level lumber storage yard;
- (14) 24 hours furnish tractor grader and operator, not less than 60-hp.

Complete bids follow:

- (A) Willard, Biasotti and Lovatti, Stockton, \$6580.90.
- (B) C. W. Wood, Stockton, \$6632.00.
- (C) Geo. French, Jr., Stockton, \$6,700.90.
- (D) M. J. Bevanda, Stockton, \$8,313.10.

Unit bids follow:

CAST IRON PIPE—LOS ANGELES

| | (A) | (B) | (C) | (D) |
|-----------|--------|--------|--------|--------|
| (1)..... | \$.20 | \$.19 | \$.16 | \$.20 |
| (2)..... | .95 | .95 | 1.00 | 1.35 |
| (3)..... | .30 | .50 | .40 | .75 |
| (4)..... | 1.30 | 1.45 | 1.50 | 1.50 |
| (5)..... | 2.00 | 2.00 | 1.50 | 10.00 |
| (6)..... | 3.50 | 7.50 | 9.50 | 6.00 |
| (7)..... | .30 | 2.00 | 1.75 | 1.00 |
| (8)..... | 25.00 | 25.00 | 50.00 | 40.00 |
| (9)..... | 3.55 | 4.00 | 3.25 | 4.25 |
| (10)..... | 15.50 | 12.00 | 14.00 | 15.00 |
| (11)..... | 5.00 | 11.00 | 5.00 | 5.00 |
| (12)..... | .10 | .50 | .20 | .30 |
| (13)..... | 25.00 | 25.00 | 75.00 | 50.00 |
| (14)..... | 4.00 | 4.00 | 6.00 | 6.00 |

AWARD

ARIZONA STATE—as previously reported, Pearson & Dickerson, 4485 Cypress Ave., Riverside, awarded contract by State Highway Commission, Phoenix, at \$102,879.63 for highway construction on the Ashford-Kingsman Highway E-80-A (A.F.E. 6624).

The work on E-80-A consists of the placing of sub-grade stabilizer and oil processing by the road mix method of approximately 16 miles of roadway near Peach Springs, Arizona, and is to be completed on or before January 15, 1935. The quantities are:

- (1) 27,883 cu. yds. subgrade stabilizer haul;
- (2) 62,122 cu. mi. subgrade stabilizer;
- (3) 53,704 cu. yds. mineral aggregate (CIP);
- (4) 759 M. gal. water applied to rdwy. (CIP);
- (5) 493,993 gallons cutback asphaltic cement (CIP);
- (6) 11,157 mi. mixing, laying down and finishing;
- (7) 1356 cu. yds. screenings for seal coat (CIP);
- (8) 2670 cu. yds. shoulder material;
- (9) 5670 cu. mi. shoulder material, haul;

STRUCTURES OVER 20 FT. CLEAR SPAN

- (10) 30 cu. yds. mineral aggregate (CIP);
- (11) 505 gal cutback asphaltic cement (CIP);
- (12) .017 mi. mixing, laying down and finishing;
- (13) 2 cy. screenings for seal coat (CIP).

NON-FEDERAL AID

- (14) 320 cu. yds. special min. aggr. for stockpile (CIP).

The total bids were:

- (A) Pearson & Dickerson, Riverside, \$102,879.63.
- (B) J. C. Compton, McMinnville, Ore., \$117,078.45.
- (C) Heafey-Moore-J. A. Casson, Oakland, \$117,858.79.
- (D) Ralph Pleasant, Phoenix, Ariz., \$119,464.51.

The Unit bids were:

| | (A) | (B) | (C) | (D) |
|-----------|--------|--------|--------|--------|
| (1)..... | \$.63 | \$.55 | \$.60 | \$.75 |
| (2)..... | .13 | .10 | .10 | .10 |
| (3)..... | 1.00 | 1.50 | 1.56 | 1.44 |
| (4)..... | 2.50 | 2.00 | 3.00 | 1.50 |
| (5)..... | .02 | .10 | .10 | .16 |
| (6)..... | 600.90 | 700.00 | 600.00 | 700.00 |
| (7)..... | 3.30 | 2.50 | 3.00 | 1.50 |
| (8)..... | .67 | .55 | .60 | .75 |
| (9)..... | .11 | .10 | .10 | .10 |
| (10)..... | 1.00 | 1.50 | 2.09 | 1.44 |
| (11)..... | .09 | .10 | .10 | .10 |
| (12)..... | 600.60 | 700.00 | 600.00 | 700.00 |
| (13)..... | 3.00 | 2.50 | 5.00 | 1.50 |

MARIPOSA COUNTY, Cal.—W. B. Baker & Co., 15 Harriet Street, San Francisco, at \$15,492 recommended for award by U. S. Bureau of Public Roads, San Francisco, to furnish and install complete power, lighting, telephone and semaphore signal systems in the highway tunnel on Section A5 of Route 2, the Wakona Road, Yosemite National Park.

LOS ANGELES, Cal.—Bids for furnishing and delivering bell and spigot cast iron pipe received by City Purchasing Agent, Thomas Oughton, under Specifications No. 2913. Bids were taken on a price per lineal foot, laying lengths, f.o.b. delivered at points designated, follow:

TABLE I

Furnish cast iron water pipe, Items 1 to 20 inclusive, f.o.b. cars or trucks, Department of Water and Power's Hewitt Street Yard or Hewitt Street Spur, A. T. & S. F. delivery, Los Angeles, California, as follows:

- (1) 10,000 ft. laying length, 6-in. I. D. bell and spigot cast iron water pipe. Delivery required on or about Dec. 1, 1932.
- (2) 10,000 ft. laying length, do;
- (3) 10,000 ft. laying lengths do Delivery on or about Feb. 1, '33
- (4) 10,000 ft. laying lengths do
- (5) 10,000 ft. laying lengths do
- (6) 10,000 ft. laying lengths do Del. on or about April 1, 1932.
- (7) 10,000 ft. laying length, 8-in. do Del. on or about Dec. 14, 1932.

- (8) 10,000 ft. laying lengths do
- (9) 10,000 ft. laying lengths do
- (10) 10,000 ft. laying lengths do Del. on or about Feb. 14, 1933.
- (11) 10,000 ft. laying lengths do
- (12) 10,000 ft. laying lengths do
- (13) 10,000 ft. laying lengths do
- (14) 10,000 ft. laying lengths do
- (15) 5000 ft. laying length, 12-in. do Del. on or about Jan. 2, 1933.
- (16) 5000 ft. laying lengths do
- (17) 5000 ft. laying lengths do
- (18) 5000 ft. laying lengths do Del. on or about March 1, 1933.
- (19) 5000 ft. laying length do Del. on or about May 1, 1933.

Alternates for diameters as follows: 6.9-in. in lieu of 6-in., and 9.05-in. in lieu of 8-in.

- The bidders were:
- (A) Pacific States Cast Iron Pipe Co.
 - (B) United States Pipe & Foundry Co.
 - (C) R. D. Woods Company.
 - (D) American Cast Iron Pipe Co.
 - (E) Cast Engineering & Equip. Co.

All terms net. The bids follow:

| | (E) | (B Alt.) | (C) | (C Alt.) | (D) | (D Alt.) | (E Alt.) |
|-----------|---------|----------|--------|----------|-------|----------|----------|
| (1)..... | \$.545 | \$.535 | \$.567 | \$.554 | \$.55 | \$.538 | \$.5325 |
| (2)..... | .545 | .535 | .567 | .554 | .55 | .538 | .5325 |
| (3)..... | .545 | .535 | .567 | .554 | .55 | .538 | .5325 |
| (4)..... | .545 | .535 | .567 | .554 | .55 | .538 | .5325 |
| (5)..... | .545 | .535 | .567 | .554 | .55 | .538 | .5325 |
| (6)..... | .545 | .535 | .567 | .554 | .55 | .538 | .5325 |
| (7)..... | .87 | .854 | .873 | .858 | .872 | .857 | .79 |
| (8)..... | .87 | .854 | .873 | .858 | .872 | .857 | .79 |
| (9)..... | .87 | .854 | .873 | .858 | .872 | .857 | .79 |
| (10)..... | .87 | .854 | .873 | .858 | .872 | .857 | .79 |
| (11)..... | .87 | .854 | .873 | .858 | .872 | .857 | .79 |
| (12)..... | .87 | .854 | .873 | .858 | .872 | .857 | .79 |
| (13)..... | .87 | .854 | .873 | .858 | .872 | .857 | .79 |
| (14)..... | .87 | .854 | .873 | .858 | .872 | .857 | .79 |
| (15)..... | 1.75 | ..... | 1.654 | ..... | 1.76 | ..... | 1.73 |
| (16)..... | 1.75 | ..... | 1.654 | ..... | 1.76 | ..... | 1.73 |
| (17)..... | 1.75 | ..... | 1.654 | ..... | 1.76 | ..... | 1.73 |
| (18)..... | 1.75 | ..... | 1.654 | ..... | 1.76 | ..... | 1.73 |
| (19)..... | 1.75 | ..... | 1.764 | ..... | 1.76 | ..... | 1.73 |
| (20)..... | 1.75 | ..... | 1.764 | ..... | 1.76 | ..... | 1.73 |

Pacific States Coast Iron Pipe Co. bid \$.368 on item (7) and \$.85 as alt.

TABLE II

Bidders shall quote prices for furnishing cast iron water pipe, Items 21 to 31, inclusive, f.o.b. cars or trucks, Department of Water and Power's Slauson and Compton Avenue Yard, Aquia Sliding, A. T. & S. F. Railway delivery, Los Angeles:

- (21) 10,000 ft. laying length, 8-in. C. D. bell and spigot cast iron water pipe. Delivery on or about Dec. 1, 1932;
- (22) 10,000 ft. 6-in. do;
- (23) 10,000 ft. 6-in. do about Apr. 1, '33
- (24) 5000 ft. do;
- (25) 10,000 ft. 8-in. do, about Dec. 14, 1932;

- (26) 10,000 ft. do;
- (27) 10,000 ft. 8-in. do, about Feb. 14, 1933;
- (28) 10,000 ft. do;
- (29) 10,000 ft. do, about April 14, 1933;
- (30) 5000 ft. 12-in. do, about March 1, 1933;
- (31) 5000 ft. 12-in. do, about May 1, 1933.

- The bidders were:
- (A) United States Pipe & Foundry Co.
 - (B) R. D. Woods Co.
 - (C) American Cast Iron Pipe Co.
 - (D) Coast Engineering & Equip. Co.

All terms net. The bids follow:

| | (A) | (A Alt.) | (B) | (B Alt.) | (C) | (C Alt.) | (D Alt.) |
|-----------|---------|----------|--------|----------|-------|----------|----------|
| (21)..... | \$.545 | \$.535 | \$.567 | \$.554 | \$.55 | \$.538 | \$.5325 |
| (22)..... | .545 | .535 | .567 | .554 | .55 | .538 | .5325 |
| (23)..... | .545 | .535 | .567 | .554 | .55 | .538 | .5325 |
| (24)..... | .545 | .535 | .567 | .554 | .55 | .538 | .5325 |
| (25)..... | .87 | .854 | .873 | .858 | .872 | .857 | .79 |
| (26)..... | .87 | .854 | .873 | .858 | .872 | .857 | .79 |
| (27)..... | .87 | .854 | .873 | .858 | .872 | .857 | .79 |
| (28)..... | .87 | .854 | .873 | .858 | .872 | .857 | .79 |
| (29)..... | .87 | .854 | .873 | .858 | .872 | .857 | .79 |
| (30)..... | 1.75 | ..... | 1.654 | ..... | 1.76 | ..... | 1.73 |
| (31)..... | 1.75 | ..... | 1.764 | ..... | 1.78 | ..... | 1.73 |

TABLE III

Bidders shall quote prices for furnishing cast iron water pipe, Items 32 to 37, inclusive, f.o.b. trucks, Department of Water and Power's Yard at Atena and Vesper Streets, Van Nuys, California:

- (32) 10,000 ft. laying length, 6-in. I. D. bell and spigot cast iron water pipe. Delivery, on or about Dec. 1, 1932.

- (33) 5000 ft. laying length do Del. on or about Feb. 1, 1933.
- (34) 10,000 ft. laying length, 8-in. do Del. on or about Dec. 14, 1932.
- (35) 10,000 ft. laying length do Del. on or about Feb. 14, 1933.
- (36) 5000 ft. laying length, 12-in. do Del. on or about Jan. 2, 1933.
- (37) 5000 ft. laying length do Del. on or about March 1, 1933.

The bidders were:

- (A) National Cast Iron Pipe Co. (D) American Cast Iron Pipe Co.
 (B) United States Pipe & Foundry Co. (E) Coast Eng. & Equip. Co.
 (C) R. D. Woods Company. All terms net. The bids follow:

| | (A) (A Alt.) | (B) (B Alt.) | (C) | (C Alt) | (D) (D Alt) | (E Alt) |
|-----------|--------------|--------------|---------|---------|-------------|---------|
| (32)..... | \$.585 | \$.57 | \$.586 | \$.572 | \$.587 | \$.574 |
| (33)..... | | | .586 | .572 | .587 | .574 |
| (34)..... | .9175 | .895 | .9145 | .895 | .915 | .90 |
| (35)..... | | | .9145 | .895 | .915 | .90 |
| (36)..... | | 1.82 | | 1.82 | | 1.815 |
| (37)..... | | 1.82 | | 1.82 | | 1.815 |

The Department reserves the right to award one or more contracts hereunder.

POWER PLANTS

LOS ANGELES, Cal.—Until 2 P. M., Nov. 19, bids will be received by the Board of Directors of the Metropolitan Water District, 306 West Third St., Los Angeles, Mo to be opened in room 3, basement), for the construction of approximately 45 miles of 66,000 volt transmission lines, 30 miles of 23,000 volt transmission lines with 12 miles of telephone circuit built jointly, two 6000 KVA substations and three 1000 KVA substations, and is located in the vicinity of Colton, Lakeview and Cabazon. Copper or aluminum cable, cedar, fir, and pine poles, pin type and suspension insulators for the lines specified and for future extensions of said lines also to be purchased under these Specifications.

Plans and specifications may be obtained from the office of the Chief Electrical Engineer, J. M. Gaylord, room 704 after October 20, upon payment of \$3 per set. Certified check for 10% of maximum bid must accompany each proposal. Said check shall be in even multiples of \$100. No faithful performance bond shall be furnished but in lieu thereof the bidder to whom a contract has been awarded shall within 15 days pay the district a sum which is an even multiple of \$100 and not less than 1 1/2% of the estimated payments to be made under the contract, no part of which sum shall in any event be returned to the bidder, except as may be specifically provided in the case of annulment or termination of the contract by the District through no fault of the contractor. Notwithstanding such payment, the contractor shall be liable to the District for failure to perform the contract.

The items are as follows:
 (1) Construction of transmission line from Colton to Cabazon, using copper conductors. Price for hauling all material to be furnished by the district to be stated per ton mile.
 (2) Alt. to item (1) construction of transmission line from Colton to Cabazon, using aluminum conductor.
 (3) 211,000 circular mill (4/0 B & S) copper cable:
 (a) 486,000 lbs.
 or (b) 526,000 lbs.
 or (c) 1,311,000 lbs.
 or (d) 1,725,000 lbs.

(4) Alt. to (3)—336,400 circular mill steel reinforced aluminum cable:
 (a) 155,000 lbs.
 or (b) 272,000 lbs.
 or (c) 468,000 lbs.
 or (d) 733,000 lbs.
 or (e) 965,000 lbs.
 (5) 133,225 circular mill (2/0 B & S) copper cable:
 (a) 175,000 lbs.
 or (b) 397,000 lbs.
 or (c) 697,000 lbs.
 or (d) 957,000 lbs.

(6) 211,000 circular mill (4/0 B & S) steel reinforced aluminum cable:
 (a) 125,000 lbs.
 or (b) 233,000 lbs.
 or (c) 497,000 lbs.
 or (d) 683,000 lbs.
 (7) 56,564 circular mill (No. 2 B & S) copper cable:
 (a) 20,000 lbs.
 or (b) 50,000 lbs.
 (8) Alt. to item (7)—105,625 circular mill (1/0 B & S) steel reinforced aluminum cable:
 (a) 14,800 lbs.
 or (b) 35,700 lbs.

(9) Cedar poles butt tpoled:
 (a) 50 25-ft. class 4 poles;
 (b) 50 40-ft. class 4 poles;
 (c) 70 45-ft. class 3 poles;

(Continued on next page)

GRADE AND GRAVEL SURFACE—NEVADA STATE

WHITE PINE COUNTY, Nev.—As previously reported, Wheelwright Construction Co., Ely, at \$53,925.97 awarded contract by the State Highway Department to grade and gravel surface 9.19 miles of highway bet. Pancake Summit and west foot of Antelope Summit, involving:

- (1) 61,200 cu. yds. rdwy. excav.;
- (2) 220 cu. yds. struc. excav.;
- (3) 4,261 cu. yds. selected borrow;
- (4) 54,251 sta. yds. overhaul;
- (5) 9.19 miles subgrade;
- (6) 4 miles demolish culvert inlets and outlets;
- (7) 29,000 cu. yds. crushed gravel or crushed rock in place;
- (8) 43 cu. yds. Class A concrete;
- (9) 42 cu. yds. Class B concrete;
- (10) 80 lin. ft. 15-in. corr. metal pipe in place;

- (11) 526 lin. ft. 18-in. do;
 - (12) 538 lin. ft. 24-in. do;
 - (13) 110 lin. ft. 30-in. do;
 - (14) 34 lin. ft. 36-in. do;
 - (15) 26 monuments;
 - (16) 1 furnish and install post for F. A. marker;
 - (17) 4,500 lbs. reinforcing steel;
 - (18) 112 acres clearing;
 - (19) 9.19 miles finishing roadway.
- Complete bids follow:
 (A) Wheelwright Const. Co., Ely, \$53,925.97.
 (B) J. N. Tedford, Fallon, \$55,405.32.
 (C) Dodge Bros., Inc., Fallon, \$56,866.59.
 (D) Nevada Rock & Sand Co., Reno, \$58,266.57.
 (E) Mahoney - Cline Co., Las Vegas, \$59,003.34.
 (F) Engineer's estimate, \$51,185.82.

| | (A) | (B) | (C) | (D) | (E) | (F) |
|-----------|--------|--------|--------|--------|--------|--------|
| (1)..... | \$.25 | \$.28 | \$.28 | \$.32 | \$.20 | \$.22 |
| (2)..... | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| (3)..... | .35 | .30 | .37 | .30 | .375 | .30 |
| (4)..... | .02 | .02 | .02 | .02 | .02 | .02 |
| (5)..... | 50.00 | 50.00 | 50.00 | 75.00 | 80.00 | 100.00 |
| (6)..... | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 | 3.00 |
| (7)..... | .55 | .60 | .55 | .53 | .75 | .55 |
| (8)..... | 26.00 | 26.00 | 23.00 | 25.00 | 25.00 | 28.00 |
| (9)..... | 25.00 | 26.00 | 25.00 | 25.00 | 25.00 | 25.00 |
| (10)..... | 1.00 | 1.25 | 1.25 | 1.25 | 1.30 | 1.25 |
| (11)..... | 1.35 | 1.25 | 1.50 | 1.50 | 1.50 | 1.50 |
| (12)..... | 1.75 | 2.00 | 2.00 | 2.00 | 2.25 | 2.25 |
| (13)..... | 2.40 | 2.50 | 2.50 | 2.75 | 2.75 | 2.75 |
| (14)..... | 3.75 | 3.50 | 3.50 | 3.50 | 4.00 | 3.50 |
| (15)..... | 3.00 | 2.50 | 3.00 | 2.50 | 3.00 | 3.00 |
| (16)..... | 5.00 | 5.00 | 5.00 | 5.00 | 10.00 | 5.00 |
| (17)..... | .08 | .07 | .06 | .07 | .07 | .07 |
| (18)..... | 7.00 | 5.00 | 5.00 | 20.00 | 10.00 | 10.00 |
| (19)..... | 50.00 | 100.00 | 100.00 | 150.00 | 100.00 | 50.00 |

CONCRETE ROADS, ETC.—LIVERMORE VET. HOSP.

LIVERMORE, Alameda Co., Calif.—Following bids received by Supervising Superintendent of Construction, U. S. Veterans' Hospital, Palo Alto, to construct concrete curbs and gutters, 2-in. portland cement concrete or bituminous concrete wearing surface over existing waterbound macadam road on the Hill Road, and bituminous concrete wearing surface over other existing waterbound macadam roads, parking spaces, etc., at U. S. Veterans' Hospital, Livermore:

- (1) 2-in. bituminous concrete wearing surface over existing waterbound macadam roads, parking spaces, curbs gutters, etc.;
- (Alt. 1, deduct) 1-in. natural rock asphalt wearing surface and concrete roads and gutters;

- (2) 6-in. portland cement concrete roads, curbs and gutters;
 (Alt. A, deduct) concrete curbs and gutters and 2-in. concrete asphalt wearing surface;
 (Alt. B, deduct) concrete curbs and gutters and 1-in. natural rock asphalt wearing surface.

- Bidders follow:
 (A) U. B. Lee, San Leandro.
 (B) Jones & King, Hayward.
 (C) Lee J. Jummel, Berkeley.
 (D) O. B. Freeman, Palo Alto.
 (E) J. H. Fitzmaurice, Oakland.
 (F) S. M. McGaw, Stockton.
 (G) J. P. Lawlor, San Francisco.
 (H) Hutchinson Co., Oakland.
 (I) S. H. Palmer Co., San Francisco.

Complete bids follow:

| | (1) | (Alt. 1) | (2) | (Alt. A) | (Alt. B) |
|----------|-------------|---------------|-------------|----------|----------|
| (A)..... | \$ 3,290.00 | \$ 500 | \$ 7,400.00 | \$ 3,121 | \$ 3,401 |
| (B)..... | 3,371.80 | 1,076 | 8,518.74 | 1,682 | 3,096 |
| (C)..... | 3,942.00 | | 7,542.00 | 3,250 | 3,515 |
| (D)..... | 4,000.00 | | 8,900.00 | 3,250 | 3,250 |
| (E)..... | 4,819.00 | | 10,350.00 | 3,315 | 3,835 |
| (F)..... | 5,500.00 | | 10,900.00 | 1,800 | 2,200 |
| (G)..... | 9,074.00 | | 8,340.00 | *700 | 1,000 |
| (H)..... | 11,600.00 | (inc. Alt. A) | | | |
| (I)..... | | 2,809.90 | 9,726.00 | | 4,247 |

*Add.

GRADE-CONC. PAVE.—SANTA CLARA CO.—STATE

- (l) 110 50-ft. class 3 poles;
- (c) 450 55-ft. class 3 poles;
- (f) 355 60-ft. class 3 poles;
- (g) 30 65-ft. class 3 poles;
- (h) 16 70-ft. class 3 poles;
- (i) 5 75-ft. class 3 poles.
- (10) Alternate to item (9) — Cedar poles full length treatment.
- Sub-items (a) to (i) as in item (9).
- (11) Alternate to item (9) Fir poles;
- Sub-items (a) to (i) as in item (9).
- (12) Alternate to item (9) Southern Pine poles;
- Sub-items (a) to (i) as in item (9).
- (13) Suspension insulators:
- (a) 7500 insulator units;
- or (b) 12,000 insulator units;
- or (c) 17,800 insulator units;
- or (d) 22,800 insulator units;
- (14) Pine type insulator with pins:
- (a) 1500 insulators;
- or (b) 5500 insulators;
- or (c) 6300 insulators;
- or (d) 8300 insulators.

(15) Construction of 60,000-volt substations at Lakeview and Cabazon. Price also to be stated per ton mile for hauling material furnished by district.

(16) Construction of three 33,000-volt substations at West Portal, Putero and Cabazon Adit. Price also for hauling material to be stated.

(17) Furnishing all labor, hauling and material for construction of lines from Colton to Cabazon using copper conductors and grade of poles as specified under item (19).

(18) Same as (17) but using aluminum conductors and grade of poles as specified under item (19).

- (19) Full length treated poles:
- (a) 110 40-ft. class 4 poles;
- (b) 200 45-ft. class 3 poles;
- (c) 85 50-ft. class 3 poles;
- (d) 25 55-ft. class 3 poles;
- (e) 10 60-ft. class 3 poles.

(20) Construction of all lines and substations, furnishing and hauling all materials except transformer condensers and oil circuit breakers, using copper conductors and grade of poles as specified under item (19).

(21) Same as item (20) but using aluminum conductors and grade of poles as specified under item (19).

(Bidders also to state price per ton mile he will haul transformers, condensers and oil circuit breakers furnished by the District).
F. E. Weymouth, room 1104, 306 West Third St., is the General Manager and Chief Engineer.

CALIFORNIA.—The Pacific Gas and Electric Co., 245 Market Street, San Francisco, will prepare plans for improvements in various sections of California, namely:

Reconstruction of the Stanislaus-Newark transmission line, to cost \$131,250.

Replacements on the Electric-Herdlyn-Stockton transmission line, to cost \$40,192.

Switching improvements at Substation A in Stockton, to cost \$34,175.

Replacement of gas mains and electric lines in sections of northern and central California and enlargement of transmission and distribution facilities.

SEARCHLIGHT, Nev. — Searchlight Ferry Co., has filed application with U. S. War Department (U. S. Engineer Office, Los Angeles) for permit to construct an overhead cableway across the Colorado river along the highway between Searchlight, Nev., and Kingman, Ariz., the cableway to have a clear height of 30 feet above high water.

SANTA CLARA COUNTY, Cal.—
Basich Bros., 20550 Normandie Ave., Torrance, at \$28,356 submitted low bid to State Highway Commission Sacramento, to grade and pave with Portland cement concrete 4.7 mil. bet. Oregon Ave. and Wishman Road, involving:

- (1) 7750 cu. yds. rdwy. excav., unclass;
- (2) 70,000 cu. yds. imp. borrow (type A);
- (3) 31,750 cu. yds. do (type B);
- (4) 19,250 cu. yds. channel excav.;
- (5) 1700 cu. yds. struc. excav. (type A);
- (6) 1950 cu. yds. do (type B);
- (7) 110,400 sq. yds. subgrade for pave.
- (8) 27,160 cu. yds. class A cem. conc. pave.;
- (9) 820 cu. yds. class A cem. conc. (struc.);
- (10) 5 cu. yds. class E cem. concrete (struc.);
- (11) 928,700 lbs. reinf. steel (pave. and struc.);
- (12) 1720 tons asph. conc. (type B surface);
- (13) 2551 bbls. heavy fuel oil;
- (14) 2904 lin. ft. 18-in. corr. metal pipe;
- (15) 160 lin. ft. 24-in. do;
- (16) 238 lin. ft. 30-in. do;
- (17) 1500 lin. ft. 12-in. extra strength reinf. conc. pipe;

- (18) 10 irrigation siphon inlet and outlet assemblies;
- (19) 30 catchbasins;
- (20) 1575 lin. ft. reinf. conc. piles;
- (21) 43 remove trees (size 1);
- (22) 11 do (size 2);
- (23) 3 do (size 3);
- (24) 7 do (size 4);
- (25) 14 do (size 5);
- (26) 2.4 mil. new barbed wire fence;
- (27) 3.1 mil. new woven wire fence.
- (28) 25 fence gates;
- (29) 296 timber guide posts;
- (30) 25 culvert markers;
- (31) 249 sta. finish roadway;
- (32) 44 monuments complete in place.

State will furnish corr. metal pipes and flood gates.

- Complete bids follow:
- (A) Basich Bros., Torrance, \$328,956.
 - (B) C. W. Wood Stockton, \$320,752.20.
 - (C) Harrahan Co., S. F., \$342,758.10.
 - (D) Peninsula Paving Co., San Francisco, \$254,006.
 - (E) Union Paving Co., San Francisco, \$257,229.40.
 - (F) Fredrickson & Watson and Fredrickson Bros., Oakland, \$302,050.70.
 - (G) D. McDonald and N. M. Ball, Sacramento, \$387,367.10.
 - (H) M. J. Bevanda, Stockton, \$413,388.25.

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) |
|------|--------|--------|--------|--------|--------|--------|--------|--------|
| (1) | \$.35 | \$.15 | \$.15 | \$.15 | \$.15 | \$.22 | \$.20 | \$.22 |
| (2) | .29 | .40 | .40 | .30 | .50 | .60 | .49 | .50 |
| (3) | .49 | .66 | .54 | .75 | .50 | .70 | .49 | .60 |
| (4) | .12 | .10 | .15 | .08 | .15 | .12 | .20 | .15 |
| (5) | .40 | .50 | .90 | 1.60 | 1.50 | 1.10 | 2.00 | 1.25 |
| (6) | .60 | .50 | .60 | .75 | .49 | .75 | 1.00 | .75 |
| (7) | .68 | .66 | .66 | .65 | .65 | .67 | .10 | .25 |
| (8) | 6.50 | 6.25 | 6.97 | 5.60 | 7.25 | 6.25 | 7.50 | 7.50 |
| (9) | 15.00 | 14.00 | 14.00 | 13.75 | 14.90 | 13.50 | 15.00 | 16.50 |
| (10) | 63.60 | 50.00 | 50.00 | 45.00 | 50.00 | 40.00 | 70.00 | 60.00 |
| (11) | 4.0225 | .63 | .63 | 6.025 | .85 | 4.0225 | 4.025 | .64 |
| (12) | 5.00 | 4.50 | 4.90 | 4.50 | 4.00 | 4.50 | 5.00 | 3.50 |
| (13) | 2.05 | 1.75 | 2.00 | 2.00 | 2.00 | 2.00 | 2.60 | 2.50 |
| (14) | .25 | .20 | .30 | .20 | .20 | .25 | .50 | .40 |
| (15) | .20 | .25 | .30 | .20 | .20 | .30 | 1.00 | .50 |
| (16) | .40 | .36 | 4.00 | .20 | .20 | .45 | 1.00 | .60 |
| (17) | .96 | 1.25 | 1.00 | .90 | 1.25 | 2.00 | 1.50 | 1.50 |
| (18) | 25.00 | 26.00 | 20.00 | 17.50 | 10.00 | 25.00 | 40.00 | 10.90 |
| (19) | 65.00 | 45.00 | 60.00 | 60.00 | 50.90 | 73.60 | 90.00 | 40.00 |
| (20) | 3.00 | 2.25 | 3.50 | 3.10 | 2.50 | 2.25 | 3.30 | 4.00 |
| (21) | 1.00 | 1.00 | .50 | .50 | 1.00 | 2.25 | 1.00 | 5.00 |
| (22) | 2.00 | 2.00 | .50 | 1.60 | 2.00 | 3.30 | 1.00 | 5.00 |
| (23) | 2.00 | 5.00 | .50 | 4.00 | 3.00 | 4.50 | 15.00 | 5.90 |
| (24) | 5.00 | 8.00 | .50 | 6.00 | 5.00 | 5.50 | 20.00 | 6.00 |
| (25) | 10.00 | 10.00 | 5.00 | 10.00 | 10.00 | 6.75 | 20.00 | 10.00 |
| (26) | 300.00 | 275.00 | 300.00 | 300.00 | 275.00 | 340.00 | 400.00 | 590.00 |
| (27) | 530.00 | 400.00 | 450.00 | 500.00 | 400.00 | 450.00 | 600.00 | 600.00 |
| (28) | 14.00 | 12.00 | 10.00 | 8.00 | 12.00 | 10.00 | 20.00 | 25.00 |
| (29) | 2.00 | 2.00 | 2.00 | 2.25 | 1.00 | 2.50 | 2.50 | 3.00 |
| (30) | 1.50 | 2.00 | 1.50 | 2.00 | 1.60 | 2.25 | 2.00 | 2.50 |
| (31) | 3.00 | 4.00 | 4.00 | 6.00 | 3.00 | 5.00 | 7.00 | 6.00 |
| (32) | 2.00 | 3.00 | 2.50 | 2.50 | 3.00 | 2.50 | 3.00 | 3.00 |

GATE VALVES—LOS ANGELES, CALIF.

LOS ANGELES, Cal.—Bids for furnishing gate valves under Specifications No. 2917 were opened by City Purchasing Agent, Thomas Oughton, October 10. The items were:

- (1) 500 6-in. hub end gate valves;
 - (2) 200 4-in. screw end gate valves;
 - (3) 100 6-in. screw end gate valves;
 - (4) 100 6-in. screw end gate valves. P. a. b. 410 Ducommun St. The bids follow:
- | | (1) | (2) | (3) | (4) |
|------------------------------|---------|--------|---------|---------|
| Hickey Pipe & Supply Co. | \$14.52 | \$8.75 | \$13.60 | \$21.32 |
| Griffith Pipe & Supply Co. | 14.45 | 8.70 | 13.50 | 21.20 |
| Ducommun Corp. | 10.24 | 5.80 | 10.20 | 20.50 |
| Grinnell Co. | 11.65 | 6.25 | 10.99 | 16.50 |
| Petroleum Equipment Co. | 10.24 | 5.80 | 10.20 | 20.50 |
| Goddard Jackson Co.* | 14.80 | 8.92 | 15.86 | 20.70 |
| Ohio Injector Co.** | 12.50 | 6.79 | 11.10 | 17.00 |
| Rich Mfg. Co. | 9.75 | 6.13 | 9.75 | 15.00 |
| California Pipe & Supply Co. | 10.24 | 5.80 | 10.20 | 20.50 |
| Mell O. Haldeman | 70.24 | 5.80 | 10.20 | 20.50 |
| Hacker Pipe & Supply Co. | 9.60 | 5.50 | 9.40 | 14.95 |
| Warren & Bailey Co. | 14.79 | 8.50 | 14.60 | 24.16 |
| Crane Co. | 10.00 | 6.00 | 10.00 | 17.00 |

*Bid irregular—no bond or affidavit.
**Alternate proposal on item (1), \$11.66, for 3 1/2-in. depth of hub.

ENGINEERING NEWS

BRIDGES

YOLO COUNTY, Cal.—D. McDonald 204 23rd St., Sacramento, and N. M. Ball, Box 596, Porterville, bidding together, at \$523,638.80 submitted low bid to State Highway Commission at Sacramento to widen existing causeway about five miles west of Sacramento by constructing approximately 16,435 ft. of timber trestle and a double leaf bascule span approximately 85-ft. long, involving:

- (1) 470 cu. yds. struc. excav.;
- (2) 2,024 lin. ft. furnish Douglas fir piles;
- (3) 153,100 lin. ft. furnish redwood piles, inc. test piles;
- (4) 3,551 drive Douglas fir and redwood piles, inc. test piles;
- (5) 190 cu. yds. Class A cem. conc. (footing blocks);
- (6) 530 cu. yds. Class A cem. conc. (structure);
- (7) 42,000 lbs. reinf. steel;
- (8) 350,000 lbs. struc. steel,
- (9) 23,400 lbs. cast iron;
- (10) 16,900 lin. ft. galv. sheet metal strip;
- (11) 4,730 M. ft. b.m. redwood timber, dense sel. all-heart structural grade;
- (12) 690 M. ft. b.m. redwood timber, sel. all-heart struc. grade;
- (13) 250 M. ft. b.m. Douglas fir timber, struc. grade;
- (14) 1 lot temporary timber railing & barricades;
- (15) 14,000 lin. ft. remove and reset pipe railing;
- (16) 2,480 lin. ft. remove and reset timber railing;
- (17) 248 M. ft. b.m. timber in existing floor to be removed;
- (18) 8 concrete bents to be lowered;
- (19) 67 timber bents to be lowered;
- (20) 1 bascule span to be removed;
- (21) 435 sq. yds. asphalt plank;
- (22) 9,800 tons asphalt conc. pave.;
- (23) 1 lot machinery;
- (24) 1 lot painting timber railing and wheel guard;
- (25) 1 lot misc. items of work,

- Complete bids follow:
- (A) D. McDonald & N. M. Ball, Sacramento and Porterville \$523,638.80
 - (B) Mercer-Fraser Co., Eureka, \$543,636.44.
 - (C) MacDonald & Kahn, San Francisco, \$556,533.81.
 - (D) Merritt-Chapman & Scott Corp., San Pedro, \$571,922.33.
 - (E) Healy-Thibbitts Co., San Francisco \$572,769.00.
 - (F) M. B. McGowan and Lord & Bishop, San Francisco and Sacramento, \$572,906.00.
 - (G) George Pollock Co., Sacramento, \$589,813.00.
 - (H) Barrett & Hilp, San Francisco, \$602,093.54.
 - (I) Clinton Const. Co., San Francisco, \$610,022.63.
 - (J) Lindgren & Swinerton, San Francisco, \$644,926.20.

KERN COUNTY, Cal.—Fredrickson & Watson and Fredrickson Bros., 873 81st Avenue, Oakland, at \$272,411.85 awarded contract by State Highway Commission to construct a bridge over the Kern River near Bakersfield, consisting of steel stringer spans with concrete deck on concrete pile bents and concrete piers with timber pile foundations and timber trestle spans with concrete deck on timber pile bents.

LOS ANGELES, Cal.—W. B. Armstrong, County Bridge Engineer, 12th floor, Hall of Records, is preparing plans for a bridge to be built on Central Ave., in Arcadia, over Little Santa Anita Wash. Proposed bridge will be a steel girder and reinforced concrete slab on concrete abutments with a concrete railing. It will have one span of 33-ft. with a roadway 40-ft. wide between curbs.

LOS ANGELES, Cal.—W. B. Armstrong, County Bridge Engineer, 12th floor, Hall of Records, is preparing plans for a bridge to be built on Pomona Blvd. to eliminate the dip just west of El Monte. The proposed structure will be of reinforced concrete slab on concrete abutments, with iron pipe railing. It will consist of two spans of 51-ft. each, with a 70-ft. road between curbs.

LOS ANGELES, Cal.—G. W. Jones, County Road Commissioner, has completed plans and specifications for the construction of a reinforced concrete arch culvert at the intersection of Mission Road and Granada Ave. in the City of Alhambra, Cash Contract No. 448. The plans were filed with the board of supervisors Oct. 14. Bids will probably be called within the next 10 days.

SHASTA COUNTY, Cal.—J. P. Brennan, Redding, at \$11,823.40 awarded contract by State Highway Commission, Sacramento, to construct steel stringer bridge with concrete decks across Fall River at Fall River Mills, consisting of six 19-ft. spans on concrete pile bents. Complete bids published in issue of October 6.

LOS ANGELES, Cal.—E. C. Eaton, County Flood Control Engineer, has completed plans for a concrete bridge to be built on Second St. over new channel of San Gabriel River east of Long Beach. The proposed bridge will be 393 ft. long and 62 ft. wide, located directly north of the new Ocean Blvd. bridge over the river outlet. The channel will not be excavated under the bridge until the construction work has been completed. Estimated cost, \$81,000.

SACRAMENTO, Cal.—County Engineer Chas. Detering, Jr., in a report to the county supervisors recommends M Street as the site for the proposed new bridge over the Sacramento river. The Sacramento City Planning Commission, in a recent report to the City Commission, recommended the

same location for the proposed structure. The project, according to present plans, will be financed by the city, the county and the state highway commission.

LOS ANGELES COUNTY, Calif.—Oberg Bros., 406 S. Main St., Los Angeles, at \$46,269.75 awarded contract by State Highway Commission, Sacramento, to construct reinforced concrete bridge across Topanga Creek, about five miles north of Santa Monica, consisting of two slab spans each approximately 29 ft. long.

OAKLAND, Cal.—E. T. Lesure, 87 Ross Circle, Oakland, at \$9814 awarded contract by county supervisors to construct a reinforced concrete bridge over County Road No. 6618, known as the Calaveras Road, involving:

- (1) 820 cu. yds. excav. for structures above elevation 245;
- (2) 100 cu. yds. do below elev. 245;
- (3) 440 cu. yds. concrete in struc.;
- (4) 105,000 lbs. reinf. steel in place;
- (5) remove existing bridge and clean site.

Complete bids follow:

| | |
|---------------------------------|-------------|
| E. T. Lesure, Oakland..... | \$ 9,914.00 |
| T. J. Doyle, San Francisco..... | 9,869.59 |
| J. B. Petersen, Oakland..... | 10,258.90 |
| Geo. Petersen, San Leandro..... | 10,416.80 |
| L. J. Immel, Berkeley..... | 10,805.00 |
| L. Sartorio, San Francisco..... | 11,585.00 |
| Nelson & Wallace, Escalon..... | 12,200.00 |
| J. E. Branagh, Piedmont..... | 12,295.00 |
| Helvig Const., Sebastopol..... | 12,290.00 |
| Sam Sciarino, San Jose..... | 13,337.50 |
| W. E. Lyons, Oakland..... | 14,394.00 |
| E. A. Hawkins, S. F..... | 14,452.50 |
| R. B. McNair, Oakland..... | 17,225.00 |

STOCKTON, San Joaquin Co., Cal.—T. C. Tunsen, Route 1, Box 1360, Modesto, at \$6984 awarded contract by county supervisors to construct two steel and timber bridges over Paradise Cut on Paradise Ave., 3 miles north of Banta, involving:

- (1) 618 cu. yds. concrete;
- (2) 1360 lin. ft. redwood piling;
- (3) 2648 b.m. ft. redwood timber;
- (4) 71,518 b.m. ft. Douglas fir timber;
- (5) 190 lin. ft. wire fabric;
- (6) 4.5 tons structural steel;
- (7) move steel span, 70 tons;
- (8) 192 lin. ft. steel cylinders.

Complete bids follow:

| | |
|--------------------------------------|--------|
| T. C. Tunsen, Modesto..... | \$6984 |
| M. Kaus, Stockton..... | 7485 |
| C. W. Wood, Stockton..... | 7500 |
| John Hachman, Stockton..... | 8400 |
| M. A. Jenkins, Sacramento..... | 8442 |
| E. J. Warner, Wintecia..... | 8600 |
| Carl Nelson, Stockton..... | 9449 |
| Allen Bros., Los Angeles..... | 9672 |
| Clinton-Stephenson Co., S. F..... | 9687 |
| J. E. Fitzsimmons, Lodi..... | 9980 |
| Bundesen & Lauritzen, Pittsburg..... | 9989 |
| Markwart Co., Sacramento..... | 10,981 |

LINCOLN COUNTY, Nev.—Bids will be asked shortly (to be opened about Dec. 14) by Nevada State Highway Commission, Carson City, to construct a steel and concrete bridge over the Meadow Valley Wash approximately one mile west of Calliente. Plans will be on file in the office of the U. S. Bureau of Public Roads, 461 Market St., San Francisco, about November 28 where they may be inspected by those interested or are obtainable from S. C. Durkee, state highway engineer, Carson City, Nev., on deposit of \$5, of which \$2.50 is returnable.

CAPITAL CITY TITLE COMPANY

J. C. PALEN,
Manager

914 Seventh Street

Sacramento :: California

YOLO COUNTY, Cal.—D. McDonald, 204 23rd St., Sacramento, and N. M. Ball, Box 596, Porterville, bidding together, at \$523,638.80 awarded contract by State Highway Commission to widen existing causeway about five miles west of Sacramento by constructing approximately 16,435 feet of timber trestle and a double leaf bascule span approximately 85 ft. long.

SEARCHLIGHT, Nev.—Searchlight Perry Co., has filed application with U. S. War Department (U. S. Engineer Office, Los Angeles) for permit to construct an overhead cableway across the Colorado river along the highway between Searchlight, Nev., and Kingman, Ariz., the cableway to have a clear height of 30 feet above high water.

SANDPOINT, Idaho.—Geo. L. Arnett & Son submitted low bid to Bonner county commissioners, Sandpoint, October 17, at \$27,140 to construct new Sandpoint bridge. The plans provide for the construction of 10,000 feet of timber pile trestle, the county to furnish the material and hardware. This work will include driving 2200 piling, 30 to 75 feet in length; framing of 3,000,000 F.B.M. lumber and the laying of 7100 sq. yds. of oiled gravel surfacing.

SACRAMENTO, Cal.—City commissioners of Sacramento & Sacramento county supervisors will recommend to the State Highway Commissioners the construction of a bridge over the Sacramento river at M Street. The cost is estimated at \$700,000 and will be borne by the city, the county and the state highway commission. County Engineer Chas. Deterding, Jr., in a recent report to the county supervisors favored the M St. site as did the Sacramento city council.

RENO, Nevada—City council plans election to vote bonds of \$12,000 to finance construction of four culverts over irrigation ditches within the city limits. A proposal for \$5,000 to finance repairs to the Scott St. bridge will also be submitted.

DREDGING, HARBOR WORKS & EXCAVATIONS

STOCKTON, Cal. San Joaquin Co., Cal.—A. J. Peterson, P. O. Box 1506, Bakersfield, awarded contract by U. S. Engineer Office, Sacramento, at \$1640 or 8.2c cu. yd. for moving back a section of levee, approx. 550 ft. long on the north bank of the San Joaquin River at the Stockton Country Club Point, 3.5 miles downstream from the city of Stockton, involving moving of approximately 20,000 cubic yards of material.

KNIGHTS LANDING, Yolo Co., Cal.—Daniel Contracting Co., 503 Market St., San Francisco, at \$4216 submitted low bid to U. S. Engineer Office, California Fruit Building, Sacramento, to furnish, deliver and place approximately 1,700 tons of rip-rap stone on the west bank of the Sacramento river at Russell Bend, about three miles downstream from Knights Landing, under two propositions, as follows:

- (1) 1,700 tons rip-rap stone, delivered and placed;
- (2) 1,700 tons rip-rap stone, in sizes from 20 to 200 lbs., delivered and placed (alternate).

Complete bids follow:

Daniel Contracting Co., San Francisco, 165 lbs., \$2.48 ton; total \$4216.

Basalt Rock Co., Napa, 170 lbs., \$3.60 ton; total \$6120.

Engineer's estimate, \$2.92; total \$3,496.

KNIGHTS LANDING, Yolo Co., Cal.—Daniel Contracting Co., 503 Market St., San Francisco, at \$4566 submitted low bid to U. S. Engineer Office, California Fruit Building, Sacramento, to furnish, deliver and place approximately 2,200 tons of rip-rap stone on the west bank of the Sacramento river at Roseberry Bend, about 5 miles downstream from Knights Landing, under two propositions, as follows:

- (1) 2,200 tons rip-rap stone, delivered and placed;
- (2) 2,200 tons rip-rap stone, in sizes from 20 to 200 lbs., delivered and placed (alternate).

Complete bids follow:

Daniel Contracting Co., San Francisco, 165 lbs., \$2.48 ton; total \$5466.

Basalt Rock Co., Napa, 170 lbs., \$3.60 ton; total \$7920.

Engineer's estimate, \$2.05; total \$4,447.

DOUGLAS COUNTY, Oregon.—As previously reported, Kern and Kibbe, 390 East Salmon Street, Portland, at approximately \$274,550 submitted low bid to U. S. Engineer Office, Portland, to construct 2500 ft. of rubble mound jetty on the south side of the Umpqua river in Douglas county, about 11 1/2 miles south of the river's mouth. The work includes the construction of a receiving wharf, approach tramway and a jetty tramway. Project involves

- (1) 150,000 tons of stone in place;
- (2) 116,000 lin. ft. piling;
- (3) 1500 M. PEM lumber;
- (4) 50,000 lbs. drift bolts;
- (5) 300 tons rails;
- (6) 22,000 lbs. railroad spikes;
- (7) 15,000 lbs. wire and ship spikes;
- (8) 32,000 lbs. machine bolts with nuts and washers;
- (9) 20,000 lin. ft. cable wire;
- (10) 200 piling points.

Complete list of bids follows:

| | |
|--------------------------|-----------|
| Kern & Kibbe..... | \$274,550 |
| Gilpin Const. Co..... | 290,800 |
| F. J. Kernan..... | 346,550 |
| Hausen Const. Co..... | 356,550 |
| Joplin and Eldon..... | 366,005 |
| Engineer's estimate..... | 392,930 |

SAN BERNARDINO, Cal.—City will expend approximately \$27,000 for flood control work in Devil Canyon, as an unemployment relief measure. The work will be under the direction of Wm. Starke, City Water Superintendent.

KNIGHTS LANDING, Yolo Co., Cal.—Daniel Contracting Co., 503 Market St., San Francisco, at \$4216 awarded contract by U. S. Engineer Office, Sacramento, to furnish, deliver and place approximately 1700 tons of rip-rap stone on the west bank of the Sacramento river at Russell Bend, about three miles downstream from Knights Landing.

KNIGHTS LANDING, Yolo Co., Cal.—Daniel Contracting Co., 503 Market St., San Francisco, at \$5466 awarded contract by U. S. Engineer Office, Sacramento, to furnish, deliver and place approximately 2200 tons of rip-rap stone on the west bank of the Sacramento river at Roseberry Bend, about five miles downstream from Knights Landing.

SACRAMENTO, Cal.—San Francisco Bridge Co., 503 Market Street, San Francisco, at \$12,500 awarded contract by U. S. Engineer Office, California Fruit Bldg., Sacramento, for remov-

ing and disposing of the remains of 12 vessels which burned and sank on August 28, 1932, and which are located in the west side of the Sacramento river between the 1 and M St. bridges. Complete bids were published in issue of October 10.

SACRAMENTO, Cal.—Daniels Contracting Co., 403 Market Street, San Francisco, at \$13,380 awarded contract by U. S. Engineer Office to furnish, deliver and place approx. 12,000 tons rip-rap stone at Chicerly Bend on the Sacramento river, about 4 1/2 miles below the city of Sacramento; the stone ranging in size from 15 lbs. to 200 lbs. Complete bids published in issue of Oct. 8.

SAN DIEGO, Cal.—Until 3 P. M., Nov. 10, new bids will be received by the U. S. Engineer, Major W. H. Langan, 751 St. Figueroa St., Los Angeles, for dredging at San Diego Harbor, involving the dredging of 470,000 cu. yds. material and removing same and placing on northerly side of North Island. Circular No. 33-8. The Standard Dredging Co. was previous low bidder, October 4, at 25c yd., which was more than 25 per cent above the engineer's estimate. The bids have been rejected.

LOS ANGELES, Cal.—Stanton-Reed Co., 816 W. Fifth St., Los Angeles, submitted low total bid to Los Angeles harbor department at \$10,808 to construct parapet wall, coping and curbing for Fish Harbor Mole.

IRRIGATION PROJECTS

VERDE RIVER PROJECT, Arizona.—Application to the Reconstruction Finance Corp. at Washington, D. C., for a \$16,000,000 loan to finance the proposed construction of dams, canals etc., for the Verde Project has been made by the Verde River Irrigation and Power District. A delegation, representing the state, the district, and civic organizations, is now on its way east to endeavor to secure early action on the loan.

D. A. Foley, appointed by Governor Hunt to represent the State of Arizona; E. W. Gene d'Allemand, Phoenix realtor; J. R. Price, Phoenix, and L. M. Laney, attorney for the Verde district, are members of the party.

Should the Reconstruction Finance Corporation approve the application of the Verde River Irrigation & Power District, nearly \$16,000,000 will be expended for labor and materials. The report shows that \$7,780,000 would be required for labor costs, and \$7,773,572 for materials, a total of \$15,553,572. Labor expenditures and purchases of material would cover a period of two years. Three dams, four power plants a net work of canals, a distributing system and substations would be built for the project. Construction of the Camp Verde dam would mean an expenditure of \$3,150,591, \$1,657,000 of which would be for labor, the report shows. The Horseshoe dam and the Bartlett dam would cost \$1,623,775 and \$30,350, respectively. Other items include construction of the Harris canal at a cost of \$1,479,333; McDowell-Faradise canal, \$2,102,300; New River reservoir, \$1,171,810, and the distribution system, \$1,400,000. Camp Verde power plant would cost \$634,200; Horseshoe power plant, \$225,745; power lines, \$960,000; reservoir lands, \$300,000, and substations, \$249,750. The district requires about 300,000 acre feet of water a year.

A \$13,000,000 bond issue was voted in 1923. Circumstances prevented the

sale of bonds until March, 1930, at which time the district successfully prosecuted a suit for the validation of the bonds and all matters pertaining to the legal status of the district. This suit was carried through the supreme court of Arizona. The validation proceedings were undertaken primarily to remove uncertainties created by the lapse of time since the bonds were voted. On account of conditions no attempt was made to sell the bonds until the organization of the Reconstruction Finance Corporation.

The office of the Verde River Irrigation and Power District is located at 802 Security Bldg., Phoenix. Burt C. Clingan, president; W. H. Bartlett, secretary.

ONTARIO, Ore.—Until Nov. 22, 10 A. M., under Spec. No. 539, bids will be received by U. S. Bureau of Reclamation, Ontario, Oregon, to construct tunnel No. 1 controlling works, Owyhee Project, Oregon-Idaho. Work is located near Nyssa and Adrian, Ore., on the Oregon Short Line Railroad, and involves:

- (1) 2,000 cu. yds. all classes excav.;
- (2) 3,128 cu. yds. concrete;
- (3) 500 lin. ft. drill grout and weep holes;
- (4) 365,000 lbs. reinf. bars (place);
- (5) 791,000 lbs. gates, gate hoists and misc. metal work, placing.

Specifications obtainable from U. S. Bureau of Reclamation at Washington, D. C., Denver, Colo., or Ontario, Ore. Proposal guarantee, 10%.

STREET LIGHTING SYSTEMS

SAN LEANDRO, Alameda Co., Cal.—City council contemplates installation of new ornamental street lighting system to replace the present system installed twelve years ago. City Mgr. A. E. Pelton will submit estimates of cost to the council shortly.

MACHINERY AND EQUIPMENT

OAKLAND, Calif.—Following firms submitted identical bids at \$3500 to East Bay Municipal Utility District, 512 16th Street, Oakland, to furnish one portable, gas engine driven air compressor, 310 cu. ft. per minute capacity.

- Ingersoll Rand Company.
 - Contractors' Machinery Company.
 - Harron, Rickard & McCone.
 - Edward R. Bacon Company.
 - Chicago Pneumatic Tool Co.
 - Rix Company, Inc.
 - Sullivan Machinery Company.
 - Eby Machinery Company.
 - Gardner-Denver Company.
 - Schramm, Inc.
- Following firms submitted alternate bids on used air compressor:
- Contractors' Machinery Co.....\$2900
 - Allied Fulcher Co.....1500
 - P. B. Hackley Equip. Co.....2100
- Bids held under advisement.

STOCKTON, San Joaquin Co., Cal.—Mack International Motor Truck Co., at \$14,700 awarded contract by city council to furnish general service motor fire truck.

WASHINGTON, D. C.—Until December 14, 12 noon, bids will be received by C. F. Adams, Secretary of the Navy Department, for constructing Cruiser No. 29. Specifications obtainable from the above office.

CAVITE, P. I.—Until 11 A. M., November 23, bids will be received by

Bureau of Yards and Docks, Navy Department, Washington, D. C., for a 10-ton overhead electric traveling bridge crane at the Navy Yard, Cavite, P. I.; Specification No. 7077. Plans obtainable on application to the Bureau or to the Commandant, Twelfth Naval District, 100 Harrison St., San Francisco, on deposit of a check or postal money order for \$10, payable to the Chief of the Bureau of Yards and Docks.

HUMBOLDT COUNTY, Cal.—K. N. Dewar, Eureka, at \$1.94 per hour operated, awarded contract by H. S. Conly, district engineer, State Highway Commission, Eureka, for rental of four 4-yd. dump trucks for not to exceed a total of 1800 hours, same to be used under power shovel and for other miscellaneous hauling anywhere in District No. 1. Complete list of bids follows:

- K. N. Dewar, Eureka.....\$1.94
- H. O. Beckstrom, Arcata.....2.00
- J. O'Shea, Inc., San Francisco.....2.05
- Elmer Edelmann, San Francisco.....2.10
- Ashrut Bros., Hopland.....2.20
- W. E. Sinclair, Miranda.....2.25
- Wm. Kern, Weott.....2.48
- S. A. Dotters, San Leandro.....3.00

WASHINGTON, D. C.—Until Nov. 29, 2 P. M., bids will be received by Commissioner of Lighthouses, Washington, D. C., for construction of the steel steam propelled tender Hemlock, and machinery. Specifications obtainable from Superintendent of Lighthouses, Customhouse, San Francisco.

SAN FRANCISCO.—Following bids received and awards recommended by U. S. Forest Service, Ferry Bldg., to furnish four hydraulic trailbladders, as follows:

- (1) two trailbladders installed on Caterpillar No. 50;
 - (2) one do, installed on Cletrac No. 50;
 - (3) one do, installed on Cletrac No. 35.
- Bidders follow
- Master Equipment Co., P. O. Box 517, Florence Branch, Los Angeles, (1) \$2,544, 2% net; recommended for award; (2) and (3) no bids.

Mack Woolridge Co., Inc., Los Angeles, (1) \$2,690, 1%; (2), \$1,968, 1%; recommended for award; (3) \$1,052.50, no discount.

Isacson Iron Works, Seattle, (1) \$2,740; (2) \$1,140, 7%; (3) \$1,060, 7% discount; recommended for award.

SACRAMENTO, Cal.—A. L. Young Machinery Co., 26 Fremont Street, San Francisco, submitted low bid to U. S. Engineer Office to furnish:

- (1) gasoline engine and centrifugal pump direct connected, 2-inch suction;
- (2) gasoline engine and centrifugal pump, 3-in. suction.

Complete bids follow:

- A. L. Young Machinery Co., S. F., (1) \$138.75; (2) \$231.25.
- Brown-Bevis Co., Los Angeles, (1) \$165; (2) \$395.
- Scott Machinery Co., (1) \$148.25; (2) \$340.50.
- Weber & Co., (1) \$144; (2) \$415.
- Schram, Inc., San Francisco (1) \$146 (2) \$420.

- Woodin & Little, San Francisco (1) \$145; (2) \$420.
- Kratz & McClelland, San Francisco, (1) \$155; (2) \$447.50.
- Edward R. Pacon Co., San Francisco, (1) \$167.75; (2) \$441.60.

- Jenison Machinery Co., San Francisco, (1) \$182; (2) \$415.
- Wesco-Chippewa Co., San Francisco (1) \$192.50; (2) \$432.50.

- Concrete Machinery & Supply Co., (1) \$183.50; (2) 4-in., \$475.

SACRAMENTO, Cal.—City Commission plans purchase of a motor street cleaning machine to replace equipment now in use. The purchase will be made from savings effected in the street department during 1932. Jas. Dean is city manager.

SACRAMENTO, Calif.—Following bids received by U. S. Engineer Office, Sacramento, to furnish and operate a dragline for 275 hours for shaping the banks and removing logs, etc., from the banks of the Sacramento river at Russell Bend, about three miles downstream from Knights Landing:

- Delta Dredging Co., Pittsburg, \$5.40 per hour; 40-ft. boom, ¾-cu. yd.;
- Ajax Dredging Co., San Francisco, \$4.50 per hour; 40-ft. boom, ¾-cu. yd.;
- Marshall & Stacy, \$7.50 per hour; 50-ft. boom, 2-cu. yd.;
- J. P. Breen, Sacramento, \$8.00 per hour; 50-ft. boom; 1-cu. yd.;
- Basalt Rock Co., Napa, \$8 per hour; 60-ft. boom; 1-cu. yd.;
- Memstreet & Bell, Marysville, \$8.75 per hour, 40-ft. boom; 1-cu. yd.

SAN FRANCISCO—Until November 28, 10 A. M., under Circular No. 328-33-89, bids will be received by Quartermaster Supply Officer, General Depot, Fort Mason, to furnish two 50-hp. gasoline tractors, complete for operation, 4-speed forward; 1 reverse, with short turning radius, timing roller bearings or equal; with cone shape wheels, with no projecting hub caps. To have extra heavy radiator guard for shunting and to protect front and sides. Steel coupler to couple automatically and capable of being released from driver's seat. To have approximately 2000 lbs. drawbar pull. To be equal and similar to Whitehead and Kales Co.'s heavy duty "Industrial Tuz." Approximate shipping weight 3215 lbs. Further information obtainable from above office.

RAILROADS

DENVER, Colo.—Contract for construction of the Dotsero Cutoff, involving the construction of 42 miles of railroad to connect the Denver & Salt Lake Railway west of the Moffatt Tunnel with the Denver & Rio Grande Western main line southwest of Denver, was awarded by the Denver and Rio Grande Western Railroad on a combination bid of the Utah Const. Co., Ogden; W. A. Bechtel Co., San Francisco, and Morrison-Knudsen Company Boise. The railroad with held announcement of the contract price with the explanation that it was considerably less than original estimates of \$90,000 a mile.

RESERVOIRS AND DAMS

SACRAMENTO, Cal.—Pacific Coast Construction Co., 1400 Front St., Sacramento, at \$10,547.90 awarded contract by U. S. Engineer Office, California Fruit Bldg., Sacramento, for placing three new retards and two additional bankheads and one 12-ft. extension on extension of existing retards along the banks of the Yuba River between the Mcran Ranch and Rubke Road.

TUCSON, Arizona—City proposed to build 5,000,000-gal. reservoir at 18th and Osborn Streets. Burns-McDonnell Smith Eng. Corp. has offered its services as consulting engineer. According to present plans the city will utilize city unemployed in the construction which will probably be done

with Reconstruction Finance Corporation funds.

BEVERLY HILLS, Los Angeles Co., Calif.—H. G. Klusman, Cucamonga, awarded contract by city council at \$19,390 to construct reinforced concrete underground reservoir at La Cienega Blvd. and Chariton Road. The other bids were:

| | |
|------------------------------------|----------|
| A. Carpenter (bond irregular)..... | \$19,579 |
| Clinton Const. Co..... | 20,380 |
| Bannister-Field Co., Ltd..... | 21,500 |
| Contracting Eng., Inc..... | 21,521 |
| Houghton & Anderson..... | 22,319 |
| Franklin F. Gridley..... | 23,300 |
| Associated Constructors, Inc..... | 24,800 |
| Floyd Shofner..... | 26,400 |
| Herbert M. Baruch Cor., Ltd..... | 26,980 |

BRISBANE, San Mateo Co., Cal.—Until November 7, 8 P. M., bids will be received by H. O. Royce, president of the Board of Directors of the Brisbane Public Utility District at Brisbane (previously reported to be received by E. B. Hinman, county clerk, which was in error) to construct a 12-inch sanitary sewer outfall. The project involves:

- (1) 3 burnt brick manholes complete with cast iron frames and covers;
- (2) 875 lin. ft. 12-in. vit. sewer pipe, trench lay and backfill, Inc. 30 cu. yds. pipe bet. Sta. 44+57.7 and 44+72.6;
- (3) 10 12x6-in. vyes;
- (4) 203 lin. ft. 12-in. cast iron pipe, trench lay and backfill, Sec. A;
- (5) 100 lin. ft. 12-in. c. i. pipe to be placed beneath Bayshore Highway, bored or trench, Sec. D;
- (6) 125 lin. ft. 12-in. c. i. pipe, trench, timber mat, lay, backfill, Sec. B;
- (7) 300 lin. ft. 12-in. c. i. pipe timber trestle, lay complete, Sec. C.

Certified check 10% payable to the district required with bid. Plans obtainable from Jas. S. James, county surveyor, in the Courthouse at Redwood City, on payment of \$2, not returnable.

PALO ALTO, Santa Clara Co., Cal.—City council contemplates election to vote bonds of \$90,000 to finance construction of sanitary sewer system for the city and to afford adequate facilities for Stanford University. It is also planned to install a sewage disposal system in the South Oregon Avenue Tract and that \$10,000 be transferred from the unappropriated balance of the city's general fund to finance this unit. J. F. Byxbee is city engineer.

PIPE LINES, WELLS, ETC.

LAKE COUNTY, Cal.—Until Nov. 2, 2 P. M., bids will be received by U. S. Bureau of Public Roads, 461 Market St., San Francisco, to furnish corrugated metal pipe (o.b. Hanks Camp, two miles east of Bartlett Springs, involving:

- (1) 378 ft. 12-in. cirru. metal pipe;
- (2) 573 ft. 15-in. do;
- (3) 742 ft. 18-in. do;
- (4) 112 ft. 24-in. do;
- (5) 222 ft. 30-in. do;
- (6) 28 ft. 36-in. do;
- (7) 56 ft. 42-in. do;
- (8) 54 ft. 48-in. do;
- (9) 6 coupling bands for 12-in. pipe;
- (10) 8 do for 15-in. pipe;
- (11) 2 do for 16-in. pipe;
- (12) 25 do for 18-in. pipe;
- (13) 5 do for 24-in. pipe;
- (14) 12 do for 30-in. pipe;
- (15) 1 do for 36-in. pipe;
- (16) 2 do for 42-in. pipe;
- (17) 2 do for 48-in. pipe.

Specifications obtainable from above office. C. H. Sweetser, district engineer.

SANTA CLARA, Santa Clara Co., Cal.—R. S. Davidson at \$3150 submitted low bid to city council to drill a 14-in. water well in connection with the new municipal water system. The complete bids follow:

| | |
|---|-----------|
| R. S. Davidson..... | \$3150.00 |
| John L. Smith, San Jose..... | 3286.50 |
| Harold E. Carson..... | 3360.00 |
| J. S. Robertson and Sons, San Jose..... | 3430.00 |
| F. Holtzhouse, Santa Clara..... | 3650.00 |
| Wilkinson & Co., Gilroy..... | 3899.00 |

Bids held under advisement.

MODESTO, Stanislaus Co., Calif.—City council has requested State Railroad Commission to appraise properties of the Modesto Gas Company with a view to purchasing for operation as a municipal project.

SEWERS AND SEWAGE DISPOSAL PLANTS

FRESNO, Fresno Co., Calif.—City Engineer and Commissioner of Public Works Jean L. Vincenz is preparing plans and estimates of cost for the proposed storm sewer extension program which will involve an expenditure of approximately \$225,000. The city will seek a loan from the Reconstruction Finance Corporation to finance the work.

ALAMEDA, Alameda Co., Calif.—N. Clark & Sons, 116 Natoma St., San Francisco, at \$1063.20 awarded contract by city council to furnish vitrified ironstone sewer pipe. Western Pipe & Steel Co., 444 Market St., San Francisco, at \$707.20 awarded contract to furnish galvanized part circle corrugated iron culvert, and United States Foundry, 1281 30th St., Oakland at \$515.30 awarded contract to furnish castings. Items involved are as follows:

- VITRIFIED IRONSTONE SEWER PIPE**
- (1) 220 lin. ft. 8-in. pipe;
 - (2) 220 lin. ft. 10-in. pipe;
 - (3) 280 lin. ft. 12-in. pipe;
 - (4) 280 lin. ft. 15-in. double strength pipe;
 - (5) 280 lin. ft. 18-in. do;
 - (6) 220 lin. ft. 21-in. do;
- GALVANIZED PART CIRCLE CORRUGATED IRON CULVERT**
- (7) 860 lin. ft. 24x8-in. No. 12 gauge;
 - (8) 500 lin. ft. 18x6-in. do;
 - (9) 60 lin. ft. 30x8-in. do;

- CASTINGS**
- (10) 72 22x22-in. hand hole frames and covers;
 - (11) 10 3 piece manhole frames and covers;
 - (12) 4 3 piece manhole frames and covers.

Delivered to Corporation Yard, north end of Grand St.

VITRIFIED SEWER PIPE

Complete bids follow:

| | |
|-----------------------------------|-----------|
| (A) N. Clark & Sons, S. F..... | \$1063.20 |
| (B) Gladding, McBean, S. F..... | 1095.00 |
| (C) California Pottery, S. F..... | 1184.20 |

Unit bids follow:

| | | |
|----------|--------|--------|
| (A) | (B) | (C) |
| (1)..... | \$.20 | \$.225 |
| (2)..... | .28 | .315 |
| (3)..... | .36 | .405 |
| (4)..... | .675 | .68 |
| (5)..... | .945 | .95 |
| (6)..... | 1.26 | 1.27 |

GALV. PART CIRCLE CULVERT

Complete bids follow:

| |
|--|
| (A) Western Pipe & Steel Co., San Francisco, \$707.20. |
| (B) Corrugated Culvert Co., (1 u m p sum), \$836.70. |
| (C) Golden State Culvert Co., \$1,481.20 |

Unit bids follow:

| | | |
|----------|-------|--------|
| (A) | (B) | (C) |
| (7)..... | \$.55 | \$1.12 |
| (8)..... | .40 | .88 |
| (9)..... | .57 | 1.30 |

Complete bids follow:

| | |
|--|----------|
| (A) United States Foundry..... | \$515.30 |
| (B) Phoenix Iron Works (lump sum)..... | 603.18 |
| (C) United Iron Works..... | 843.80 |

Unit bids follow:

| | | |
|-----------|--------|---------|
| (A) | (B) | (C) |
| (10)..... | \$5.65 | \$ 9.65 |
| (11)..... | 7.25 | 10.50 |
| (12)..... | 9.00 | 11.00 |

MISCELLANEOUS CONSTRUCTION

BREMERTON, Wash.—Bids will be asked at once by the Bureau of Yards and Docks, Navy Department, Washington, D. C., to construct a tunnel between Drydocks Nos. 1 and 2 at the Puget Sound Navy Yard for which an appropriation of \$100,000 has been made. It is expected the bids will be opened Nov. 15. Construction calls for a brick drainage tunnel with steel liner plate, approximately 380 ft. long, 6 ft. inside diameter, approximately 60 ft. below grade connecting Drydock No. 1 with pump well of Drydock No. 2. Plans are obtainable from the Bureau of Yards and Docks at Washington and will be on file with the Public Works Officer at the Navy Yard.

RENO, Nevada.—City council plans election to vote bonds of \$20,000 to finance construction of sewer extensions in various sections of the city.

MODESTO, Stanislaus Co., Calif.—City council has appropriated \$5,200 as its share of cost in the construction of storm sewers in Capital Heights Addition. The total cost is estimated at \$22,360, the remaining \$17,160 to be provided by property owners affected. Frank J. Rossi is city engineer.

WATERWORKS

LOS ANGELES, Cal.—Until 2 P. M., Nov. 29, bids will be received by the Metropolitan Water District, 306 W-Third St., Los Angeles, to construct San Jacinto Tunnel and appurtenant works of the Colorado River Aqueduct. The work is located in the vicinity of the towns of Cabazon, Banning, Beaumont and San Jacinto in Riverside County. The entire work consists of excavating and lining approximately 12.7 miles of water supply tunnel of about 16-ft. internal diameter, together with the construction of necessary adits or shafts and appurtenant works. The work has been divided into two portions, the East Portion and West Portion, San Jacinto Tunnel. Bidders may submit proposals upon the entire tunnel under Schedule No. 1, and upon either or both portions separately under Schedules No. 2 and No. 3.

Plans and schedules may be seen at room 1004, Metropolitan Water District Building, 306 West Third St., Los Angeles, or at the District's office at Beaumont. Complete set of plans and bidding data may be obtained upon payment of \$5.00, which will not be refunded.

Each proposal must be accompanied by a certified check for \$400,000 in case the bidder is willing to contract for the construction of the entire tunnel or for \$200,000 in case the bidder will contract for the construction of one portion of the tunnel but not both. The successful bidder will be required

to furnish labor and material bond in accordance with the California Statutes, and, in lieu of a faithful performance bond, pay the District the sum of \$150,000 in the event the contract is for the entire tunnel or \$75,000 in the event the contract is for one portion of the tunnel but not for both.

This tunnel will traverse the San Jacinto Mountains the west portal being approximately 3 miles due north of the town of San Jacinto while the east portal will be at a point about 2 miles south of Cabazon on the state highway between Banning and White-water. The total length of the tunnel will be 67,408 ft. in length, with a length of 40,000 ft. between the adits at Cabazon and Potrero, the latter approximately 2 1/2 miles east of the west portal. The Cabazon Adit will be 1500 ft. in length and the Potrero Adit 2600 ft. The contractor will have the option to build a shaft in lieu of the adit at the Potrero location. The shaft will be approximately 750 ft. in depth. The west portal elevation will be 1500 ft. with a drop in tunnel grade of triple naught 65. The tunnel will have a diameter of 16 ft. with a horse-shoe section with concrete lining using steel forms. The floor will be of concrete but will not be laid in the form.

The untimbered section of the tunnel will involve about 10.76 yds. excavation per lin. ft. and 2.8 cu. yds. concretes per lin. ft. The timbered section will involve 12.55 cu. yds. excavation and 3.39 cu. yds. concrete per lin. ft.

The approximate total quantities for the complete tunnel are as follows: 75,000 cu. yds. excavation, all rock; 153,000 cu. yds. concrete lining pneumatically placed behind steel forms; 2,250,000 B. ft. timber (supplied by contractor); 500,000 lbs. steel support (placing only); 500,000 lbs. reinforcing steel (placing only).

The work will require about 1 1/2 lbs. cement to the cubic yard. Each of the west and east portions will be approximately one-half of the complete tunnel, but there will be about 2500 ft. of no man's land in between the center termini.

The time for the completion will be 69 months.

The contractor shall construct and maintain his own camps and shall provide not less than 500 cu. ft. of space for each occupant and window space at least equal to one-eighth of the net floor space. The rates charged for meals shall not exceed \$1.15 per employee per day for meals and 25c per employee per day for lodging. Emergency hospitals are to be furnished by the contractor, same to be located at the entrance to each portal adit and shaft.

The contractor shall furnish his own water supply at each camp and may drill wells on District's land adjacent thereto, providing pumping plants, pipe lines, valves, hydrants, etc. Sanitary works and sewage disposal tanks shall be furnished by the contractor in accordance with directions of the District.

The District will furnish and the contractor pay for power at the rate of 1c per kw.-hr. provided the average power factor of the contractor's load is 95% or better; less than that, an additional charge of .04 of a mill per kw.-hr. will be made for each 1% by which the average power factor falls below 95%.

The District will furnish cement in all finished work, reinforcing steel, all

metal gates, gate frames, manhole frames and covers, and other similar metal work, and all permanent steel tunnel supports. Cement and permanent metal work for any shafts constructed shall be furnished by the contractor. All other materials shall be furnished by the contractor and all materials furnished by the contractor shall be hauled by him.

All machinery and materials used by the contractor shall be manufactured in the United States or territories thereof.

Forms for the adit and shaft lining may be of metal, of metal-lined timber or of smooth planed boards. Forms for the interior surface of the main tunnel, except the invert, shall be made of metal.

A complete list of the items to be bid on, follows:

SCHEDULE 1

Schedule of prices for the construction of the San Jacinto tunnel and appurtenant works.

Bids will be considered upon the following schedule and, as an alternative, upon Schedules 2 and 3, separately. No bids will be considered for parts of schedules. See also important notice following Schedule 3.

- (1) 215 lin. ft. excavation of East Portal adit;
- (2) 1500 lin. ft. excavation of Cabazon adit;
- (3) 2600 lin. ft. excavation of Potrero adit;
- (4) 185 lin. ft. excavation of West Portal adit;
- (5) 750,000 cu. yds. excavation in tunnel;
- (6) 200 cu. yds. excavation for tunnel enlargement;
- (7) 200 cu. yds. concrete in Cabazon adit;
- (8) 200 cu. yds. concrete in Potrero adit;
- (9) 195,000 cu. yds. concrete in tunnel;
- (10) 2250 M. ft. B. M. permanent timbers in tunnel;
- (11) 500,000 lbs. steel support in tunnel;
- (12) 250 cu. yds. Gunite coating of tunnel rock;
- (13) 200 connections for grouting;
- (14) 350 cu. yds. mixing and placing grout;
- (15) 500,000 lbs. placing reinforcing steel;
- (16) 270,000 cu. yds. overhaul of concrete aggregates;
- (17) 1000 ton miles hauling steel;
- (18) 150,000 tons miles hauling sacked cement;
- (19) 150,000 ton miles hauling bulk cement (Alternative to Item 18);

SCHEDULE 2

Schedule of prices for the construction of the East Portion of San Jacinto tunnel and appurtenant works

Bids will be considered separately upon the following schedule, which with Schedule 3 constitute an alternative to Schedule 1. No bids will be considered for parts of Schedules. See also important notice following Schedule 3.

- (1-E) 215 lin. ft. excavation of East Portal adit;
- (2-E) 1500 lin. ft. excavation of Cabazon adit;
- (3) Does not apply to East Portion;
- (4) Does not apply to East Portion;
- (5-E) 540,000 cu. yds. excavation in tunnel;
- (6-E) 100 cu. yds. excavation for tunnel enlargement;
- (7-E) 200 cu. yds. concrete in Cabazon adit;
- (8) Does not apply to East Portion;
- (9-E) 88,000 cu. yds. concrete in tunnel;

- (10-E) 750 M. ft. B. M. permanent timbers in tunnel;
- (11-E) 290,000 lbs. steel support in tunnel;
- (12-E) 100 cu. yds. Gunite coating of tunnel rock;
- (13-E) 75 connections for grouting;
- (14-E) 150 cu. yds. mixing and placing grout;
- (15-E) 100,000 lbs. placing reinforcing steel;
- (16-12) 70,000 cu. yds. miles overhaul of concrete aggregates;
- (17-E) 500 ton miles hauling steel;
- (18-12) 50,000 ton miles hauling sacked cement;
- (19-E) 50,000 ton miles hauling bulk cement (Alternative to item 18-E).

SCHEDULE 3

Schedule of prices for construction of the West Portion of the San Jacinto tunnel and appurtenant works.

Bids will be considered separately upon the following schedule, which with Schedule 2 constitutes an alternative to Schedule 1. No bids will be considered for parts of schedules. See also important notice following Schedule 3.

- (1) Does not apply to West Portion;
- (2) Does not apply to West Portion;
- (3-W) 2600 lin. ft. excavation of Potrero adit;
- (4-W) 185 lin. ft. excavation of West Portal adit;
- (5-W) 410,000 cu. yds. excavation in tunnel;
- (6-W) 100 cu. yds. excavation for tunnel enlargement;
- (7) Does not apply to West Portion;
- (8-W) 300 cu. yds. concrete in Potrero adit;
- (9-W) 107,000 cu. yds. concrete in tunnel;
- 10-W) 1500 M. ft. B. M. permanent timbers in tunnel;
- (11-W) 300,000 lbs. steel support in tunnel;
- (12-W) 150 cu. yds. Gunite coating of tunnel rock;
- (13-W) 125 connections for grouting;
- (14-W) 200 cu. yds. mixing and placing grout;
- (15-W) 400,000 lbs. placing reinforcing steel;
- (16-W) 200,000 cu. yds. mi. overhaul of concrete aggregates;
- (17-W) 1000 tons miles hauling steel;
- (18-W) 100,000 ton miles hauling sacked cement;
- (19-W) 100,000 ton miles hauling bulk cement (Alternative to Item 18-W).

NOTICE

Schedule 1 is to be used for the unit prices at which the bidder is prepared to execute a contract for the entire tunnel. Schedule 2 is to be used for the unit prices at which the bidder is prepared to execute contract for the East Portion. Schedule 3 is to be used for the unit prices at which the bidder is prepared to execute contract for the West Portion.

Furthermore, the bidder is required, in case he bids on both Schedule 2 and Schedule 3, to fill in the following:

"The bidder ('will' or 'will not') contract for the construction of the entire San Jacinto tunnel and appurtenant works, taking in full payment therefor the prices separately named under Schedules 2 and 3.

REDWOOD CITY, San Mateo Co., Cal.—U. S. Cast Iron Pipe & Foundry Co., Monadnock Bldg., San Francisco, awarded contract by City Water Department to furnish 10,000 lin. ft. 6-in. cast iron water pipe at \$44 lin. ft., and 1,000 lin. ft. 4-in. cast iron water pipe at \$304.

ORDWAY, Colo.—Stockholders of the Twin Lakes Reservoir and Canal Co., Ordway, have voted in favor of borrowing \$2,000,000 from the Reconstruction Finance Corporation to construct a 3½-mile tunnel to divert water from Roaring Fork to the Arkansas river in Colorado. The R. F. C. has already assured that it will grant the loan, to be liquidated by water rentals. R. J. Tipton, 1913 Elm St., Denver, is consulting engineer.

PALO ALTO, Santa Clara Co., Cal.—Pittsburgh-Des Moines Steel Co., Rialto Bldg., San Francisco, awarded contract by Supervising Superintendent of Construction, U. S. Veterans' Hospital, Palo Alto, at \$6750, to erect steel water tank and tower at Palo Alto. The tank will have a capacity of 100,000 gallons. Work will include the furnishing of all labor and performing all work required for the fabrication and erection of tank and tower, on existing footings, including piping, valves and appurtenances. Bids were opened on September 26.

NAPA, Napa Co., Calif.—United States Pipe & Foundry Co., Monadnock Bldg., San Francisco, at \$2,379.70 awarded contract by city council to furnish 3200 lin. ft. 8-in. cast iron pipe and fittings for the same. Complete bids published in issue of October 5.

SAN FRANCISCO.—C. A. Bruce & Sons, Pleasanton, at \$13,860 awarded contract by Public Utilities Commission to construct protection work for the Upper Alameda Creek Diversion Dam and Tunnel for the San Francisco Water Department under Spec. No. 23, involving:

- Excavation for outlet struc., \$2 cu. yd.
- Excavation for apron exten., \$.85 cu. yd.
- Concrete for outlet struc., \$20 cu. yd.
- Concrete for apron exten., \$.8 cu. yd.
- Reinf. steel in place, \$.03½ lb.
- Furnish and install 6-in. drains, \$.50 lin. ft.
- Furnish and install misc. metal work, \$.15 lb.
- Cobble stone gutters, \$.40 sq. ft.
- Backfill for outlet struc., \$1 cu. yd.
- Grading, \$.75 cu. yd.
- Sand for concrete work, \$.35 cu. yd.
- Galv. iron railings, \$4 lin. ft.

SACRAMENTO, Cal.—Representatives of the Municipal Power Development Co. of Minneapolis, Minn., are conferring with directors of the Sacramento Municipal Utility District on a plan to construct the Silver Creek project through the issuance of revenue bonds. The project would provide Sacramento with a mountain water supply. In general the proposal of the Municipal Power Development Company is to finance the project by the issuance of bonds secured by the revenues of the project. The company would take over the bonds but the project would be constructed entirely under local supervision. Albert Givan of Sacramento is chief engineer for the Sacramento Municipal Utility District.

SAN JOSE, Santa Clara Co., Cal.—City council will start proceedings at once to purchase the privately owned water system of the San Jose Water Works for operation as a municipal project. Financial reports of the water company filed with the State Railroad Commission are now being investigated by the council with a view to determining the earnings of the system. Wm. Popp is city engineer C. B. Goodwin, city manager.

SAN JOSE, Santa Clara Co., Cal.—Pittsburgh-Des Moines Steel Co., Rialto Bldg., San Francisco, at \$5645 awarded contract by county supervisors to erect 75,000-gal. tank and frame for county plans-house on the Millitas Road; tank to be similar to that now located at this county hospital. Only other bid submitted by Chicago Bridge and Iron Co., San Francisco, at \$5490. Specifications of Pittsburgh Des Moines Steel Co. agreed more nearly with those of the County Surveyor.

SAN FRANCISCO.—Healy - Tibbitts Const. Co., 64 Pine Street, at \$7,170 awarded contract by Department of Public Works to construct temporary pipe outlet on piling for Baker Street storm water outlet sewer. Complete bids published in issue of Oct. 15.

AIEA, T. H.—Hawaiian Electric Co. Kings and Richards Streets, Honolulu, awarded contract by Bureau of Yards and Docks, at \$5024, for pump and piping to be installed at Aiea, T. H.

SAN FRANCISCO.—Bids scheduled to be opened October 20 by the Public Utilities Commission were returned to bidders unopened and a new call for bids will be issued for hauling sand and gravel in the Coast Range Division of the Hetch Hetchy Aqueduct, H.C.H.W.S., under Contract No. 139.

Similar action was taken in connection with a bid call for laying 6- and 8-in. cast iron water mains for the Municipal Water Department. The Commission failed to provide for incorporation of "prevailing wage" rates in connection with the bid calls.

ALAMEDA, Alameda County, Cal.—Western Pipe & Steel Co., 441 Market St., San Francisco, at \$57,600 awarded contract by U. S. Bureau of Public Roads to furnish f.o.b. Government Island, Alameda (foot of Dennison St., Oakland):

- (1) 36 lin. ft. 18-in. corrug. galv. metal pipe (three 12-ft. sections);
- (2) 36 lin. ft. 15-in. do;
- (3) 36 lin. ft. 8-in. perf. corrug. galv. metal pipe (3 12-ft. sections).

Complete bids follow:
 (A) Western Pipe & Steel Co., \$57.60.
 (B) Calif. Corrug. Culvert Co., Berkeley, \$60.48.

Unit bids follow:

| | (A) | (B) |
|----------|-------|-------|
| (1)..... | \$.63 | \$.63 |
| (2)..... | .55 | .58 |
| (3)..... | .42 | .41 |

BREMERTON, Wash.—City Engineer C. E. Casad is making surveys to improve water system, involving:
 (1) supply line replacements involving 3,000 ft. 24-in. c. i. or wood pipe;
 (2) outlying district system involving 4,500 f. 4-in. c. i. or wood pipe.

SAN FRANCISCO.—Until Nov. 7, 3 P. M., under Bid No. 918, bids will be received by T. A. Brooks, city purchasing agent, 270 City Hall, to furnish flake calcium chloride for the Hetch Hetchy Project. Surety bond of 25% of the contract price will be required of successful bidder. Specifications obtainable from above office.

KIRKLAND, Wash.—Consulting Engineers Gardner, Gardner & Fischer, Arctic Bldg., Seattle, preparing plans for emergency construction in connection with municipal water plant, all work to be undertaken by day labor. Project involves:
 (1) 1,500 ft. 8-in. c. i. pipe in 2nd St. from 15th to 12th Avenues.

- (2) 2,550 ft. 8-in. c. i. pipe from 250 ft. south of Kirkland Ave. to south city limits.
 - (3) 6,317 ft. 8-in. wood main in 10th Ave. from 2nd to 5th.
- Walter Wittenmeyer is city clerk.

BEVERLY HILLS, Los Angeles Co., Cal.—Submersible Motorpump Co., Ltd., 3040 E. Slauson Ave., Los Angeles, awarded contract by the city council at \$5329 to furnish and install three submerged type turbine pumps for the proposed water reservoir to be built at La Cienega Blvd. and Chariton Rd., Salishbury, Bradshaw & Taylor, 714 W. 10th St., Los Angeles, consulting engineer. The other bids were:
 Layne & Bowler Corp., \$6333;
 Winthroath Pumps, Ltd., \$584.50.

SAN DIEGO, Cal.—Baltimore Tubing Co., by Wm. Breeden, 408 St. Spring St., Los Angeles, awarded contract by city council at prices shown below for furnishing copper tubing, as follows:

- (1) 20,000 ft. ¾-in. copper tubing in 60-ft. lengths;
- (2) 2000 ft. 1-in. copper tubing in 60-ft. lengths.

Prices f. o. b. cars or trucks at the City Warehouse, California and Grape Sts., San Diego. The prices were: (1) 9.2c ft., (2) 11.6c ft.

LOS ANGELES, Cal.—Contracts for furnishing gate valves, specifications No. 2917, awarded by City Purchasing Agent follow:

- Items (1), (2) and (3) to Hacker Pipe & Supply Co., at \$6340.
- Item (1) to Rich Mfg. Co., Ltd., at \$1500.

- The items are:
 (1) 500 6-in. hub end gate valves;
 (2) 200 4-in. screw end gate valves;
 (3) 100 6-in. screw end gate valves;
 (4) 100 6-in. screw end gate valves.

SAN DIEGO, Calif.—Western Metal Supply Co., San Diego, submitted low bid to (and will be awarded the contract by) city purchasing agent at \$1409 for furnishing one 30x30-in. gate valve.

Crane Co. submitted low bid for one 6-in. extra heavy valve at \$395 and the award recommended.

Bids were taken as follows:
 (1) One 30x30-in. cast iron or cast steel sliding gate with bronze or stainless steel stem, and equipped with bronze bushed cast iron stem guides, torsion guide and roller bearing two-speed operating stand with indicator.
 (2) One 6-in. No. 4067E extra heavy Crane Special brass, flanged ends, non-rising stem wedge disc gate valve or equivalent, and with a 32-in. high indicating type floor stand and 1½-in. round rod brass extension stem measuring 145 ft. from center line of gate valve to floor line, complete with couplings and shaft boxes, stem, guides and supports, and all required nuts, bolts, washers and miscellaneous items. Delivered f.o.b. San Diego.

The bids were:
 Western Metal Supply Co.—Bidding on Chapman valves—(1) (a) \$1409; (b) \$1562; (c) \$1861; (d) \$2014; (2) \$368.70.
 Crane Co.—(2) \$395.00.
 Machinery Pumps & Supply Co., San Diego—Bidding on Michigan valves—(1) (a) \$1513; (b) \$1645; (c) \$2370; (d) \$2505.
 Pelton Water Wheel Co., San Francisco—(1) (a) \$2012; (b) \$2049; (c) \$2,172; (d) \$2216.

Southern Machinery Co., San Diego—Bidding on valves manufactured by Vernon Tool Co.—(1) (a) \$2689.20; (b) \$2751.60; (c) \$2991; (d) \$3052.80.

LOS ANGELES, Cal.—Pacific States Cast Iron Pipe Co. awarded contract by Thos. Oughton, City Purchasing Agent, at \$1106.25 to furnish cast iron water pipe during a five months' period beginning with date of contract, f.o.b. cars or trucks, Department of Water and Power warehouse, 410 Ducommun St., Los Angeles, Spec. No. 2916, involving:

- (1) 9075 pieces (45,375 lin. ft. laying length) type A, 2-in. bell and spigot pipe,
- (2) 525 pieces (2625 lin. ft. type B do.

ALAMEDA, Alameda Co., Calif.—F. W. Snook Co., 596 Clay St., San Francisco, awarded contract at \$10,650 for construction of a water supply system and sanitary sewer system at Benton Field Air Depot, Alameda. Complete bid listing reported in issue of September 29.

SAN FRANCISCO.—A. W. Kitchen, 110 Market St., San Francisco, at \$6,139 submitted low bid to Department of Public Works to construct temporary pipe outlet on piling for Baker St. storm water outlet sewer, involving:

- (1) 2180 ft. furnish and deliver piles;
 - (2) furnish and place pipe.
- Complete bids follow:
- | | |
|-----------------------------|-------------|
| A. W. Kitchen | \$ 6,139.00 |
| (B) MacDonald & Kahn | 6,845.00 |
| (C) M. B. McGowan | 7,152.00 |
| (D) Healy-Tibbitts Co. | 7,170.00 |
| (E) Duncanson-Harrelson .. | 12,191.60 |
- Unit bids follow:
- | | |
|-----------|--------------|
| (1) | (2) |
| (A) | \$.50 5,049 |
| (B) | 1.00 4,665 |
| (C) | 1.50 3,883 |
| (D) | .35 5,099 |
| (E) | .82 10,404 |

Bids held under advisement.

SAN FRANCISCO.—Until Nov. 7, 3 P. M. under Bid No. 922, bids will be received by T. A. Brooks, city purchasing agent, 270 City Hall, to furnish brass underground fittings for the San Francisco Water Dept. Specifications obtainable from above office.

HILLSBORO, Ore.—City council contemplates construction of municipal water system; estimated cost, \$300,000. Preliminary surveys have been made by Barr and Cunningham, consulting engineers, Spalding Building, Portland. A proposal authorizing the council to proceed with plans for such a system will appear on the November 8 ballot.

SOLEDAD, Monterey Co., Cal.—City votes bonds of \$27,000 to finance purchase and improvement of the privately owned water system to operate as a municipal project. C. C. Kennedy, consulting engineer, Call Bldg., San Francisco, is engineer for the district.

SUMNER, Wash.—Until Nov. 14, 7:30 P. M., bids will be received by Municipal Water Department to furnish and deliver Class 150 cast iron pipe, as follows:

- (1) 1,300 ft. 12-in. min. 46-in.
- (2) 1,600 ft. 8-in. min. 38-in.
- (3) 500 ft. 6-in. min. 26-in.

To be delivered f.o.b. trench or pipe yard within city limits

KINGSBURG, Fresno Co., Cal.—Until November 7, 7:30 P. M., bids will be received by C. R. Magnuson, city clerk, to furnish and deliver:

- (1) 1,160 ft. 6-in. hub end or bell and spigot c. i. pipe;
- (2) 1,980 ft. 8-in. do;
- (3) 6x8x4 tee hub end or bell and spigot connection;

- (4) 3 8x8x4 crosses do;
- (5) 1 6x6x8 tee do;
- (6) 8x8x8 tee do;
- (7) 8x8x6 tee do;
- (8) 1 6x6x8 tee do;
- (9) 4x4x6 tee with 4-in. connections for standard screw connection and six connection to be hub end or bell and spigot;
- (10) 2 6x6x6 tee hub end or bell and spigot connection;
- (11) 1 6-in. ell do;
- (12) 1 45-degree 8-in. ell do;
- (13) 7 4-in. gate valves do;
- (14) 3 8-in. gate valves do;
- (15) 2 6-in. gate valves do.

Cast iron pipe shall be "Class 150" with hub end or bell and spigot connections as De Lavaud cast iron pipe or the equivalent.

All pipe to be coated inside and outside with a coat of tar pitch varnish. Fittings to withstand working water pressure up to 175-lbs. All bids to be f.o.b. Kingsburg.

Certified check 10% payable to city clerk required with bid.

MODESTO, Stanislaus Co., Calif.—City council contemplates the extension of water mains in H St. Frank J. Rossi is city engineer.

STREETS AND HIGHWAYS

COCONINO AND GILA COUNTIES, Ariz.—Bids will be asked by U. S. Bureau of Public Roads, 461 Market St., San Francisco, C. H. Sweetser, District Engineer, for 7.1 mi. Section D of Route 10, the Pine-Winslow National Forest Highway, Coconino and Tonto National Forests, from Sta. 0-4-00 near the top of Strawberry Hill in Coconino County, in a southerly direction to Sta. 364-1-60, a connection with the Clarkdale-Globe Highway in Gila County. Work will consist of clearing, grading and installation of necessary drainage structures. Those interested are advised to examine the proposed work at once. Mr. Branman located at Pine, Arizona, and in charge of the survey will show prospective bidders over the line.

LOS ANGELES, Cal.—Cswald Bros. awarded contract by H. E. Russell, city purchasing agent, to furnish (1) 2200 tons of asph. wearing surface at \$1.79 per ton, and (2) 2000 tons asphaltic base at \$1.74 per ton. To be delivered in trucks along Anaheim-Telegraph Road bet. San Gabriel River bridge and Norwalk - Puente Mills Road. Spec. No. 4397.

PORTLAND, Ore.—November 8 is the date set by the city commission to vote bonds of \$195,000 to finance the purchase of rights of way in connection with the Fourth Street Project. The city council and State Highway Commission are agreed that the city secure a 100-ft. right of way and grade it before calling on the state for trucks, drainage, retaining walls, intersecting grades and other work. All this will be taken care of, if the \$195,000 bond issue is passed. Multnomah County, who will also take part in the project, will grade outside the city limits. Approximately \$565,000 will be spent for hand labor on this work.

ARIZONA STATE—Pearson & Dickerson, 4485 Cypress Ave., Riverside, at \$102,879.68 awarded contract by the State Highway Commission, Phoenix, for highway construction on the Ashfork-Kingman Highway, E-80-A (A. F. E. 6624) consisting of placing sub-grade stabilizer and oil processing by the road mix method of approximately

sixteen miles of roadway near Peach Springs, Ariz., and is to be completed on or before January 15, 1933.

ARIZONA STATE.—L. E. Dixon Co. 609 S Grand Ave., Los Angeles, awarded contract by State Highway Commission, Phoenix, at \$103,360.81 for highway construction on the Blythe-Wickenburg Highway, E-95-A and E-95-B, which extends from Wickenburg west approximately 24 1/2 miles, and consists of the construction of road grade, the placing of subgrade stabilizer and oil processing by the plant mix method (or alternate road mix) and is to be completed on or before February 15, 1933.

SANTA MARIA, Santa Barbara Co., Cal.—Until 7:30 P. M., Nov. 7, bids will be received by city council to improve Orange St. from Miller St. to Airport Ave. by grading and paving with 2-course asphalt concrete, 4-in. thick, and the construction of concrete sidewalks, 18-inch gutters and curbs. Plans obtainable from city clerk, Flora A. Rivers, on deposit of \$10. Certified check or bond, 10%. York Petersen, city engineer.

PATTON, San Bernardino Co., Cal.—Until November 8, 2 P. M., bids will be received by the State Department of Public Works, Division of Architecture, Sacramento to construct roads within the State Hospital grounds, totaling about 2.9 miles in length, to be surfaced with bituminous treated crushed gravel or stone. Plans are obtainable from the above office.

LOS ANGELES, Cal.—Jahn & Bressi Constr. Co., Inc., Lane Mortgage Bldg., Los Angeles, at \$280,209 submitted low bid to State Highway Commission, to pave with Portland cement concrete 12.1 mi. between Piru Creek and Gorman, involving:

- (1) 10,000 cu. yds. excav. (slide removal);
- (2) 100,000 sq. yds. overhaul;
- (3) 215,000 sq. yds. subgrade for pave.
- (4) 45,600 cu. yds. Class "A" cement conc. (pave.);
- (5) 990,500 lbs. bar reinf. steel (pave.);
- (6) 550 timber guide posts;
- (7) 206 timber culvert markers;
- (8) 641 sta. finishing roadway.

Complete bids follow:

- (A) Jahn & Bressi, Los Angeles, \$280,209.
- (B) Eschich Brothers, Torrance, \$285,288.66.
- (C) E. H. Bashaw, Los Angeles, \$290,758.50.
- (D) Griffith Co., Los Angeles, \$294,515.
- (E) C. W. Wood, Stockton, \$317,453.

PIERCE COUNTY, Wash.—Bids will be asked during the winter by W. H. Lynch, district engineer, U. S. Bureau of Public Roads, Portland, Oregon, to construct the White River Road in Mt. Rainier National Park in Pierce County. The length of the project to be constructed or improved is approximately 1.7 miles extending from Sta. 77x325 to Sta. 867x64.6. The work consists of grading a standard 30-ft. road-bed. The survey has been made and plans and specifications will be prepared during the winter. Contractors are requested to examine the line of survey before winter conditions prevent. An engineer is located at Enumclaw, Wash., and will explain the proposed construction to interested contractors.

STOCKTON, San Joaquin Co., Cal.—Until November 7, 11 A. M., bids will be received by Eugene D. Graham

county clerk, for grading Paradise Ave. (California Irrigated Farms Road No. 567), located approximately three miles north of Banta. Project involves 12,500 cu. yds. grading, imported borrow.

Certified check or bond, 10% payable to Chairman of the Board of Supervisors required with bid. Specifications obtainable from Julius Manthey, county clerk.

LOS ANGELES COUNTY, Cal.—Oswald Bros., 366 E 58th St., Los Angeles, at \$127,053.65 submitted low bid to State Highway Commission, Sacramento, to grade and pave with Portland cement concrete 4.3 miles bet. Mountain View Road and Orange Ave. Involving:

- (1) 228 sta. clear and grub right-of-way;
- (2) 11,000 cu. yds. rdwy. excav. without class;
- (3) 75,600 sta. yds. overhaul;
- (4) 25,000 cu. yds. imp. borrow;
- (5) 3770 cu. yds. struc. excav.;
- (6) 68,090 sq. yds. subgrade for pave. some. (pave.);
- (7) 14,400 cu. yds. Class "A" cement concrete (struc.);
- (8) 1157 cu. yds. Class "A" cement concrete (struc.);
- (9) 8 cu. yds. Class "E" cem. conc.;
- (10) 469,500 lbs. bar reinf. steel (pave. and struc.);
- (11) 100,900 lbs. misc. iron and steel (struc.);
- (12) 150 lin. ft. 24-in. corr. metal pipe;
- (13) 60 lin. ft. 36-in. do;
- (14) 1025 M gal. water (bank);
- (15) 2900 lbs. heavy fuel oil;
- (16) 100 bu. ft. solid timber guard rail;
- (17) 32 culvert markers;
- (18) 223 sta. finish roadway;
- (19) 54 monuments complete in place. State will furnish corrugated metal pipe.

Complete bids follow:

- (A) Oswald Bros., Los Angeles, \$127,053.65.
- (B) Griffith Co., Los Angeles, \$128,932.50.
- (C) Kovacevich & Price, South Gate, \$130,370.75.
- (D) J. E. Haddock, Pasadena, \$133,679.00.
- (E) Hall Johnson Co., Alhambra, \$148,337.50.
- (F) Weymouth Crowell Co. and E. P. Watson, Jr., Los Angeles, \$158,705.15.

OAKLAND, Cal.—City Engineer Walter N. Frickestad has completed specifications and bids will be asked in the immediate future by W. W. Chappell, city clerk, to improve a portion of 22nd St., bet. Telegraph Ave. and Broadway, involving:

- (1) 9575 sq. ft. grading;
- (2) 213 lin. ft. conc. curb with steel guard;
- (3) 215 lin. ft. conc. curb without guard;
- (4) 7544 sq. ft. 6-in. conc. base pave with 2-in. asph. conc. surface;
- (5) 1674 sq. ft. cement sidewalk;
- (6) 1 duplex light standard.

The above quantities concern the city's portion of the work. Other units are to be undertaken under private contract.

SAN FRANCISCO.—L. Sartorio, 1817 Filbert St., at \$84.73 awarded contract by Department of Public Works to improve Joost Ave. bet. Baden and Congo Streets, involving:

- (1) 24½ armored conc. curb, 7.60; \$1;
- (2) 95 ft. 6-in. V. C. P. side sewer, \$1;
- (3) 306 cu. ft. Class E conc. pave, \$18

ARIZONA STATE.—L. E. Dixon Co., 609 S Grand Ave., Los Angeles, submitted low bid to the State Highway

Commission, Phoenix, October 13, at \$168,360.81 for highway construction on the Blythe-Wickenburg Highway, E-28-A and E-28-B, which extends from Wickenburg west approx. 24½ miles, consists of the construction of road guard, the placing of subgrade stabilizer and oil processing by the plant mix method (or alternate road mix) and is to be completed on or before February 15, 1933.

ARIZONA STATE.—Pearson & Dick submitted low bid to State Highway Commission, Phoenix, Ariz., Oct. 13, at \$192,579.68 for highway construction on the Ashfork-Kingman Highway, E-30-A (A.P.E. 6624) consisting of placing of subgrade stabilizer and oil processing by the road mix method of approximately 16 miles of roadway near Peach Springs, Arizona, and is to be completed on or before January 15, 1932.

LOS ANGELES, Cal.—Oswald Bros., 366 E 58th St., Los Angeles, submitted low bid to County Supervisors, Oct. 17, at \$43,336.66 to improve San Pedro St. from 123th St. southerly to Riverside-Redondo Blvd., involving in the main:

- 2500 cu. yds. excavation (including shaping);
- 234,800 sq. ft. 8x6x6x3-in. concrete pavement;
- 216,936 sq. ft. 5-in. disintegrated rock base;
- 81,318 sq. ft. 4-in. disintegrated rock with oil and rock wearing surface.

LOS ANGELES, Cal.—Oswald Bros., 366 E 58th St., Los Angeles, awarded contract by Supervisors at \$43,336.66 to improve San Pedro St. from 123th St. southerly to Riverside-Redondo Blvd., involving in the main:

- 2500 cu. yds. excav. (incl. shaping);
- 234,800 sq. ft. 8x6x6x3-in. conc. pave;
- 246,930 sq. ft. 5-in. disintegrated rock base;
- 81,318 sq. ft. 4-in. disintegrated rock with oil and rock wearing surf.

MONTEREY COUNTY, Cal.—L. J. Briscoe Co., Arroyo Grande, at \$5131 submitted low bid to District Engineer, State Highway Commission, San Luis Obispo, to improve 10.1 miles bet. two miles north of Salinas and the north boundary, portions of existing gutters to be paved with bituminous macadam surfacing, involving:

- (1) 1490 tons broken stone (bit. mac.);
- (2) 45 tons grade E asphalt.

Complete bids follow:

- L. J. Briscoe Co., (1) \$2.90; (2) \$18; total \$5131.
- Peninsula Paving Co., \$2.85; \$21; \$5-191.50.

M. J. Bevanda, \$3.25; \$25; \$5967.50. Granite Const. Co., \$3.90; \$26; \$6391. W. A. Dontanville \$5.25 \$30; \$8872.50.

ELDORADO COUNTY, Cal.—Force Construction Co., 76 Bellevue Ave., Piedmont, at \$132,529 submitted low bid to U. S. Bureau of Public Roads, San Francisco, for 3,555 ml. grading Section E of Route 32, Placerville-Lake Tahoe National Forest Highway, Eldorado National Forest. Bids were held under advisement. Project involves:

- (1) 36 acs clearing;
- (2) 204,500 cu. yds. unclass. excav.;
- (3) 1860 cu. yds. unclass. excav. struc.
- (4) 227,000 sta. yds. overhaul;
- (5) 2,94 ml. finish earth graded road;
- (6) 4,000 M. gals. watering;
- (7) 76 cu. yds. cement rubble masonry;
- (8) 116 lin. ft. relay salvaged corr. metal pipe;

- (9) 2396 lin. ft. 18-in. corr. metal pipe;
- (10) 812 lin. ft. 24-in. do;
- (11) 280 lin. ft. 30-in. corr. metal pipe;
- (12) Maintain exist. road—Eng. \$2000;
- (13) 371 lin. ft. remove and salvag. corr. metal pipe;
- (14) 1160 lin. ft. move and reset fence;
- (15) 995 lin. ft. 1-in. galv. iron pipe;
- (16) 232 lin. ft. 2-in. do;
- (17) 160 lin. ft. vit. clay sewer pipe;
- (18) 27,500 gals. apply Govt. furnish fuel oil;
- (19) 12 right-of-way monuments;
- (20) Spring protection and septic tank adjustments—\$600;
- (21) 70 lin. ft. 24-in. 12-ga. corr. metal pipe.

Complete bids follow:

- Force Constr. Co., Piedmont, \$132,529.
- Hemstreet & Bell, Marysville, \$139,177.
- Delta Dredging Co., Pittsburg, \$13,185.
- Larsen Bros., Cal., \$146,971.
- Frank C. Caffe, San Rafael, \$148,140.
- Baker & Taylor, Ch-stér, \$148,505.
- Chigris & Sutcos, San Francisco, \$149,291.
- C. W. Wood, Stockton, \$158,776.
- Granfield, Farrar & Carlin, San Francisco, \$166,564.
- Fredrickson & Watson, Oakland, \$163,028.
- M. J. Bevanda, Stockton, \$168,673.
- Youldall Conser, Co., S. F., \$178,041.
- Isbell Const. Co., Carson City, Nev., \$180,650.
- Meyer Rosenberg, S. F., \$189,236.
- Engineer's estimato, \$142,499.

LOS ANGELES, Cal.—Until 10 A. M., November 9, bids will be received by general manager Los Angeles Harbor Department, Room 112, City Hall, for bituminous pavement for Fish Harbor Mole and approach; Specification No. 899. The work includes grading and paving with 7-in. asphaltic concrete pavement of approximately 107,930 sq. ft. of earth filled mole and approach. Bidding data may be obtained at the office of the Harbor Engineer, Branch City Hall, San Pedro. Certified check or bond for an amount not less than 16 per cent must accompany each bid. Burt Edwards, general manager.

SAN GABRIEL, Los Angeles Co., Cal.—Until 7:30 P. M., November 9, bids will be received by city council to improve Broadway in the City of San Gabriel, under Cash Contract, involving:

- (1) 41 ft. class A curb;
- (2) 241 ft. class B curb;
- (3) 706 sq. ft. cement sidewalk;
- (4) 8210 sp. ft. 4-in. asph. conc. pavement (2½-in. base, 1½-in. top);
- (4a) Alternate to (4) 4-in. Warrenite bitulithic (2½-in. base, 1½-in. top);
- (5) 232,720 sq. ft. 6 in. asph. conc. pavement (4-in. base, 2-in. top);
- (5a) Alternate to (5) 6-in. Warrenite-bitulithic pavement (4-in. base, 2-in. top).

Plans obtainable from city engineer Ira H. Stouffer. Certified check or draft, 10%.

SAN RAFAEL, Marin Co., Calif.—Until Nov. 8, 8 P. M., bids will be received by Oliver R. Hartzell, secretary, Board of Education, for approximately 1,200 cu. yds. of soil to be delivered and spread with a truck on the grounds of the San Rafael High School. Specifications obtainable from secretary.

BUILDING NEWS

APARTMENTS

Plans Being Revised.
APARTMENTS Cost, \$100,000
SAN FRANCISCO. Pacific Avenue.
 Seven-story Class A steel frame, concrete and brick apartments (70x127 ft.) two elevators, steam heating system, garbage incinerator, tiled baths and kitchens, hardwood floors, electric refrigeration, etc.
 Owner—Bargene Realty Co., Monadnock Bldg., San Francisco.
 Architect—Chas. E. J. Rogers, Phelan Bldg., San Francisco.
 Construction will not start before January or February, 1933.

CHURCHES

Preparing Plans.
CHURCH Cost, \$35,000
PASADENA, Los Angeles Co., Cal.
 East Colorado St., Lamanda Park.
 Natural stone church (106x250 ft.); auditorium to seat 550, shingle tile roofing, steel sash, cast stone trim, concrete floors, gas furnace, leaded glass, etc.
 Owner—Third Church of Christ Scientist.
 Architect—Frederick Kennedy Jr., 15 S. El Molino St., Pasadena.

FACTORIES AND WAREHOUSES

Construction Postponed Temporarily.
PRINTING PLANT Cost, \$100,000
SAN FRANCISCO. Washington Street near Montgomery St. (125x127-ft.)
 Two-story reinforced concrete printing plant.
 Owner—Edward Barry Co., 32 Clay St.
 Architect—H. A. Minton, 525 Market Street.
 Construction will not be started for about sixty days.

Plans Completed.
CREAMERY Cost, \$15,000
CEDARVILLE, Modoc Co., Cal. Surprise Valley.
 One-story creamery (48x58) cement foundation and walls to height of 3½-ft., 8-ft. frame above (three cold storage rooms, boiler room, storage and can room, ice tank, cooling tank, elevated pasteurizing platform, 2,300-gal. pasteurizer's churn, 5-ton compressor, etc.)
 Owner—Mountain Valleys Dairy Prod., Inc., H. C. Watson, Pres., Alturas.
 Plans by Eng. Dept. of Owner.

VACAVILLE, Solano Co., Cal.—The Associated Oil Co., 79 New Montgomery St., San Francisco, is planning to spend several thousand dollars in connection with remodeling the distribution plant east of Vacaville. Work will involve removal of tanks, installation of new pumping plant, reconstruction of warehouse platform, etc. Plans will be prepared by owner's own engineering department.

LINCOLN, Placer Co., Cal.—Glad-ding, McBean & Co., 669 Market St., San Francisco, will install a new vacuum unit in their plant at Lincoln. Plans to be prepared by their engineering department.

GLENDALE, Los Angeles Co., Cal.—Glad-ding, McBean Co., 669 Market St., San Francisco, are planning to construct a tunnel kiln at their plant

at Glendale in the near future. Plans will be prepared by their engineering department.

FLATS

To Be Done By Day's Work.
FLATS Cost, \$11,660
SAN FRANCISCO. Chestnut St. near Buchanan Street.
 Two-story and basement frame and stucco (2 5-room) flats.
 Owner—F. Ontario, 1146-B Montgomery St., San Francisco.
 Architect—J. Zanolini, 604 Montgomery St., San Francisco.
 Work will be done by day's labor under the supervision of the owner.

GARAGES AND SERVICE STATIONS

To Be Done By Day's Work.
SERVICE STATION Cost, \$20,000
SACRAMENTO, Sacramento Co., Cal.
 Twenty-first and J Streets.
 Frame and stucco service station and drive-in market.
 Owner and Builder—Von Busby, 3817 32nd St., Sacramento.
 Plans by Owner.
 Agent—S. C. Dittman, care Hickman-Coleman Co., 812 J St., Sacramento.
 The service station unit will be constructed first.

Plans Being Prepared.
SERVICE STATION Cost, \$15,000
BURLINGAME, San Mateo Co., Calif.
 El Camino Real and Burlingame Avenue.
 Modernistic steel frame service station.
 Owner—Shell Oil Co., Shell Bldg., San Francisco.
 Plans by Eng. Dept. of Owner.
 Bids will be asked about Nov. 15.

GOVERNMENT WORK AND SUPPLIES

SAN FRANCISCO.—Until November 28, 10 A. M. under Circular No. 923-33-89, bids will be received by Quartermaster Supply Officer, General Depot, Fort Mason, to furnish and deliver two 50-hp. gasoline tractors. See item under "Machinery and Equipment," in this issue for further particulars.

CRESCENT CITY, Del Norte Co., Cal.—Until November 23, 11 A. M., under Spec. No. 7009, bids will be received by Public Works Officer, Mare Island Navy Yard, for repairs and replacements to plumbing and heating systems at the Naval Direction Finder Station at Point St. George, Crescent City. Plans obtainable from the Commandant, Mare Island Navy Yard on deposit of \$5, returnable, checks for same to be made payable to Chief of the Bureau of Yards and Docks.

SACRAMENTO, Cal.—Until November 3, 3 P. M., under Order No. 4962-2902, bids will be received by U. S. Engineer Office, California Fruit Bldg., to furnish and deliver Rio Vista, Solano County:

- (1) 1190 ft. 1-in. dia. 6x19, plow steel, wire rope, modified Seales construction, minimum breaking strength 69,000 pounds; furnished in four pieces, each piece 275 ft. long, and each piece wound on a separate reel;
- (2) 9000 ft. ¾-in. dia. 6x19, plow

steel, wire rope; steel. Seales construction, preformed, minimum breaking strength 52,000 pounds; furnished in six pieces, each piece 100 ft. long, and each piece wound on a separate reel. Rope similar to Tru-lay brand is desired.

PUGET SOUND, Wash.—Westing-house Electric Co., Washington, D. C., at \$51,000 submitted low bid to Bureau of Yards and Docks, Washington, D. C., to furnish and deliver Puget Sound, one 3000 kw. turbo-alternator for Puget Sound Navy Yard.

Supplementary Bids Being Taken To Close Nov. 13th.
POST OFFICE Cost, \$140,000
NAPA, Napa Co., Cal.—Randolph and Second Sts., (240x120-ft.)
 One-story, basement and mezzanine floor Class A steel and concrete post office (brick and terra cotta exterior, granite base).
 Owner—United States Government.
 Architect—Reed and Corlett, Oakland Bank Bldg., Oakland.
 On previous bid opening lowest bid was submitted by Herbert M. Baruch Corporation, 742 S. Hill St., Los Angeles at \$104,613.

SUNNYVALE, Santa Clara Co., Cal.—Wellman Eng. Co., Cleveland, Ohio, awarded contract by Bureau of Yards and Docks, at \$118,000 for the construction of an experimental mobile telescopic airship mooring mast at the Naval Air Station, Sunnyvale.

SEATTLE, Wash.—Until 3:00 P. M., November 19, bids will be received by the Treasury Department, Office of the Supervising Architect, Washington, D. C., for furnishing and installing exterior lighting fixtures and yard lighting for the U. S. Marine Hospital, Seattle. Plans may be obtained from the supervising architect in Washington.

OAKLAND, Cal.—As previously reported, Standard Electric Time Co., Springfield, Mass., submitted low bid to Treasury Department, Washington, D. C., for furnishing and installing time clock systems in the post office building, Oakland. Following is complete list of bids:

| | |
|--|----------|
| Standard Elec. Time Co. Springfield, Mass. | \$700.00 |
| Waterbury Clock Co., Waterbury, Conn. | \$53.50 |
| International Time Recording Co., New York | 1,040.00 |
| Warren Telechron Co. Ashland, North Carolina | 1,178.00 |
| Bids held under advisement. | |

QUARRY HEIGHTS, C. Z.—Until December 16, under Circular No. 4, bids will be received by Constructing Quartermaster, Quarry Heights, Canal Zone, for construction and completion of warming up apions, etc., at Albrook Field. Plans obtainable from Constructing Quartermaster at Quarry Heights.

BREMERTON, Wash.—Until Nov. 8, 10 A. M., under Req. 8-NAS-10293, bids will be received by Supply Officer, Puget Sound Navy Yard, to furnish hexagon steel bars, as follows:

- (1) 65 ft. 1½-in. (245 lbs.);
- (2) 250 ft. 1½-in. (1650 lbs.);
- (3) 25 ft. 1½-in. (255 lbs.)

SAN LUIS OBISPO, Cal.—Until November 15, 3:30 P. M., bids will be received by County Supervisors to construct a tubercular patients' home in San Luis Obispo. The structure will have a capacity of 24 beds.

STOCKTON, San Joaquin Co., Cal. Austin B. Murray, 1055 Mission St., San Francisco, at \$2,855 awarded contract by State Purchasing Department, Sacramento, for metal sinks for the State Hospital at Stockton.

Plans Being Figured—Bids Close Nov. 16th, 2:30 P. M.

INSTITUTE BLDG. Cost, \$400,000
SAN FRANCISCO. Potrero Ave. and 22nd Street.

Five-story Class A steel frame and reinforced conc. psychopathic institute building (tar and gravel roof, steam heating system to connect to main plant, etc.)

Owner—City and County of San Francisco.

Architect—Alfred I. Coffey and Martin J. Rist, associated, Phelan Bldg.

Bids are being received by S. J. Hester, secretary, Department of Public Works, 2nd floor, City Hall, on the following segregations:

- (1) general construction.....\$310,000
 - (2) mechanical and plumbing..... 70,000
 - (3) electrical work..... 25,000
- Previously reported for general construction only. Plans obtainable from Bureau of Architecture, 2nd floor, City Hall.

Plans Completed.
ADDITION Cost, \$50,000
SAN FRANCISCO. Nineteenth Ave. and Muraga Street.

Two-story and basement reinforced concrete south wing addition to hospital (49 beds); brick and terra cotta facing.

Owner—Shriner Hospital for Crippled Children, John McGilvray, Chairman.

Architect—Weeks & Day, 405 Montgomery St., San Francisco.

Bids will be asked in about one week

YREKA, Siskiyou Co., Calif.—Until November 9, 10 A. M., bids will be received by W. J. Neilson, county clerk, Hall of Records, Yreka, for the erection of a concrete Walkin cooler and cold storage rooms for the County Hospital at Yreka. Plans and specifications obtainable from above office.

SAN LUIS OBISPO, Cal.—Until 3:30 P. M., November 15, bids will be received by the San Luis Obispo County Supervisors for a tubercular patients' sanitarium to be erected in the county hospital grounds in San Luis Obispo. The structure will provide 24 beds. It will cost approximately \$12,000 and the furnishings an additional \$300. Bids will be taken for the entire work with an alternate for the omission of the sunrooms. Plans may be obtained at the office of the County Clerk, San Luis Obispo, upon deposit of \$25. Certified check for 10 per cent must accompany each bid. P. G. Driscoll, County Clerk.

ICE AND COLD STORAGE PLANTS

LONG BEACH, Cal.—Included in the \$3,400,000 harbor bond issue to be voted on by the city of Long Beach Nov. 8 will be provision for a four-story, concrete pre-cooling plant to be built on the east side of Pier B. The structure will have about 330,000 cu. ft. with a capacity of handling 150 carsload of freight daily. The estimated cost is \$175,000.

PUBLIC BUILDINGS, FIRE HOUSES AND JAILS

Preparing Working Drawings.

JAIL Cost, \$800,000
SNEATH RANCH, San Mateo Co., Cal Six-story Class B reinforced concrete jail.

Owner—City and County of San Francisco.

Architect—Albert F. Roller, Crocker First National Bank Building and Dodge A. Riedy, Pacific Building, associate architect.

Structural Engineer—H. J. Brunner, Sharon Bldg., San Francisco.

MARTINEZ, Contra Costa Co., Cal.—Wayland Company, Ltd., 563 Second St., San Francisco, at \$4,508 awarded contract by County Supervisors for acoustic work in connection with the Hall of Records under construction at Court and Main Sts., Martinez. E. G. Bangs, 411 30th St., Oakland, architect. Following is a complete list of the bids:

| | |
|---|---------|
| Wayland Co., Ltd., S. F..... | \$4,508 |
| Wm. Makin, Oakland..... | 1,350 |
| J. J. Moore, Oakland..... | 1,945 |
| Acoustics Prod. Co., Oakland..... | 2,533 |
| A. H. Wincheol, Richmond..... | 2,350 |
| U. S. Gypsum Co., S. F..... | 2,910 |
| Western Asbestos Magnesite Co., San Francisco..... | 3,695 |

RESIDENCES

Plans Completed.

RESIDENCE Cost, \$18,000

CROVILLE, Butte Co., Cal. Two-story and basement frame and stucco residence (Spanish type) tile roof, steel sash, electric refrigeration, etc.

Owner—A. J. Milns.

Architect—Charles Dean, California State Life Bldg., Sacramento.

Plans and specifications have been forwarded to owner for approval.

Plans Completed.

RESIDENCE Cost, \$150,000
HOLMBY HILLS, Los Angeles Co., Calif.

Two-story and basement brick residence (45x124; 20 rooms) structural steel, ornamental iron, metal skylights, stone trim, leaded glass, electric elevator, hollow metal elevator doors, marble mantels, etc.

Owner—Charles H. Quinn.

Architect—Robt. D. Farquhar, 427 Security Bldg., Los Angeles.

Supt. of Const.—T. C. Marlowe, Security Bldg., Los Angeles.

Low Bidder.
RESIDENCE Cost, \$100,000
HILLSBOROUGH, San Mateo Co., Cal.

Two-story and basement brick, frame and stone residence (English type, 40 rooms).

Owner—Thomas Fortune Ryan, Hillsborough.

Architect—Willis Polk & Co., 277 Pine St., San Francisco.

Low Bidder—Chas. Stockholm & Sons, Russ Bldg., San Francisco.

Construction will not start until after January 1, 1932.

Plans Being Refigured.

RESIDENCE Cost \$—
NORTH BERKELEY, Alameda Co., Calif.

Two-story and basement frame and stucco residence (7 rooms and 2 baths) tile roof, gas hot air heating system, electric refrigeration, colored tile baths and kitchen).

Owner—E. W. Bonsten.

Architect—E. L. Snyder, 2101 Addison St., Berkeley.

On previous bid opening—lowest bid was submitted by J. M. Walker, 1709 Grove St., Berkeley.

Preparing Preliminary Plans.

RESIDENCE Cost, \$20,000
BERKELEY, Alameda Co., Cal. Euclid Avenue.

Two-story and basement frame and brick veneer residence (8 rooms, 3 baths) slate roof, gas hot air heating system, hardwood floors, electric refrigeration, etc.

Owner—Wittheld.

Architect—Guy L. Brown, American Bldg., Oakland.

Contract Awarded.

RESIDENCE Cost, \$16,000
OAKLAND, Alameda Co., Calif. 6301 Bullard Drive.

Two-story and basement frame and stucco residence (10 rooms and 4 baths) 1-story guest house (shake roof, gas heating system, tiled baths).

Owner—Dr. Fletcher Taylor, 1258 Sunnyside Road, Oakland.

Plans by Mr. Strickland,
Contractor—F. C. Stolte Co., 3455 Laguna Ave., Oakland.

Plans Being Completed.

RESIDENCE Cost, \$37,000
ATHERTON, San Mateo Co., Calif.

Two-story and basement frame and stucco residence (20 rooms and 9 baths) tile roof, oak floors, warm air heating system, electric refrigeration, etc.

Owner—Frances Stent, Atherton.

Architect—Gardner A. Dalley, 210 Post St., San Francisco.

Bids will be asked in about 3 weeks from a selected list of contractors.

SCHOOLS

SAN RAFAEL, Marin Co., Calif.—

Until Nov. 8, 8 P. M., bids will be received by Oliver R. Hartzel, secretary, Board of Education, for approximately 1,200 cu. yds. of soil to be delivered and spread with a truck on the grounds of the San Rafael High School. Specifications obtainable from secretary.

Preparing Plans.

PHYSICAL EDUCATION BLDG.

Cost, \$50,000
LOS ANGELES, Los Angeles Co., Cal. Mount Vernon Junior High School Site.

Two physical education units (brick construction, cement and wood floors, toilets, showers, lockers, etc.)

Owner—Los Angeles City School Dist.
Architect—A. S. Nibecker Jr., Los Angeles.

Preparing Plans.

SCHOOL Cost, \$100,000
LONG BEACH, Los Angeles Co., Cal. Fourth and Junipero Ave.

School (9 classrooms, two social science classrooms, art room, library, rest room, etc.)

Owner—Long Beach City School Dist.
Architect—George D. Riddle, 2826 Cedar Ave., Long Beach.

Bids Wanted—To Close Nov. 18.

ADDITION Cost, \$125,000
LOS ANGELES, Los Angeles Co., Cal. North Blvd. S Third Street.

Class B structural steel high school addition (hollow tile walls, concrete corridor floors, concrete stairs, steam heating system, etc.)

Owner—Los Angeles City School Dist.
Architect—A. S. Nibecker Jr., Los Angeles.

SUNNYVALE. Santa Clara Co., Cal.—Until 11 A. M., November 16, bids will be received by the Bureau of Yards and Docks, Navy Department, Washington, D. C., for two electric freight elevators for the Naval Air Station, Sunnyvale; Specification No. 7029. Plans may be obtained upon application to the Bureau or to the Commandant, Twelfth Naval District, 100 Harrison St., San Francisco, upon deposit of a check or postal money order for \$10, payable to the Chief of the Bureau of Yards and Docks.

BALBOA, Canal Zone.—Jones Construction Co., Charlotte, North Carolina, at \$74,500 and \$53,000 for quarters only submitted low bid to Bureau of Yards and Docks, Washington, D. C., to construct five quarters, a transformer enclosure and concrete roads, walks and gutters at the Naval Station, Balboa. The work includes concrete, hollow tile, steel and iron work, asbestos shingle roofing, stucco, interior work, wood framing and trim, plumbing, drainage and electrical systems. Spec. No. 6895.

EL RENO, Okla.—Bellows Const. Co., Oklahoma Savings Bldg., Oklahoma City, at \$98,600 submitted low bid to Bureau of Prisons, U. S. Department of Justice for the construction of four dormitory buildings at the U. S. Southwestern Reformatory, El Reno.

Plans Being Prepared.
BUILDINGS Cost, \$252,000
MARCH FIELD, Riverside Co., Cal. Group of buildings.
Owner—United States Government.
Plans by Constructing Quartermaster, March Field.

Work involves the following:

| | |
|---------------------------|----------|
| Barracks | \$25,000 |
| Contiguous Ward | 12,000 |
| Bakery | 15,000 |
| Laundry | 60,000 |
| Enlisted Men's Club | 50,000 |
| Officers' Mess | 50,000 |
| Theatre | 40,000 |

BALBOA, Canal Zone.—J. A. Jones Const. Co., Charlotte, N. C., at \$74,500 awarded contract by Bureau of Yards and Docks, Washington, D. C., to construct five quarters, a transformer enclosure and concrete roads, walks and gutters at the Naval Station, Balboa. The work includes concrete, hollow tile, steel and iron work, steel windows and all-metal screens, asbestos shingle framing and trim, plumbing, drainage and electrical systems. Spec. No. 6895.

WASHINGTON, D. C.—Bids are being received by the Bureau of Supplies and Accounts, Navy Department, Washington, D. C., to furnish and deliver supplies and equipment for various Pacific Coast navy yards and stations, further information concerning the schedules listed being obtainable from the Navy Purchasing Office, 100 Harrison St., San Francisco.

Bids Close Nov. 8:
Mare Island, 1 motor-driven metal cutting saw; sch. 8929.
Mare Island, 8000 lbs. admiralty metal tubing; sch. 8945.
Mare Island, 2 motor-driven bilge pumps and spares; sch. 8931.
Mare Island and Puget Sound, 21 electric refrigerators, 25 electric water drinking fountains; sch. 8932.
East and West yards, steel forgings; sch. 8952.
East and West yards, 1 75-ton railroad track scale and 1 motor truck scale; sch. 8954.

Puget Sound, steel forgings; sch. 8952.

East or West yards, 2 gasoline motor-driven shop trucks and 1 platform truck; sch. 8951.

East or West yards, 126 bronze valves; sch. 8948.

East and West yards, 21,920 aluminum cartridge tanks and inspection gages; sch. 8957.

Bids Close Nov. 15
Mare Island, 200 plate glass mirrors; sch. 8962.

Mare Island, 30,000 lbs. cotton twine and 400 lbs. jute twine; sch. 8969.

East and West yards, transmitters and indicators and spare parts; sch. 8970.

Bids Wanted—To Close Nov. 29th, 11 A. M.
OFFICERS' QTRS. Cost, \$140,000
SAN FRANCISCO. Fort Scott.

Eighteen double sets of non-commissioned officers quarters (hollow tile construction, stucco exterior, hot water heating system, etc.)

Owner—United States Government.
Plans by Constructing Quartermaster, Fort Mason.

WASHINGTON, D. C.—Until Nov. 29, 2 P. M., bids will be received by Commissioner of Lighthouses, Washington, D. C., for construction of the steel steam propelled tender Hemlock, and machinery specifications obtainable from Superintendent of Lighthouses, Customhouse, San Francisco.

Plans Being Figured—Bids Close Nov. 25, 11 A. M.

OFFICERS' QTRS. Cost, \$110,000
SAN FRANCISCO. Fort Mason.

Seven sets of two-story and basement officers' quarters (hollow tile construction, Mission stucco exterior, 2 baths to each set, garage, hot water heating system, etc.)

Owner—United States Government.
Plans by Constructing Quartermaster, Fort Mason.

Bids Wanted—To Close Nov. 15.
BARRACKS Cost, \$126,000
POST FIELD, Oklahoma.

One A. C. barracks for 163 men.
Owner—United States Government.
Plans by Constructing Quartermaster, Post Field, Oklahoma.

Plans may be obtained from the quartermaster at Post Field upon deposit of \$25.

Contract Awarded.
STOREHOUSE Cost, \$29,600
ROSEBURG, Oregon.

Storehouse Building No. 13 at Veterans' Hospital.

Owner—United States Government.
Plans by Construction Division, U. S. Veterans' Bureau, Washington, D. C.

Contractor—George Isackson, 1015 E Irving St., Portland.

Contract Awarded.
ADDITION Cont. Price, \$135,700
BILLINGS, Montana.

Three-story and basement addition (61 x 167 ft.) and remodeling Post Office (stone and brick facing).

Owner—United States Government.
Plans by Supervising Architect, Treasury Dept., Washington, D. C.

Contractor—W. D. Lovell, 1415 8th St., Minn.

Bids Wanted—To Close Dec. 6.
SANTOPIUM, ETC. Cost, \$—

ALBUQUERQUE, New Mexico. Sanitorium building, two physicians' cottages, nurses' home and garages.

Owner—United States Government.
Plans by Dept. of Interior, Washington, D. C.

Plans available from the Purchasing Office, Department of Interior, Washington, D. C., upon deposit of \$25.00.

Bids Wanted—The Close Nov. 22.
LABORATORY, ETC. Cost, \$75,000
HAMILTON, Montana.

Alterations to Public Health Service Laboratory and construction of new building.

Owner—United States Government.
Plans by Supervising Architect, Treasury Dept., Washington, D. C.

Plans and specifications available from above office upon deposit of \$15.

BREMERTON, Wash.—Bids will be asked at once by the Bureau of Yards and Docks, Navy Department, Washington, D. C., to construct a tunnel between Drydocks Nos. 1 and 2 at the Puget Sound Navy Yard for which an appropriation of \$100,000 has been made. It is expected the bids will be opened Nov. 15.

Construction calls for a brick drainage tunnel with steel liner plate, approximately 380 ft. long, 6 ft. inside diameter, approximately 60 ft. below grade connecting Drydock No. 1 with pump well of Drydock No. 2. Plans are obtainable from the Bureau of Yards and Docks at Washington and will be on file with the Public Works Officer at the Navy Yard.

STOCKTON, San Joaquin Co., Cal.—Bids will be asked shortly by the Superintendent of Lighthouses for the installation of 50 channel lights marking the sides of the 17 miles of dredged channel on the San Joaquin river extending from the lower end of Venice Island to the Stockton waterfront.

An appropriation of \$32,000 is available to finance the work. Specifications are awaiting approval in Washington, D. C.

F O R T L E W I S , W a s h .—Until Nov. 18, 10:30 A. M., bids will be received by R. A. Blair, Captain, Quartermaster Corps, Constructing Quartermaster, Fort Lewis, for completion of barracks at Fort Lewis. Plans obtainable from above on deposit of \$15, returnable, checks for same to be made payable to Treasurer of the United States.

Specifications are awaiting approval in Washington, D. C.

Plans by Constructing Quartermaster, Fort Mason.

Plans by Constructing Quartermaster, Fort Mason.

Plans by Constructing Quartermaster, Fort Mason.

Plans by Constructing Quartermaster, Fort Mason.

Plans by Constructing Quartermaster, Fort Mason.

Plans by Constructing Quartermaster, Fort Mason.

Plans by Constructing Quartermaster, Fort Mason.

Plans by Constructing Quartermaster, Fort Mason.

Plans by Constructing Quartermaster, Fort Mason.

Plans by Constructing Quartermaster, Fort Mason.

Plans by Constructing Quartermaster, Fort Mason.

Plans by Constructing Quartermaster, Fort Mason.

Plans by Constructing Quartermaster, Fort Mason.

HOSPITALS

To Ask Bids In About Ten Days.
INSTITUTE BLDG. Cost, \$400,000
SAN FRANCISCO. Potrero Ave. and

Twenty-first Street.
Six-story and basement Class A cancer institute building.

Owner—City and County of San Francisco.

Architect—Alfred I. Coffey and Martin J. Rist, associated, Phelan Bldg., San Francisco.

Structural Engineer—H. J. Brunner, Sharon Bldg., San Francisco.

Steel frame, brick exterior, tile and hollow metal partitions.

Preparing Working Drawings.
INFIRMARY Cost, \$25,000
SAN RAFAEL, Marin Co., Cal. County Farm.

Two-story Class C infirmary (wards, surgery, dining rooms, kitchen, etc.) to connect to main building by arcade; tile roof, steam heating system.

Owner—County of Marin.
Architect—S. Heiman, 605 Market St., San Francisco.

Bids will be asked in about two weeks.

Plans Completed.
ADDITION Cost, \$125,000
LOS ANGELES, Cal.—Second Street and Brand Blvd.
 Class B addition to high school (concrete corridor floors, conc. stairs, steam heating system, ornamental iron, structural steel, etc.)
 Owner—Los Angeles City School Dist.
 Architect—A. S. Nibecker, Jr., Los Angeles.
 Bids will be asked shortly.

Contract Awarded.
ADDITION Cost, \$72,655
LOS ANGELES, Los Angeles Co., Cal.
 No. 1521 N. Highland Avenue.
 Two-story reinforced concrete school addition (87x141 ft.), 22 rooms.
 Owner—Los Angeles City School Dist.
 Architect—Marsh, Smith & Powell, Architects Bldg., Los Angeles.
 Contractor—Wm. J. Shirley, 1724 S. Vermont Ave., Los Angeles.

Plans Being Revised.
SHOP Cost, \$15,000
HAYWARD, Alameda Co., Cal.
 One-story reinforced concrete and steel shop (10,000 sq. ft.) tar and gravel roof, etc.
 Owner—Hayward Union High School District.
 Architect—Henry C. Smith, Humboldt Bank Bldg., San Francisco.
 Bids will be asked in about 1 week.
 On previous bid opening lowest bid was submitted by George Peterson, 1841 Bancroft Ave., San Leandro, at \$34,738.

BANKS, STORES & OFFICES

Contract Awarded.
STORE AND GARAGE Cost, \$50,000
SANTA BARBARA, Santa Barbara Co., Cal. Carpinteria and Nopal Streets.
 Steel frame store and garage building (100x155 ft.), composition roof, concrete floors, etc.
 Owner—Southern California Edison Company.
 Architect—Not Given.
 Contractor—D. H. McQuiddy, 707 Anacapa St., Santa Barbara.

Contract Awarded.
STORE ADDN. Cost, \$15,000
LOS ANGELES, Cal.—759-65 Wall St.
 One- and two-story Class C brick addition to store (85x131) wood roof trusses, terra cotta trim, steel sash, tile bulkheads, etc.
 Owner—Southern California Flower Market, Inc., 753 Wall St., Los Angeles.
 Architect—Harold Cross, 124 W 4th St., Los Angeles.
 Contractor—Mieki Hayanno, 2394 E. 1st St., Los Angeles.

Contract Awarded.
REPAIRS Cost, \$—
FAIRFIELD, Solano Co., Cal. North Webster Street.
 Repairs to building.
 Owner—M. E. Parr, Fairfield.
 Architect—Not Given.
 Contractor—Walter S. Bickford, Delaware and Jackson Sts., Fairfield.

To Be Done By Day's Work.
STORE Cost, \$1500
STOCKTON, San Joaquin Co., Calif.
 1801 McKinley Avenue.
 One-story frame store.
 Owner—D. Kiang, 45 E Clay Street, Stockton.
 Architect—Not Given.

Plans Being Figured.
STORES & OFFICES Cost, \$30,000
LOS ANGELES, Cal. Eighth and Catalina Streets.

Two-story brick stores and offices (50 by 145-ft.) concrete, tile hardwood and terrazzo floors, steel joists, tile bulkheads, wood roof trusses.
 Owner—Chotiner Investment Co.
 Architect—A. E. Harvey, 3375 Wilshire Blvd., Los Angeles.

BAKERSFIELD, Kern Co., Calif.
 Fire destroyed the National Forest Inn at the summit of the Ridge Route Highway, October 14. Damage estimated at \$10,000.

Plans Being Figured.
ADDITION Cost, \$15,000
SAFEL, Marin Co., Cal.
 One-story Class C concrete store (concrete floors, glass fronts, steel sashes, etc.)
 Owner—McPhail-Grady Co., 917 C St., San Rafael.
 Architect—N. W. Sexton, deYoung Bldg., San Francisco.

Contract Awarded.
ALTERATIONS Cost, \$65,000
SACRAMENTO, Sacramento Co., Cal.
 722 K Street.
 Alterations and additions to two-story brick and frame building for department store (steel girders and columns, etc.)
 Owner—W. T. Grant Co., 1441 Broadway, New York City.
 Plans by Eng. Dept. of Owner.
 Contractor—Herbert M. Baruch Corp., 742 S Hill St., Los Angeles (Raymond Daum, general superintendent).

Contract Awarded.
ADDITION Cost, \$—
PASADENA, Los Angeles Co., Calif.
 1720 E Colorado Street.
 One-story and mezzanine rear addition to building (45x80) brick construction, composition roof, cement and wood floors, steel folding doors, etc.
 Owner—Colin Stewart.
 Architect—Marston & Maybury, 25 S Euclid Ave., Pasadena.
 Contractor—O. H. Strawn, 220 S Allen Ave., Pasadena.

Plans Completed.
OFFICES & STORES Cost, \$50,000
LOS ANGELES, Los Angeles Co., Cal.
 No. 115-119 S. Pedro Street.
 Two-story Class C brick stores and offices (80x134 ft.): composition roof, wood roof trusses, steel sash tile bulkheads, cast stone trim, terrazzo, elevator, metal fire doors, marble wainscoting, etc.
 Owner—Nichi-Bei Investment Co., Inc., 312 E. First St., Los Angeles.
 Architect—Wm. V. Kernan, 622 Board of Trade Bldg., Los Angeles.

To Ask Bids About November 1.
MARKET Cost, \$100,000
OAKLAND, Alameda Co., Cal. Franklin St., between 10th and 11th Sts.
 One-story and basement brick market (space for 50 food concessions) tile and composition roof, electric refrigeration plant, concrete floors, etc.; service station, slicing machines, kitchen equipment, counters, refrigeration, cases, soda fountain, fixtures and miscellaneous display fixtures.
 Owner—Fred H. Morgan et al., 4265 Piedmont Ave., Oakland (Humboldt 5410).
 Architect—W. H. Weeks, 523 Market St., San Francisco.

To Ask Bids Shortly.
STORES & OFFICES Cost, \$—
SANTA ANA, Orange Co., Calif. NE Fourth and Main Streets.

Two-story reinforced concrete stores and offices (100x100) brick filler walls, structural steel, tile and composition roof, art, stone and terra cotta facing, tile bulkheads, steel sash, etc.
 Owner—Mrs. Emma French.
 Architect—W. H. Austin, Hill Bldg., Santa Ana.

Contract Awarded.
STORES, ETC. Cost, \$35,000
LOS ANGELES, Cal. N Highland Ave. near Franklin St.
 One- and two-story Class C brick stores, offices and market (55x134) stucco exterior, composition roof, structural steel, refrigeration system, gas radiators, etc.
 Owner—T. J. Dunningan.
 Architect—A. G. Bailey, 1226 S Curson St., Los Angeles.
 Contractor—Consolidated Bldg. Corp., 5410 Wilshire Blvd., Los Angeles.

Project Abandoned.
ALTER STORE Cont. Price, \$24,853
OAKLAND, Alameda Co., Calif. 1755 Broadway.
 Alterations to 3-story and basement reinforced concrete store. Work was to consist of plate glass and copper store fronts, steel sash, ornamental iron, tile and terrazzo floors and stairs, electric wiring, plumbing, sprinkler system, painting and decorating, gunite, gas-steam heating, ventilating system, structural steel, freight elevator, cabinet and millwork, hardwood trim, plaster staff, parquet, hardwood flooring, etc.
 Owner—E. E. Holladay.
 Architect—Nordstrom and Anderson, 1104 W. M. Garland Bldg., L. A.
 Contractor—Lindgren and Swinerton, Inc., 1723 Webster St., Oakland.

THEATRES

Plans To Be Prepared.
MORTUARY & CHAPEL Cost, \$20,000
SACRAMENTO, Sacramento Co., Cal.
 NE 28th and W Streets.
 Mortuary and chapel (type of construction not determined).
 Owner—Andrews & Greulich, 1700 G St., Sacramento.
 Architect—Not Selected.

Preparing Plans.
THEATRE Cost, \$—
PHOENIX, Arizona. 14-16 East Washington Street.
 Masonry and steel motion picture theatre (stucco exterior, composition roofing, cooling system, heating plant, marble and tile work, etc.)
 Owner—Mrs. Anna K. Thalheimer.
 Architect—Fitzhugh and Byron, Ellis Bldg., Phoenix.

Plans Being Prepared.
MORTUARY & CHAPEL Cost, \$20,000
SACRAMENTO, Sacramento Co., Cal.
 NE 28th and W Streets.
 Mortuary and chapel (type of construction not determined).
 Owner—Andrews & Greulich, 1700 G St., Sacramento.
 Architect—Withheld.
 Contractor—Selected (Withheld).

Bids Wanted—To Close Dec. 1.
THEATRE Cost, \$38,000
MARCH FIELD, Riverside Co., Cal.
 Theatre (Spec. 2966-D).
 Owner—United States Government.
 Plans by Constructing Quartermaster, March Field, Riverside.
 Plans and specifications available from above office upon deposit of \$25.

PACIFIC

25¢
per Copy

SKILL - INTEGRITY



RESPONSIBILITY

CONSTRUCTOR

CONSOLIDATED WITH

Building and Engineering News

IN THIS ISSUE



GETTING DOWN TO EARTH

By Charles H. Lee, Consulting Engineer

STATE LABOR CAMPS TO AID 7000

SOME PHASES OF THE 1932 INCOME TAX LAW

By Frank T. Andrews, Certified Public Accountant

ARMY ENGINEERS STUDY CALIFORNIA'S WATER PLAN

SAN FRANCISCO IMPARTIAL WAGE BOARD REPORT

UNIT BID SUMMARY

CONSTRUCTION NEWS



WAPPAT *Electric* TOOLS

Are Built to Last Longer

Cuts production costs . . . Speeds up the job . . . Makes for greater efficiency . . .
A size and type for every purpose.

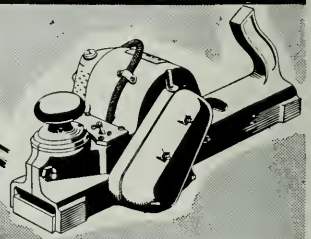
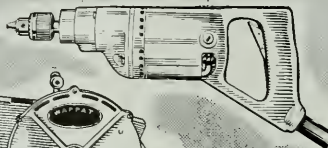
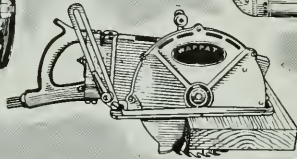
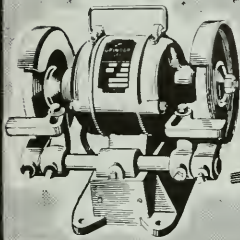
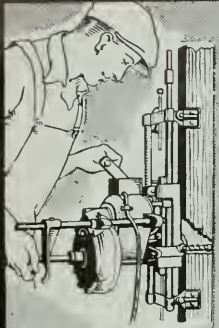
Ask for a Demonstration

M. N. THACKABERRY

228 First Street, San Francisco
KEarny 4467

TOOLS RENTED

308 E. Third St., Los Angeles
MUtual 7508



COLTON CEMENT

Uniform Quality : Service : Satisfaction



Manufactured by

CALIFORNIA PORTLAND CEMENT COMPANY

1228 PACIFIC MUTUAL BUILDING

Mills at Colton, California

TR. 1271

Los Angeles

"TITAN"

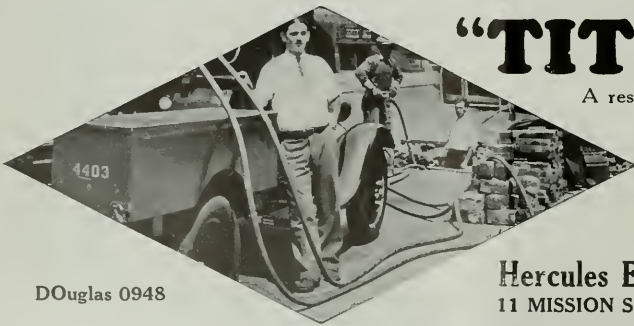
The Air Hose
With the
Red Cover

A responsible hose that resists extreme external wear . . . An oil-proof rubber tube that remains intact after hours of exposure to lubricating oils.

A fabric construction that carries a safety factor of five-to-one in pressure resistance.

Hercules Equipment & Rubber Co.
11 MISSION STREET SAN FRANCISCO

DOuglas 0948



PACIFIC CONSTRUCTOR

With which is Consolidated Building and Engineering News

Official Publication of the Associated General Contractors of America
for the Eleven Pacific Coast States

SAM B. EUBANKS, *Editor*

S. P. McCASLAND, *Assoc. Editor, Am. Soc. C. E.*

VOL. 15

SAN FRANCISCO, CALIF., NOVEMBER 15, 1932

No. 21

Editorial Comment

VOTERS REJECT PROPOSAL TO RAID CALIFORNIA GASOLINE TAX FUND

Voters of the State of California registered emphatic disapproval of a measure that would have permitted use of gasoline tax revenues for purposes other than the construction of new roads and maintenance of the existing highway system. Proposition No. 4 on the state ballot at the general election, providing for retirement of old bonds from the gas tax revenue, was defeated by a vote of nearly four to one.

Opposition to the proposal was general throughout the state press and an active campaign against the measure was made by associations of automobile owners.

But the vote result leaves no doubt as to the attitude of the individual automobile owners who are paying a three-cent state tax cheerfully with the knowledge that all of the money is being used to extend the state's magnificent network of paved roads.

Commenting on the defeat of the proposed constitutional change, E. B. DeGolia, president of the California State Automobile Association, said:

"With emphasis and finality, the voters of California have served notice that they will not tolerate diversion to other purposes of the taxes paid to build, improve and maintain our highways. By registering their overwhelming disapproval of Proposition No. 4, the people of the state have voiced a positive mandate in support of the principle that highway funds shall be used for their specifically dedicated purposes and no others.

"It must be plain that this amendment was rejected not so much because of any immediate effect it would have had upon our highways, but rather because of the dangerous precedent it would have set and because it would have encouraged further and more extensive diversions of highway funds, tending to disrupt the present successful plan of highway financing.

"Advocates of such diversions now, and in the future, will do well to heed the temper of the people, so clearly expressed by their vote on this amendment."

Typical of the editorial reaction to the decisive defeat of the amendment is the following from the neighboring state of Nevada's "Reno Gazette":

"The ease with which the gasoline tax can be collected and the sums to which it amounts tempt state financial agents all over the Union, but public opinion is against taking it from the purposes for which it is designed. This is for the maintenance and construction of improved highways. So long as it is restricted to this legitimate use there may

be an occasional protest against the figure at which it is placed, but, on the whole, the people pay it with reasonable cheerfulness. But beyond this they will not go.

"This is emphasized by the vote of California on a proposal to apply part of the sums collected for the gasoline tax to pay off bonds contracted years ago. True, these old bonds were for road building at the time, but there was no gasoline tax then, and the sums obtained were to be paid out of the general tax. The people decided last Tuesday that this must continue. They voted 762,681 to 197,143 (incomplete) against any alteration in the distribution of the tax.

"Judging from comment in many parts of the country, if the question of using the money raised from gasoline taxes for other than road purposes were to be submitted to popular vote, it would be snowed under, as it has been in California."

ROADS ON THE BARGAIN COUNTER

In pointing out to highway officials and engineers the importance of the tenth annual asphalt paving conference, to be held in New Orleans, December 5-9, T. H. MacDonald, chief of the U. S. Bureau of Public Roads, said that roads are on the bargain counter today.

He observed that roads are almost the only "commodity" which can be built now without glutting the market, and that the Bureau of Public Roads is now interested in three angles of the low-cost road movement: First, extending the mudless and dustless road mileage; second, protecting the investment in gravel roads by the addition of bituminous binders; third, the increased safety resulting from road improvement.

It is the bureau's opinion that a road should not carry an expenditure beyond its own earning power—in other words, that it should not cost more than traffic surveys show it can earn through motor vehicle and gasoline taxes. Even when all types of roads are amazingly cheap, as at present, the need for scientific selection of materials and methods is great. To build a twenty-thousand-dollar-a-mile road where a five-thousand-dollar one will do is to throw fifteen thousand dollars of tax money away. Further, to continue to maintain old dirt and gravel roads at great expense when inexpensive surfacing would lower maintenance costs is a useless extravagance.

The farmers are the greatest sufferers from inferior roads. They need mudless, dustless arteries that will permit inexpensive and fast transport at all seasons of the year. With roads marked down for immediate purchase, now is the time to build.

State Labor Camps to Aid 7000

SEVEN thousand unemployed laborers will be cared for this winter in a chain of 43 forest camps operated by the State of California and supported principally by \$300,000 appropriated from the funds of the California State Highway Commission.

Cities throughout the State will enlist men for the camps from their bread lines, relieving the burden on local relief funds.

The state camp program, originated last winter as an emergency measure, is being expanded this year to care for twice as many men as received aid in 1931. Camp sites are being chosen by State Forester M. B. Pratt, administrator of the labor program, in cooperation with county boards of supervisors.

For the support of the labor camps the state has appropriated \$100,000 from the emergency fund and \$300,000 from the highway maintenance fund. The legality of the highway fund contribution was upheld in an opinion to the Highway Commission by Attorney-General U. S. Webb. Work that the laborers do in watershed protection contributes to maintenance of the state highway system by preventing soil erosion, Webb held.

Last winter the state operated 28 forestry camps and two camps where men were employed on highway construction. The forestry camps built 504 miles of firebreaks and roads in addition to doing other miscellaneous fire hazard reduction work. The men in the highway camps excavated 86,740 cubic yards of material in addition to miscellaneous hand labor operations.

A total of 200,399 man-days' relief furnished in the forestry camps cost the state \$109,982.87, amounting to 54.9 cents per man per day.

Forty-four thousand one hundred thirty-two man-days' relief in the highway camps cost the state \$99,678.71,



Typical Dining Room at a Forest Camp

amounting to \$2.26 per man per day.

"The men in camp were, for the most part, of the highest type in the ranks of the unemployed," says the report of the labor camp committee. "They were recruited through various charitable relief agencies in the cities. Only volunteers were accepted in the camps, but after reaching camp, each man was required to work, or leave.

"The total camp capacity was 3,352 men. Northern California camps accommodated 1,759; the Southern California camps 1,593.

"The communities from which men were recruited paid the cost of transportation. The men were examined, and only the physically fit were sent to the camps.

"Food, shelter, clothing and tobacco were furnished by the state in exchange for a maximum of six hours' work per day, including travel time on highway construction and fire hazard reduction work.

"Plain but wholesome food was furnished in all camps, and no limit was placed upon the amount any man should eat. Food served was comparable with that furnished in construction and logging camps in the state. All state and Federal employes in charge of camps ate in the same dining room, at the same tables, and were served the same food as was given to the unemployed men.

"Tobacco and matches were issued three or four times per week to each man.

"Each man was allotted three or more blankets, a mattress and cot or built-in bunk.

"Clothing issued consisted of work shirts, overalls, cotton and woolen underwear, socks, shoes and leather-faced gloves. Some other clothing such as army overcoats, hats and used clothing were made available by contributors.



Grounds Cleared and Fire Trails Built

"The men in Southern California were housed largely in tent camps, while the men in Northern California were housed in various available buildings, built, rented or borrowed by the state.

"Sickness in camp was cared for by a first aid man in each camp, and serious cases were sent to the communities from which they had come, or in emergencies to state and county hospitals.

"The men in camp were well pleased with the provisions made for their care during the winter when paying jobs were not available."



Tent Sleeping Quarters Are Used Where Climate Permits

The cost of housing at the forestry camps was five and seven-tenths cents per man per day, which covered all cost of construction, rentals of buildings, purchases of blankets, mattresses, straw for ticks, etc.

The transportation cost was comparatively high because the camps were usually located at considerable distance from existing communities, and also because the nature of their work in roadside clearing took the men so far from camp that they could not walk to and from work.

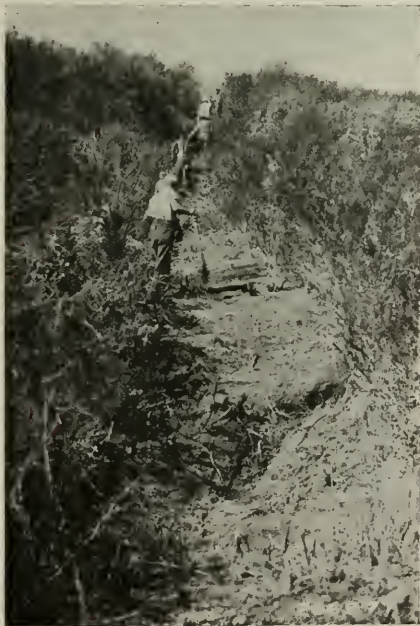
The only salaries and expenses paid from the funds allotted were for the services of two commissary men, amounting to \$2,126.26. All other services in the camps were rendered by state and Federal rangers, contributed

time of persons not employed by the state or by men to whom relief was being given in camp.

At the time the labor camp program was started the committee was informed that transient indigents were entering the state at the rate of 1,200 per day. The Los Angeles Chamber of Commerce had sent a committee to the Governor to call out the National Guard and station



Fire Trail Built in Humboldt County Redwood Park



Brushing Out a Telephone Line

it at the state's borders to keep out the indigents. When word of the labor camps was spread back East, the number entering the state decreased very rapidly. The mayor of Fort Worth, Texas, called by long distance telephone to see if the camps had actually been established, because forty-three men had left a freight train in Fort Worth and refused to come further west, having heard of the California labor camp program.

Approximately thirty per cent of the men registered at the camps last year gave California as their residence, but state officials consider this percentage too high, believing that the men thought state residents would be favored.

There were many professional men and many high school and college graduates. The hobo type and professional "bum" did not enter the camps. Not only was entry into the camps entirely voluntary, but no man had to stay in camp after he arrived. Each man was at liberty to leave whenever he pleased. The only requirement was that if he stayed, he had to work and abide by the camp rules.

Getting Down to Earth

By CHARLES H. LEE, Consulting Engineer

Member, American Society Civil Engineers; Director, Pacific Hydrologic Laboratory, San Francisco

Mr. Lee sets forth in this article various ways in which a highly specialized knowledge of the structural properties of earth can be of great assistance to the general contractor in the preparation of estimates. He believes that it is possible at small cost to forecast definitely the hazards of any large earthwork job, and to give the prospective bidder advance information as to the amount of "swell," the stability of cut embankments, the effect of wet weather, the amount of pumping to be expected. In short, the accurate evaluation of most of the details which are now unknown quantities. The article is published in two parts, that part which appears in our next issue dealing with practical applications of the principles set forth below. Mr. Lee has for many years been engaged in this type of work, having been consultant for various departments of the United States government; Los Angeles, San Diego and other large cities, and in addition, many private enterprises such as the California-Hawaiian Sugar Co. and the California Water Service Corp.

THIS common phrase is so seldom used in a literal sense that to say the construction industry is beginning to "get down to earth" might mean anything but the simple import of the words. As a matter of fact, it does state concisely what has been taking place during the past ten years.

For many years the physical properties of construction materials which compose superstructures such as wood, steel and concrete, have been studied and tested, and the use of such test data has become a matter of course. Scant attention, however, has been given the natural foundation materials which support these structures. It is only since 1920, when the extensive deterioration of paved highways in various parts of the United States focused attention upon the subgrade, that the interest of engineers and contractors have "gotten down to earth" as one of the important materials of construction.

When one stops to think of it, practically all construction projects involve the use of earth in one form or another. It supports the surface of every paved highway and street, it is the foundation material upon which are erected the great majority of buildings, bridges and other rigid structures, it is the material of construction for dams, levees and fills, it is the material which is sought to be stabilized by retaining walls, bulkheads and sheet piling. Last but not least, it composes the surface upon which men must work and equipment be operated.

The very fact that earth is such a common material and one so universally used has retarded the application of scientific methods to the study of its physical characteristics and behavior. It is a natural substance which has been used from earliest antiquity, and one with which everyone is familiar. Extended construction experience in any locality gives knowledge of the behavior of the soils under varying conditions of slope, moisture and handling, so that the judgment of the local contractor and natural instinct of workmen is sufficient to obviate serious difficulty or loss in all ordinary undertakings.

With the tendency in recent years for contractors to bid upon work outside of a local territory, and also with the great increase in size and importance of public improvements which are being undertaken, a new situation

has arisen. Individual judgment regarding the behavior of earth materials is more and more proving inadequate as a basis either for estimating costs or planning construction operations. This is particularly true where work is undertaken in a new locality, or at greater depth than ordinary, and particularly where wet or subaqueous materials are involved. The magnitude of present-day construction projects and the competition in bidding is such that unexpected delay on the work may mean that an expected profit suddenly becomes a loss. Difficulty arising from earth materials is one of the most common sources of delay.

The possibility of correcting this situation is of vital interest to contractors. If, by eliminating guesswork and applying the results of systematically made tests, earthwork delays can be reduced and money saved, the contractor favors it. Although earth testing is a new field of technical activity and is still feeling its way forward, its practice has become definitely established, and each month brings recorded advances. This article will describe certain instances where earth tests might be of value to a contractor.

What Is Earth

Before proceeding to practical application, it may be just as well to define what is meant by "earth" and to distinguish it from "soil." The term "earth" as used in construction, includes all the softer materials of the earth's surface as distinguished from solid or loose rock. It is composed largely of the products of rock disintegration and erosion, transported and deposited by water, ice and air. It may also be derived from other sources. Organic activity, for example, produces peat and shell beds and deposits of diatomaceous earth. Volcanic activity is also the source of much earthy material occurring in the form of pumice and cinder beds or mud flows. Earthy material usually consists of mixtures in various proportions of two or more of the following: boulders, gravel, sand, silt, clay, colloidal gel, and organic matter.

The top layer of earth containing more or less organic matter is called soil. Loam, adobe, gumbo, etc., are varieties of soil. Subsoil is the material lying immediately below the soil, which is partially weathered and contains a small amount of organic matter. When cemented, it is called hardpan. All other earth materials are commonly named by the predominating particle size, such as gravel, sand, silt, clay, sandy clay, clayey sand, sandy silt, etc., or by the predominating material, such as peat, shell, pumicite, volcanic ash, diatoms, etc. A mixture of wet organic and inorganic material is termed muck.

The presence of water in the voids of earthy material has a very important influence upon its behavior, and is the cause of great uncertainty in its use. The addition of a small amount of moisture may render a soil sticky and difficult to handle or travel over. Greater amounts may soften it to such an extent that it will not support moving or stationary loads or even its own weight. When earth is wet to saturation, special methods of construction are necessary both for handling and in preparing it for the support of permanent structures. Supersaturation, as represented by quicksand and plastic clay, produces a semi-liquid condition and presents the most difficult earth problem with which the contractor has to contend. In

addition to problems which arise because of static water, there are those arising from the movement of water through earth. These include leakage, subsurface drainage, settlement due to consolidation of clay, and many others.

What Is Earth Testing

Earth testing consists of determining the physical characteristic of earth materials both dry and in combination with water. It is particularly concerned with those characteristics which control the behavior of earth as related to construction activities and the permanence of construction work. As specific examples might be mentioned the determination of the efficiency of earth as a support, the stability of earth slopes, and the effect of change in temperature and water content upon the behavior of earth.

The differing physical characteristics of earths result almost entirely from differences in the size, shape and arrangement of the individual particles. Theoretically, a test to determine constituent particle sizes including fines, by sieving and elutriation or sedimentation, and a determination of shape by inspection and microscopic examination, would be of great importance. Practically, although such data may be of value as a means of identifying and describing an earth material, it does not tell how it will behave in actual use. The present trend in earth technology is to develop tests which will have practical significance in predetermining the behavior in use. The following are some of the more important physical characteristics which are susceptible of testing.

Porosity

All earth materials are porous, that is, have void spaces between the individual solid particles which may be filled with either air or water. Porosity is defined as the total volume of pore or void space as percent of total volume. Change of volume of a mass of earth results from change in consolidation of solid particles with squeezing out or absorption of air or water, and is accompanied by change in porosity. Knowledge of porosity gives quantitative information regarding the degree of consolidation of dams, levees and other earth structures, the volume relations of cut and fill, bank and embankment, trench excavation and backfill, etc., and is very useful to the contractor.

For granular materials composed of gravel, sand and coarse silt, the porosity when dry varies between the limits of approximately 26 and 48 per cent, depending upon the arrangement of particles. With the addition of 3 to 10 per cent of moisture by weight (5 to 15 per cent by volume), the porosity of sand and silt may be further increased 20 to 45 per cent through the process of bulking. This phenomenon is of importance in measuring concrete aggregate by volume, but probably does not appreciably affect subgrades or foundations. Further addition of water, so as to fill the voids to saturation, causes a rearrangement of particles, so that the final net volume will equal or be appreciably less than the original dry volume. The addition of water slightly in excess of saturation may under certain conditions cause fine sands and silt to become "quick." Water films then separate the grains so as to eliminate internal friction, giving the mass mobility. If confined and under pressure, the mass acts as a liquid. Such conditions are sometimes encountered in trenching or excavating for foundations, and call forth great ingenuity in devising methods for stabilization of the material.

Fine-textured material, such clay, clayey sand or clayey silt, contains colloids and has the property of cohesion. Its porosity has wide limits, depending upon the degree of aggregation of small particles into flocs or crumbs. If fine silt and clay is carried in suspension by a fresh water stream to contact with salt water, flocculation will occur

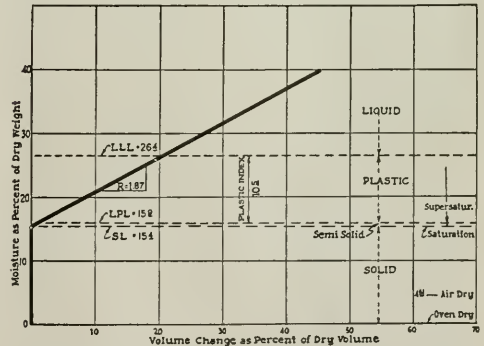
before sedimentation, and a deposit of flocs will be built up with honeycomb structure, which may have a porosity as great as 95 per cent. Such a deposit under long continued pressure will undergo consolidation by the squeezing out of water with a possible reduction of porosity to 35 per cent. Similarly, a highly flocculated or crumbly adobe soil or clay loam with a porosity of 65 per cent when slightly moist, and with heavy traffic or rolling, may be consolidated so as to have a porosity of but 38 per cent.

When more or less consolidated clayey material is excavated, it does not break down into its ultimate particle size as does clean sand or gravel, but rather into lumps or aggregations of widely varying size, the overall porosity of which in fill or embankment may be from 8 to 40 per cent greater than in the original bank. After standing for a period of time, consolidation will occur with shrinkage and gradual return to the original density.

Clayey materials in addition to exhibiting the force of cohesion develop strong capillary forces when moist. This produces the phenomenon of swelling in plastic (supersaturated) clay, which is due solely to increase in moisture content in response to capillary pressure. The limit of swelling is reached when by the absorption of water the solid particles have become separated so far that the force of cohesion is no longer effective. Plasticity then ceases and the material becomes liquid. With a decrease in moisture content due either to evaporation or squeezing out of water by applications of pressure, shrinkage occurs which is equal in volume to the escaping water. Porosity of clay materials at the shrinkage limit varies from less than 26 to 40 per cent, depending upon the proportion, sizes and arrangement of sand particles. At the liquid limit the porosity may exceed 70 per cent. This tendency of clay to shrink and swell often gives trouble in construction operations.

Moisture Capacity

Closely related to porosity is moisture content. This is determined as weight of contained moisture in per cent of dry weight. There are several critical stages of moisture content which have important physical significance and may be considered as differing aspects of moisture capacity. *Hyroscopic moisture* is the moisture capacity at air dry condition. It is very small for sand, but increases for silt and is quite appreciable for clay. *Moisture equivalent or field capacity* is that at which drainage through capillary films commences. It is the dividing point between a dry and a moist soil. Fine textured materials will absorb much more water than sand or silt before



SHRINKAGE DIAGRAM OF TYPICAL SANDY CLAY

LLL—Lower Liquid Limit SL—Shrinkage Limit
LPL—Lower Plastic Limit R—Shrinkage Ratio

capillary drainage commences. *Saturation* is the point at which all air is expelled and the voids are completely filled with water. Moisture capacity at saturation can be derived from the porosity by dividing by the apparent specific gravity of the material. The *shrinkage limit* is the moisture content at which swelling commences in clayey material. It is marked by color change from light to dark and physical change from solid to semi-solid. The *plastic limit* is the moisture content which marks the change from semi-solid to plastic state in clayey material. The *liquid limit* is the dividing line between the solid or plastic and the liquid states. For granular materials the liquid limit and moisture content at saturation are practically the same.

These limits, together with volumetric changes for varying moisture content between shrinkage limit and liquid limit, can be readily determined by simple laboratory tests. These tests are all very useful in predetermining how a soil will behave under moisture conditions differing from that in which found, and have very practical applications. The accompanying shrinkage diagram shows the relative quantitative values of the various moisture capacities for a typical sandy clay.

Transmission Capacity for Water

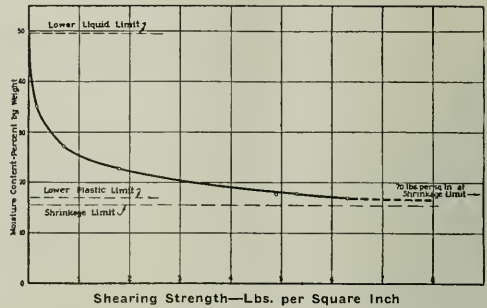
A material having great porosity does not necessarily transmit or yield its water freely. In fact, clayey materials which are usually the most porous are also the most retentive of moisture. The less porous sands and gravels, on the other hand, drain readily and transmit water easily under the influence of gravity or pressure difference.

The capacity of a material to transmit gravity water is termed permeability. Knowledge of the permeability of earthy material is of great importance for construction operations in saturated soils or where flooding may occur from heavy rains or storm runoff. Clean gravels and clean, uniform and coarse-grained sands are the most permeable materials, followed by graded sands and pure silts. Clays and clayey gravels, sands and silts are ordinarily practically impermeable, and when thoroughly consolidated are quite impermeable. Permeability is often measured as flow in gallons per 24 hours per square foot of cross section of the permeable material taken at right angles to the direction of flow, with a hydraulic gradient of 100 per cent and temperature of 60° Fahrenheit. The quantitative results of laboratory tests for permeability, if made upon undisturbed material cores, can readily be applied to practical problems.

Resistance to Shear

Knowledge of the resistance to lateral displacement is of greatest importance in determining the stability of earth slopes for embankments, and also in cuts, trenches and foundation pits. It has further application in checking up on possibility of slides, determining the necessity and strength of sheeting and bracing, depth of driving and strength of sheet piling, and the design of permanent retaining walls. A further application is in the determination of supporting power of earth for heavy traffic, temporary loads, and fills or high embankments, such as dams, where there is possibility of lateral flow.

The stability of earth under these conditions depends upon its strength in shear, which latter is composed of the two forces, cohesion and internal friction. Cohesion results from the attraction between individual particles. The coefficient of cohesion is measured as the cohesion per unit of area of sliding surface. It is zero for clean, dry granular materials and liquid clay, but has large values for well compacted clays. For the same material it varies greatly with the water content. It acts independently of any external pressure. (For the effect of moisture upon shear, see the accompanying shear diagram for a typical sandy clay.)



MOISTURE-SHEAR DIAGRAM FOR TYPICAL SANDY CLAY

Internal friction, on the other hand, results from the resistance to sliding of granular particles one upon the other, and varies directly with the pressure upon the sliding plane. The ratio of the sliding resistance to the pressure upon the sliding plane is termed the coefficient of internal friction, and the angle of which it represents the tangent is known as the angle of internal friction. For practical purposes this is equal to the angle of repose of the material, which latter is easily obtainable by test.

Recent investigations have shown that the relative cohesion of various earth materials can be determined by subtracting from the plasticity index (difference between liquid and plastic limits) 25 per cent of the liquid limit. This furnishes a simple basis for classifying materials with respect to cohesion. There are several difficulties which arise, however, in obtaining absolute values for cohesion, but sufficient information is available to adopt average values for the various classes of material.

There are a number of earth tests incidental to those described which are of more importance in engineering design than in construction. These have been omitted from the above list.

Earth Sampling

One of the practical difficulties in making earth tests is that of obtaining undisturbed natural samples of material. This has been due in part to the lack of suitable equipment and standardized procedure for securing and preserving samples. The matter has received much attention in the agricultural and petroleum industries and more recently in the civil engineering field. An outstanding example of progress in this matter were the boring contracts recently completed at pier sites for the San Francisco Bay bridge authority. Undisturbed original samples of mud, clay and sand were there obtained in triplicate every ten feet to a maximum depth of 307 feet below mean sea level, with water depths exceeding 100 feet, and, without exposure to water or air, were placed in hermetically sealed containers for future testing.

Another difficulty arises from the more or less hazardous occurrence of sedimentary formations necessitating extensive sampling in order to obtain accurate knowledge of average soil conditions. The solution of this problem will be found in the development of simple routine tests which in conjunction with complete control tests on type samples will furnish sufficient data for the purpose desired at reasonable cost. Also as a mass of analyzed test data accumulates in a laboratory conducted in connection with an engineering practice, a background for judgment will be built up which will be of great value in reducing the volume of testing.

(The second and concluding part of Mr. Lee's article will appear in the December 1 issue of PACIFIC CONSTRUCTOR.)

Some Phases of the 1932 Federal Income Tax Law

FRANK T. ANDREWS, *Certified Public Accountant; Associate Member, Associated General Contractors*

(NOTE: This is the first of a series of eight articles.)

ALTHOUGH the Revenue Act of 1932 was not approved until June 6, 1932, its provisions are retroactive to January 1, 1932. In this new act, Congress made numerous changes regarding the method of reporting income and in the rates of taxation. As a matter of prime importance to all taxpayers, a few salient features of this new act will first be discussed.

CONCERNING CORPORATIONS

Corporation Returns—Every corporation must file a return, regardless of the amount of income.

Tax Rates—The new rate is $13\frac{3}{4}$ per cent of the net income, and there is no specific credit allowed. For the privilege of filing consolidated returns, a tax of $\frac{3}{4}$ of 1 per cent is imposed, in addition to the regular rate, making the rate on consolidated returns $14\frac{1}{2}$ per cent.

Dividends—Dividends are not taxable if they are received from corporations subject to the Federal income tax. These dividends must be reported, however, on a corporation return, but may be entered in the same amount as a deduction. Dividends received from building and loan association are taxable.

Bond Interest—Ordinary bond interest should be included as taxable income. Interest received upon obligations of a State, territory or any political subdivision thereof is exempt from the income tax.

Net Losses—Only a one-year carry-over is allowed for net losses under the 1932 act. A 1930 net loss may not be carried forward beyond 1931.

Paid-in or Donated Surplus—Property so acquired by a corporation carries the same value as a basis for depreciation or gain or loss on subsequent disposition as it had for the stockholder who gave it to the corporation. It is a set rule, however, that a corporation makes no profit and is allowed no loss in the purchase, sale, exchange or manipulation of its own capital stock.

Carrying Charges on Unproductive Property—The omission of specific mention of such carrying charges in prior acts resulted in many differences of interpretation. For example, taxes paid on a vacant piece of ground from which no income is realized. The new Revenue Act provides that "taxes and other carrying charges on unimproved and unproductive real property" may be added to the cost or other basis of the property, providing, of course, that such charges have not been deducted on income tax returns for prior years.

CONCERNING INDIVIDUALS

Who Must File Returns—Every single person and every married person not living with husband or wife, earning more than \$1,000 must file a return. Married persons living with husband or wife, earning \$2,500 or more must file. Where combined earnings of husband and wife are \$2,500 or more a return is required. Where the gross income of an individual is in excess of \$5,000, a return must be made regardless of the net income.

Exemptions—Personal—\$1,000 for a single person and \$2,500 for a married person or head of a family are the new exemptions. If separate returns are filed by husband and wife, the \$2,500 exemption may be divided between them in any proportion.

Dependents—The \$400 credit for each dependent is unchanged, except that it is prorated by months if a

change in status occurs during the year. This exemption may not be divided between husband and wife. The exemption is allowed for children under 18 years of age and for persons incapable of self-support.

Tax Rates—The normal tax rates for individuals are raised from $1\frac{1}{2}$, 3 and 5 per cent to 4 per cent on the first \$4,000 over the personal exemption and credits allowed, and 8 per cent on the remainder. The 1922 surtax rates have been revived, starting with 1 per cent on incomes in excess of \$6,000 and increasing with the amount of income received up to 55 per cent in the highest bracket.

Earned Income Credit—This is discontinued under the 1932 act.

Building and Loan Associations—Dividends or interest received from such associations are now taxable without the previously allowed \$300 exemption.

Pensions and World War Compensation Payments—All such pensions received from the United States or from a State for military service are now taxable.

Community Property—Under the community property rulings, salaries of husband and wife, domiciled in California, and other community earnings may be divided between husband and wife for the purpose of filing separate income returns.

Net Loss—A "net loss" refers to a net loss, during a taxable year, in a "trade or business regularly carried on by a taxpayer." Such a "net loss" may be used, under the new act to reduce income of the next succeeding taxable year. To compute the "net loss" of an individual taxpayer, the loss shown by the preceding year's income tax return must be diminished by (a) the amount of tax free interest not included therein, (b) by the excess of capital losses over capital gains, and (c) by the excess of non-business deductions over non-business income. It should be clear, then, that a "net loss" which may be carried forward is not the net loss shown by the income tax return nor is the net loss shown by the taxpayer's books; it is purely statutory.

During the last legislative session the question of losses arising from the sale of stocks and bonds was the subject of long drawn-out debate. It was apparent to all that losses taken on stocks and bonds during the last two years were the cause of a large decrease in income tax revenue. In an effort to partly overcome the loss of revenue attributed to this source, Congress made a drastic change, effecting a limitation on stock and bond losses. It was enacted that losses from the sale or exchange of stocks or bonds held for less than two years are deductible, in the return for the year in which they are sustained, only against gains from similar transactions.

This new legislation, however, has no bearing upon stock and bond losses where the stocks and bonds were held for more than two years prior to sale or exchange, nor in any sale of government or municipal bonds. Dealers in securities and incorporated banks and trust companies are not subject to this new provision.

(Mr. Andrews will gladly answer your income tax questions during the time these articles are appearing in the Pacific Constructor. Address your communications care F. T. Andrews & Co., Certified Public Accountants, Russ Building, San Francisco.)

capillary drainage commences. *Saturation* is the point at which all air is expelled and the voids are completely filled with water. Moisture capacity at saturation can be derived from the porosity by dividing by the apparent specific gravity of the material. The *shrinkage limit* is the moisture content at which swelling commences in clayey material. It is marked by color change from light to dark and physical change from solid to semi-solid. The *plastic limit* is the moisture content which marks the change from semi-solid to plastic state in clayey material. The *liquid limit* is the dividing line between the solid or plastic and the liquid states. For granular materials the liquid limit and moisture content at saturation are practically the same.

These limits, together with volumetric changes for varying moisture content between shrinkage limit and liquid limit, can be readily determined by simple laboratory tests. These tests are all very useful in predetermining how a soil will behave under moisture conditions differing from that in which found, and have very practical applications. The accompanying shrinkage diagram shows the relative quantitative values of the various moisture capacities for a typical sandy clay.

Transmission Capacity for Water

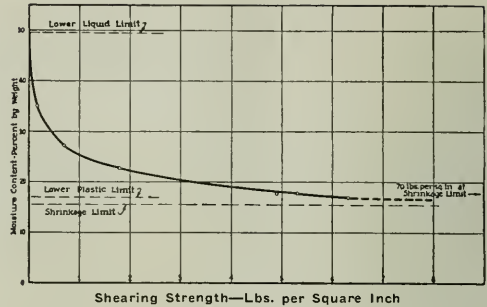
A material having great porosity does not necessarily transmit or yield its water freely. In fact, clayey materials which are usually the most porous are also the most retentive of moisture. The less porous sands and gravels, on the other hand, drain readily and transmit water easily under the influence of gravity or pressure difference.

The capacity of a material to transmit gravity water is termed permeability. Knowledge of the permeability of earthy material is of great importance for construction operations in saturated soils or where flooding may occur from heavy rains or storm runoff. Clean gravels and clean, uniform and coarse-grained sands are the most permeable materials, followed by graded sands and pure silts. Clays and clayey gravels, sands and silts are ordinarily practically impermeable, and when thoroughly consolidated are quite impermeable. Permeability is often measured as flow in gallons per 24 hours per square foot of cross section of the permeable material taken at right angles to the direction of flow, with a hydraulic gradient of 100 per cent and temperature of 60° Fahrenheit. The quantitative results of laboratory tests for permeability, if made upon undisturbed material cores, can readily be applied to practical problems.

Resistance to Shear

Knowledge of the resistance to lateral displacement is of greatest importance in determining the stability of earth slopes for embankments, and also in cuts, trenches and foundation pits. It has further application in checking up on possibility of slides, determining the necessity and strength of sheeting and bracing, depth of driving and strength of sheet piling, and the design of permanent retaining walls. A further application is in the determination of supporting power of earth for heavy traffic, temporary loads, and fills or high embankments, such as dams, where there is possibility of lateral flow.

The stability of earth under these conditions depends upon its strength in shear, which latter is composed of the two forces, cohesion and internal friction. Cohesion results from the attraction between individual particles. The coefficient of cohesion is measured as the cohesion per unit of area of sliding surface. It is zero for clean, dry granular materials and liquid clay, but has large values for well compacted clays. For the same material it varies greatly with the water content. It acts independently of any external pressure. (For the effect of moisture upon shear, see the accompanying shear diagram for a typical sandy clay.)



MOISTURE-SHEAR DIAGRAM FOR TYPICAL SANDY CLAY

Internal friction, on the other hand, results from the resistance to sliding of granular particles one upon the other, and varies directly with the pressure upon the sliding plane. The ratio of the sliding resistance to the pressure upon the sliding plane is termed the coefficient of internal friction, and the angle of which it represents the tangent is known as the angle of internal friction. For practical purposes this is equal to the angle of repose of the material, which latter is easily obtainable by test.

Recent investigations have shown that the relative cohesion of various earth materials can be determined by subtracting from the plasticity index (difference between liquid and plastic limits) 25 per cent of the liquid limit. This furnishes a simple basis for classifying materials with respect to cohesion. There are several difficulties which arise, however, in obtaining absolute values for cohesion, but sufficient information is available to adopt average values for the various classes of material.

There are a number of earth tests incidental to those described which are of more importance in engineering design than in construction. These have been omitted from the above list.

Earth Sampling

One of the practical difficulties in making earth tests is that of obtaining undisturbed natural samples of material. This has been due in part to the lack of suitable equipment and standardized procedure for securing and preserving samples. The matter has received much attention in the agricultural and petroleum industries and more recently in the civil engineering field. An outstanding example of progress in this matter were the boring contracts recently completed at pier sites for the San Francisco Bay bridge authority. Undisturbed original samples of mud, clay and sand were there obtained in triplicate every ten feet to a maximum depth of 307 feet below mean sea level, with water depths exceeding 100 feet, and, without exposure to water or air, were placed in hermetically sealed containers for future testing.

Another difficulty arises from the more or less haphazard occurrence of sedimentary formations necessitating extensive sampling in order to obtain accurate knowledge of average soil conditions. The solution of this problem will be found in the development of simple routine tests which in conjunction with complete control tests on type samples will furnish sufficient data for the purpose desired at reasonable cost. Also as a mass of analyzed test data accumulates in a laboratory conducted in connection with an engineering practice, a background for judgment will be built up which will be of great value in reducing the volume of testing.

(The second and concluding part of Mr. Lee's article will appear in the December 1 issue of PACIFIC CONSTRUCTOR.)

Some Phases of the 1932 Federal Income Tax Law

FRANK T. ANDREWS, *Certified Public Accountant; Associate Member, Associated General Contractors*

(NOTE: This is the first of a series of eight articles.)

ALTHOUGH the Revenue Act of 1932 was not approved until June 6, 1932, its provisions are retroactive to January 1, 1932. In this new act, Congress made numerous changes regarding the method of reporting income and in the rates of taxation. As a matter of prime importance to all taxpayers, a few salient features of this new act will first be discussed.

CONCERNING CORPORATIONS

Corporation Returns—Every corporation must file a return, regardless of the amount of income.

Tax Rates—The new rate is $13\frac{3}{4}$ per cent of the net income, and there is no specific credit allowed. For the privilege of filing consolidated returns, a tax of $\frac{3}{4}$ of 1 per cent is imposed, in addition to the regular rate, making the rate on consolidated returns $14\frac{1}{2}$ per cent.

Dividends—Dividends are not taxable if they are received from corporations subject to the Federal income tax. These dividends must be reported, however, on a corporation return, but may be entered in the same amount as a deduction. Dividends received from building and loan association are taxable.

Bond Interest—Ordinary bond interest should be included as taxable income. Interest received upon obligations of a State, territory or any political subdivision thereof is exempt from the income tax.

Net Losses—Only a one-year carry-over is allowed for net losses under the 1932 act. A 1930 net loss may not be carried forward beyond 1931.

Paid-in or Donated Surplus—Property so acquired by a corporation carries the same value as a basis for depreciation or gain or loss on subsequent disposition as it had for the stockholder who gave it to the corporation. It is a set rule, however, that a corporation makes no profit and is allowed no loss in the purchase, sale, exchange or manipulation of its own capital stock.

Carrying Charges on Unproductive Property—The omission of specific mention of such carrying charges in prior acts resulted in many differences of interpretation. For example, taxes paid on a vacant piece of ground from which no income is realized. The new Revenue Act provides that "taxes and other carrying charges on unimproved and unproductive real property" may be added to the cost or other basis of the property, providing, of course, that such charges have not been deducted on income tax returns for prior years.

CONCERNING INDIVIDUALS

Who Must File Returns—Every single person and every married person not living with husband or wife, earning more than \$1,000 must file a return. Married persons living with husband or wife, earning \$2,500 or more must file. Where combined earnings of husband and wife are \$2,500 or more a return is required. Where the gross income of an individual is in excess of \$5,000, a return must be made regardless of the net income.

Exemptions—Personal—\$1,000 for a single person and \$2,500 for a married person or head of a family are the new exemptions. If separate returns are filed by husband and wife, the \$2,500 exemption may be divided between them in any proportion.

Dependents—The \$400 credit for each dependent is unchanged, except that it is prorated by months if a

change in status occurs during the year. This exemption may not be divided between husband and wife. The exemption is allowed for children under 18 years of age and for persons incapable of self-support.

Tax Rates—The normal tax rates for individuals are raised from $1\frac{1}{2}$, 3 and 5 per cent to 4 per cent on the first \$4,000 over the personal exemption and credits allowed, and 8 per cent on the remainder. The 1922 surtax rates have been revived, starting with 1 per cent on incomes in excess of \$6,000 and increasing with the amount of income received up to 55 per cent in the highest bracket.

Earned Income Credit—This is discontinued under the 1932 act.

Building and Loan Associations—Dividends or interest received from such associations are now taxable without the previously allowed \$300 exemption.

Pensions and World War Compensation Payments—All such pensions received from the United States or from a State for military service are now taxable.

Community Property—Under the community property rulings, salaries of husband and wife, domiciled in California, and other community earnings may be divided between husband and wife for the purpose of filing separate income returns.

Net Loss—A "net loss" refers to a net loss, during a taxable year, in a "trade or business regularly carried on by a taxpayer." Such a "net loss" may be used, under the new act to reduce income of the next succeeding taxable year. To compute the "net loss" of an individual taxpayer, the loss shown by the preceding year's income tax return must be diminished by (a) the amount of tax free interest not included therein, (b) by the excess of capital losses over capital gains, and (c) by the excess of non-business deductions over non-business income. It should be clear, then, that a "net loss" which may be carried forward is not the net loss shown by the income tax return nor the net loss shown by the taxpayer's books; it is purely statutory.

During the last legislative session the question of losses arising from the sale of stocks and bonds was the subject of long drawn-out debate. It was apparent to all that losses taken on stocks and bonds during the last two years were the cause of a large decrease in income tax revenue. In an effort to partly overcome the loss of revenue attributed to this source, Congress made a drastic change, effecting a limitation on stock and bond losses. It was enacted that losses from the sale or exchange of stocks or bonds held for less than two years are deductible, in the return for the year in which they are sustained, only against gains from similar transactions.

This new legislation, however, has no bearing upon stock and bond losses where the stocks and bonds were held for more than two years prior to sale or exchange, nor in any sale of government or municipal bonds. Dealers in securities and incorporated banks and trust companies are not subject to this new provision.

(Mr. Andrews will gladly answer your income tax questions during the time these articles are appearing in the Pacific Constructor. Address your communications care F. T. Andrews & Co., Certified Public Accountants, Russ Building, San Francisco.)

Army Engineers Study Water Plan

With Bakersfield as their starting point, a large party of prominent California engineers this month is making an extensive inspection tour of the Sacramento and San Joaquin Valleys for the purpose of determining the extent to which Federal assistance will be given to the State water plan. The experts are undertaking a thorough first-hand investigation of the sites at which it is proposed to improve the Sacramento and San Joaquin Rivers and their various tributaries under the proposed program of the State engineer.

The party includes the board of river and harbor engineers of the United States Engineer's Office, which is composed of the following: Col. William J. Bordon, Col. Edward H. Schultz, Col. Edward M. Markham, Col. Thomas H. Jackson, Lieut. Col. James J. Loving or Lieut. Col. Warren T. Hannum and Maj. Eugene Reybold. With the board of engineers there are also: Lieut. Col. Thomas M. Robins, United States division engineer; Lieut. Conrad P. Hardy, his military assistant; Congressman Albert E. Carter; Earl Lee Kelley, director of public works; Edward Hyatt, State engineer; Raymond Matthew, supervising hydraulic engineer; G. H. Jones, hydraulic engineer; A. D. Edmonston, deputy State engineer; C. I. Grimm, U. S. principal engineer.

The major points of the State water plan which are proposed for immediate construction are the Kennett and Friant reservoirs, the San Joaquin-Kern and Madera canals, the San Joaquin pumping system and various power and incidental developments. The proposed immediate expenditure would amount to about \$158,000,000, and a continuation of the program over succeeding years will possibly involve ten times this amount for new construction.

The long continued cycle of years with sub-normal rainfall has brought about conditions which make it necessary to adopt some such major plan of construction if agriculture is to continue as in the past throughout the Sacramento and San Joaquin Valleys. During the past several years rain has been so slight throughout this territory that the water table has dropped almost out of reach. Pumping costs have doubled and re-doubled, and the necessity for installation of larger and more powerful pumps has become almost a yearly occurrence.

A survey of the United States Engineer's Office reveals that large acreage which was highly productive under former conditions of cheap pumping is now virtually abandoned.

The continuance of the dry cycle affects not only those who rely on pumping water from shallow depths, but

also every individual dependent on the Sacramento or San Joaquin for water supply—the urban resident as well as the rancher. The intrusion of salt water in these rivers is at the present time a major consideration with both State and Federal governments.

They have devoted a great deal of study to the feasibility of constructing a salt water barrier to impede the upstream flow of ocean water at high tide. The idea of the barrier, however, has largely been displaced by that of a dam constructed on the upper Sacramento near Kennett, which, it is believed, will accomplish the same purpose as the barrier and at the same time possess additional advantages. The dam and other incidental construction in connection with it will cost about eighty-five million dollars. This incidental construction is largely made up of an auxiliary dam known as the Kefwick, and other extensive power development. From the sale of power it is hoped to meet a large share of the cost of the entire program, such as operation and maintenance, bond charges, etc. On the basis of conservative estimate, however, it is expected that the revenue will fall short of the required amount, and it is from the Federal government that the State hopes to secure the difference. Certain very large benefits derived from the program come within the field over which the Federal government has jurisdiction. For example, it is expected that by the regular release of water from the Kennett reservoir seasonal variation of flow will be almost eliminated. This will permit vessels of much greater draft to navigate the upper waters of the river at all seasons of the year, particularly during the summer months, when there is the greatest demand for such navigation. In addition to the furtherance of navigation, the dam will control the spring floods and thereby reduce the necessity for much of the elaborate levee work to which the Federal government now contributes a large part of funds for the maintenance.

In addition to the works which the plan proposes for immediate construction on the Sacramento, there is in the program a pumping project for the San Joaquin which calls for the expenditure of about thirty million dollars. This work will be carried on simultaneously with the building of the Kennett dam. It is planned to pump water up the San Joaquin river in sufficient quantity to overcome the intrusion of salinity and in addition provide ample water for irrigation and domestic use. Surveys of State and Federal engineers indicate that there can be released from the Kennett dam at all times a sufficient surplus of water for this purpose.

By the regular discharge of water into the channel of the Sacramento it is proposed to maintain a stage of sufficient height to prevent the intrusion of salinity in that river. This will assist the cities and towns along the river in overcoming the salinity problem with their present water supply systems—a problem which in the past has been very costly. The maintenance of a more or less constant river stage will also remove the present uncertainty as to the supply of irrigation water in the delta, and will greatly reduce such costs to the ranchers in that territory.

Due to the various intangible benefits of the program, such as flood control, improved navigation and freedom from salinity, it is difficult to place a definite monetary value on the ultimate return of the project as a whole. For this reason it has required much more study than a project of comparative financial magnitude, but under the competent direction of State Engineer Hyatt it seems the project is slated for a successful start at an early date.

Move More Dirt Faster with LE TOURNEAU Equipment

A complete line of grading machinery—designed by a contractor—developed on actual construction jobs—built to stand continuous use under the worst conditions.

ENGINEER'S CONSULTATION FREE

R. G. LE TOURNEAU, INC.

Wilson Way at Roosevelt

Stockton, Calif.

CO-OPERATIVE CONSTRUCTION CREDIT

CONSTRUCTION INDUSTRIES' CREDIT BUREAU

(A non-profit, membership owned and operated association affiliated with the National Association of Credit Men)

333 MONTGOMERY STREET, SAN FRANCISCO

F. H. Eichler, Chairman

A. J. McGarry, Mgr.

A GREAT deal is written these days about general business conditions—pet theories are advanced for “smothering” depression, and charges and counter-charges fly giving reasons for its present existence, all of which have relegated such topics as CREDIT MANAGEMENT to a back seat.

If nothing more, I hope this brief article will start the writers “rolling” that this subject may resume its prominent place among the writings of the day, for, in my humble opinion, it is of no less importance nor deserving of no less thought than heretofore. In fact, to my mind, revolutionary changes and advancements in credit management must occur in the not too distant future if credit management is to progress with the times. No one, I believe, will question the statement that production capacity has reached and exceeded ordinary marketing ability. As a natural consequence, all types of high pressure selling methods are being resorted to in efforts to maintain sales volume. A natural sequence of these endeavors is a material spread of disregard for standard terms of sale, resulting in a breakdown of sound credit practices in those industries where credit management is not fortified by soundly organized credit groups wherein credit managers co-operate as a unit.

Carried down through the steps of distribution, this breakdown of sound credit practices creates tremendous competition. Manufacturers start new wholesalers, and wholesalers, new retailers in the mad scramble for business. The desire is to sell more merchandise, of course; but the result, credit minded executives know, is entirely the opposite. Merchandising under such conditions is more a game of substitution and elimination to decrease the cost, or sales at cost, or below cost, all to the detriment of the buying public and the merchant who conducts his business in an ethical manner.

Prolonged continuation of these conditions would simply mean that the ethical merchant must either lower his standards or fade out of the picture. Here, then, is quite evident work for the credit profession. In fact, here lies the duty of the credit men of America. Something must be done for the protection of the ethical merchant.

It is as much a part of his duty that the individual credit manager contact and urge his fellow credit manager who is at present “outside the fold” to become a member of the credit group within his particular industry. It would seem that no more proof would be necessary than the existing chaotic business situation to sell every credit manager on the soundness of collective or group credit control as the means of eliminating those sales practices mentioned above, which ultimately show themselves in bad debt losses and excessive accounts receivable carrying expense.

In my opinion, these credit groups must not only be strengthened by the addition of new members, but they

must expand their activities, and it is in this respect, I feel, we shall see revolutionary advancements in credit management. It seems logical that if credit managers in meeting can successfully determine what accounts deserve no further credit, or should be placed on a cash basis, then they can and should collectively determine upon and enforce some standard to which a merchant must measure up before he is granted the privilege of obtaining credit or granted an extension if it is a case of existing indebtedness.

The underlying credit group principle is uniform credit terms and uniform terms enforcement. No inflexible ruling need be invoked—allowances can be made for extenuating circumstances. A spirit of co-operation and mutual helpfulness should exist, and temporarily embarrassed cases handled with full consideration due the debtor. On the other hand, conditions of irresponsibility, incompetency and fraud when discovered should be dealt with fearlessly and without favor. Credit control of this caliber is thoroughly in accord with the fundamental economic law—“the survival of the fittest” merely accelerating its action, and in a fair and just manner.

This form of credit management may be charged with some of the faults attributed to committee management. On the other hand, when you consider a dozen different credit managers in a dozen different offices with varying degrees of experience and training, varying degrees of ability and judgment, different ideas as to conditions of the near future and with varying degrees of sales pressure being exerted, it seems a logical conclusion that a more uniform and healthy credit decision will be arrived at and the sooner this is accomplished the sooner will unethical sales-credit tactics be obliterated.

WAGES ON EMERGENCY HIGHWAY WORK

The highway departments of the various states are required by the act appropriating emergency federal aid funds, to specify in the contracts a minimum wage to be paid by contractors to skilled and unskilled labor. There is considerable variation in the wages specified by the different states, says The Construction Advisor. It should be remembered, in reflecting on the amount specified, that no laborer can be allowed to work more than thirty hours in any one week. The minimum wage per hour specified by a few of the states for common and skilled labor is as follows:

| | Common | Skilled |
|--------------------|--------|---------|
| Missouri | .35 | .50 |
| Iowa | .40 | .60 |
| Minnesota | .45 | .60 |
| Illinois | .40 | .50 |
| Nebraska | .30 | .50 |
| South Dakota | .30 | .40 |
| Kentucky | .20 | .30 |
| Ohio | .35 | .50 |
| New York | .40 | .50 |
| Virginia | .20 | |
| Maryland | .25 | |
| Texas | .30 | .45 |
| Louisiana | .20 | |
| Colorado | .50 | |

SMITH BROS. TRUCK CO.

“TRANSPORTATION SPECIALISTS”

Portable Crane Service—Rigging

1704 E. 16th St. Los Angeles WEstmore 3271

PULLING DIRT FARMERS OUT OF MUD A PAVING CONFERENCE OBJECTIVE

Basic farm relief that will start at the farmer's own front door has been announced by Dan B. Miller, Managing Engineer, Pacific Coast Division, The Asphalt Institute, as one of the chief aims of the tenth annual asphalt paving conference, to be held in New Orleans, December 5 to 9.

The conference will be attended by the leading highway officials and engineers of the United States, who will consider specific ways and means of expediting the construction of farm-to-market roads throughout the country. Those present at the conference will be shown how dustless, mudless, year-around farm roads can be built of asphalt materials at one-sixth the per mile cost of main trunk lines—thus lowering the total of four and a half million farms still on dirt roads. This figure is two-thirds of the total of all American farms.

The Pennsylvania phase of township road construction, which has been in the spotlight of national attention since Governor Pinchot made the improvement of 20,000 miles of township roads by the state a vital issue in his 1930 election, will be described from the angle of its adaptability to the needs of practically all other states by S. S. Lewis, Secretary of Highways. Already 2,269 miles of the Pinchot plan have been completed at a cost of \$5,300 a mile. The plan was originally adopted by the Governor through recognition that although paving progress had been re-

markable in his state during the preceding ten years, dependence upon high-type pavements alone would never have lifted Pennsylvania farmers out of the mud.

State Highway Director O. W. Merrell, of Ohio, will tell of the effective progress made by his department in the farm-to-market campaign by completing some 1,800 miles of dustless, mudless roads at an average of about \$2,000 per mile.

Experience has shown that farm regions usually prosper in direct ratio to the number of year-around surfaced roads contiguous to the farms, hence the paving conference's forthcoming sponsorship of a national road program designed to aid directly farmers handicapped by poor transportation facilities. Because national paving projects now face the problem of making smaller road budgets meet ever-increasing highway programs, it is planned largely to execute those programs where they will do the most good—on roads that are impassable at certain periods of the year. Three main goals of low-cost paving to be stressed by the asphalt conference are the end of rural isolation, facilitation of the education of country children, and the opportunity for farmers to move their crops as rapidly and over as extended a period of time as their more fortunate fellows who live on surfaced highways.

Farm organizations are getting solidly back of their engineers and officials and urging full participation in this timely conference.

Contractors Machinery Exchange

Rentals a Specialty

1135 - 57th Avenue

OAKLAND, CALIF.

FRUITVALE 0715



Super Concrete Emulsions

Limited

-for Better Concrete 3710 S. ALAMEDA ST., Los Angeles
District Offices
46th Ave. and 308 Stock Ex. Bldg., 216 Walker Bldg.,
Clement St. Portland, Ore. Seattle, Wash.
Oakland, Calif.

Pacific Clay Products

General Offices: 650 Chamber of Commerce Bldg.,
1151 SOUTH BROADWAY
Los Angeles, Calif.

TRIAL

SUBSCRIPTION BLANK



Daily

Construction Reports

PACIFIC CONSTRUCTOR,

545 Mission Street,
San Francisco, Calif.

.....1932

Dear Sirs:

Send me WITHOUT COST for a period of one week, sample copies of PACIFIC CONSTRUCTOR DAILY NEWS SERVICE covering up-to-the-minute tips on work contemplated, bids wanted, bids opened and contracts awarded for all types of engineering construction, materials and equipment.

Name.....

Address.....

City.....

**CONTRACTOR ON MOUNTAIN HIGHWAY
RELIES ON LE TOURNEAU EQUIPMENT**

Away up in the high Sierra, from Gold Run, where Missouri Bill once hauled a locomotive twenty miles along the highway with the aid of unnumbered mules and uncounted cuss words, the state is building the last link of the high-grade improved road from San Francisco east toward Reno.

A new section of 32 foot roadbed is being put in, to replace the old, narrow, high-crowned and rough road built many years ago between Gold Run and the crest of the ridge, now known as "Airport." The distance is 11½ miles, shortening the old road by approximately 6 miles, reducing many grades, eliminating numerous sharp turns and creating a general faster and safer road.

The work this year will be confined to grading and certain temporary surfacing; the permanent paving will not be put on until next year, in order to give the numerous fills time to settle and to let winter snows and next spring's freshets disclose where slides are likely to develop, if any.

The contract for the grading is in the hands of Lang Transportation Company, of Los Angeles, and a number of crews are hard at work in a race to get the grading done before winter sets in. The country is very rugged and some very spectacular work is being done. Numerous cuts of 100 feet, or nearly that, in depth have been made; one, indeed, goes down 120 feet. The fills are even higher than the cuts are deep; there is one fill 180 feet high, 32 feet wide at the top and approximately 600 feet long.

There are 800,000 yards of excavation involved in the work, according to preliminary survey, and approximately 1,000,000 station yards of overhaul. About 110,000 yards of the excavation is being done with Le Tourneau rooter and scrapers, and Le Tourneau bulldozers are also used freely in spreading dirt on fills and in cutting out construction roads so that power shovels can be transported to the points where they are to work.

About a quarter of the work is in rock—"cement gravel" or hard conglomerate, blue rock, granite and a little chalky white rock. About two-thirds pounds of explosives (40% dynamite) has been used per yard of excavation done.

The Le Tourneau equipment is being used chiefly where there is no rock—to cut through earth hillsides, make fills and do grading. According to Charles Lang, who is in charge on the work, "it is the only thing in the world to move dirt with."

Lang said the hardness of the rock encountered and the fact that the hauls were so unusually long had caused him to decide against any extensive use of this equipment in the rockier sections of the contract, reserving these for the conventional shovel and truck operations.

The entire work is being done in highly substantial fashion. Earth fills are laid in eight-inch layers, watered

and tamped with a Le Tourneau sheepfoot roller. Rock fills are laid in two-foot layers and rolled with a ten-ton three-wheel Austin roller. Water is obtained from power company flumes which are numerous in that region.

"Our worst trouble has been with too much water," said Lang. "We have had pretty good luck with slides—so far—but it has been nothing unusual to cut into a dry bank and find a fine big spring inside. Then we had to lay drains to take care of the water." French drains of rock and gravel have been used chiefly for this work.

The equipment on the job includes one Le Tourneau rooter, three Le Tourneau seven-yard scrapers, seven Le Tourneau bulldozers, five Le Tourneau two-section sheep-foot rollers. These machines moved 110,000 yards of dirt in 60 working days.

FOR SALE...

**110 Horsepower Diesel Engine
at a Bargain**

United Commercial Co., Inc.

234 Stuart Street

San Francisco

Cypress Lawn Memorial Park

COLMA, SAN MATEO CO., CALIFORNIA

Executive Office—995 Market St., San Francisco



VIEW OF NEW MEMORIAL COLUMBARIUM
(Largest and most beautiful Columbarium ever erected)

WE HAVE FACILITIES FOR:

- Earth Interment
- Cremation
- Mausoleum Entombment Columbarium Inurnment

Cypress Lawn is adequately protected by a
PERPETUAL CARE FUND.

"VISIT CYPRESS LAWN MEMORIAL PARK"

Phone TRinity 0241 for —

**Rock-Sand-Gravel-Plaster
Cement-Mixed Mortar-Stucco
Lath-Lime Putty-Reinforcing Steel**

**Consolidated Rock
Products Co.**

656 S. Los Angeles St.

Los Angeles, Calif.

Text of San Francisco Impartial Wage Board Award for 1933

Following is the complete text of the findings of the Sixth Impartial Wage Board:

The Impartial Wage Board for San Francisco submits herewith its report and findings together with a schedule of wages and working conditions.

The Board has heard testimony from witnesses representing both employers and employees in practically all crafts in the attached schedule. A review of the testimony discloses that there was a surprising unanimity among both employers and workers. While, in view of the nature of the subject under consideration it was inevitable that there should be some disagreement it is felt that this was, in general, of such a character that these divergences might well be ignored.

Testimony was universal as to the serious effect which the depression has had on the building industry. It is on the mechanic, however, that the depression has fallen most heavily. When it is borne in mind that the value of building construction in San Francisco for the present year will not exceed 20% of the construction for the peak year, the extent of unemployment in the industry as a whole can better be appreciated. It is probably no exaggeration to say that fully 75% of the workers in the building industry are now idle. Were the building trades workers regularly in the employ of the same contractor some plan might be devised which would make possible the rotation of jobs so that the work might be spread among the available mechanics. But the building trades mechanic is employed by one contractor today and another tomorrow so that he not only suffers the loss of time growing from the depression itself, but, in addition, suffers from what might be called the normal intermittency of jobs, which is inherent in the industry.

During times such as these, however, only the most skilled workers, as a whole, are employed, with the result that the mechanic of less skill is to all intents and purposes practically unemployed.

Under these circumstances, it is, of course, impossible to compensate men sufficiently to produce adequate annual earnings. For a man working but one day a week it is obviously impossible to set a scale, within reason, which will provide a decent standard of living. All that can be hoped for even under the most favorable circumstances is to set a scale which

skilled mechanics will demand and which they generally will receive on the better grade of construction work.

The Board, however, does desire to bring out that at no time during the hearings was any testimony introduced to the effect that a reduction in wages would tend to stimulate new construction. The best thought of those most closely connected with the industry seems to indicate that it will only be stimulated when it reflects generally improved business conditions.

The Board heard testimony from a number of witnesses requesting it not only to continue in effect the five-day week, which was decreed by the last Board, but to set a shorter work day. It was urged by them that the establishment of a six-hour day would tend to decrease unemployment. From its knowledge of the industry, the Board believes that much can be accomplished in spreading employment if the problem is intelligently attacked. The peculiar features of each job, however, seem to make inadvisable any hard and fast rule which will be binding on the better class of contractor but which will not be observed by his less conscientious competitor. The Board has had called to its attention successful programs for spreading work which have been carried out on the basis of operating jobs on the two-shift plan. In other instances the crews have been increased by a fixed percentage and then rotated so that all men are given three or more days of work per week. In still other instances the contractor has preferred to work shorter hours. All of these plans for increasing employment in the construction field have the approval of the Board and it strongly recommends that contractors employ one or another of these methods. It is not felt, however, in view of the lack of authoritative information that any one plan can be recommended as against other plans which have been successfully tried.

While the Board did not hear any complaints about the improper use of the helper classification, it is of the opinion that there is a clear line of demarcation between the helper and the bona fide apprentice. The Board only recognizes the classification of helper in those crafts specifically noted in the schedule. This does not mean, however, that the use of apprentices in reason and in accordance with the customary practice of each trade is denied to the contractor. However, since beginning rate of pay,

rates of advancement and other matters of this kind vary from trade to trade, the Board does not feel that it should attempt to include such schedules for apprentices in its awards.

While all rates of pay are shown in sums of dollars per day it is understood that where less than eight hours are worked pro rata rates for such shorter period shall be paid.

Since a special wage board is now sitting to establish a wage for carpenters and allied crafts and also to determine working conditions for the same crafts for the year 1933 no wage for carpenters has been included in this award. It is understood, however that whatever wages and working conditions may be determined by the special board for carpenters will be incorporated in and become a part of this award.

Pending the decision of the special board for carpenters the wages of cabinet workers (outside), hardwood floor-men, millwrights and stair builders—technical sub-divisions of the carpenter trade—are left open. These crafts will, however, take the same wage as that to be established for carpenters.

In conformity with its instructions at the time of its appointment, this Board has not established the wages for men employed in shops, except as noted, and the schedules set forth herein apply only to work performed at the job site.

In general the wages set out below are twenty per cent less than the schedule set by the last Impartial Wage Board but are closely in line in practically all instances, with the wages now being paid and prevailing in the several crafts. In all cases where no reductions have been made during the year, the Board has set the scale at approximately 20% below the rate fixed by the last Impartial Wage Board.

By previous agreement, the wages of teamsters as set forth herein are to remain in effect until April 4, 1933, and the wages of marble setters and marble setters' helpers shall remain in effect for the entire year 1933.

This award, except as noted above, becomes effective on January 1, 1933, on all work and shall remain in effect until June 30, 1933, and for so long thereafter as economic conditions remain substantially unchanged.

Dated: November 9, 1932.

(Signed) W. S. DINWIDDIE,
(Signed) WALTER H. SULLIVAN,
(Signed) GEORGE W. KELHAM,
Chairman.

1933 San Francisco Wage Scale

Recommendations of the Impartial Wage Board for scales to be paid labor in San Francisco County after January 1, 1933, are published here in full. The award will remain in effect until June 30, 1933, and for so long thereafter as economic conditions remain substantially unchanged.

*This scale is based on an eight-hour day and is to be

considered as a minimum and employes of the superior skill and craft knowledge may be paid in excess of the amounts set forth here." states the Board's announcement.

For convenience in comparison with last year's scale the wages fixed on October 17, 1931, are printed in the left hand column below:

| CRAFT | Journeyman Mechanics | |
|--|----------------------|---------|
| | 1932 | 1933 |
| Asbestos Workers | \$ 8.00 | \$ 6.40 |
| Bricklayers | 11.00 | 9.00 |
| Bricklayers' Hodcarriers | 7.00 | 5.60 |
| Cabinet Workers (Outside) | 9.00 | ..... |
| Caisson Workers (Open) | 8.00 | 8.00 |
| Carpenters | 9.00 | ..... |
| Cement Finishers | 9.00 | 7.20 |
| Cook Insulation Workers | 9.00 | 7.20 |
| Electric Workers | 9.00 | 8.00 |
| Electrical Fixture Hangers | 8.00 | 7.00 |
| Elevator Constructors | 10.00 | 8.68 |
| Helpers | 7.00 | 6.03 |
| Engineers, Portable and Hoisting | 9.00 | 8.00 |
| Glass Workers | 8.50 | 6.80 |
| Hardwood Floormen | 9.00 | ..... |
| Housemovers | 3.00 | 6.40 |
| Housemiths, Architectural Iron | 9.00 | 7.20 |
| Housemiths, Reinf. Concrete or Rodman | 9.00 | 7.20 |
| Hoisting Engineers | 11.00 | 10.00 |
| Iron Workers (Bridge and Structural) | 11.00 | 9.60 |
| Laborers (6-day week) | 5.50 | 5.00 |
| Lathers, Channel Iron | 10.00 | 8.00 |
| Lathers, All Other | 8.50 | 6.80 |
| Marble Setters | 10.00 | 8.00 |
| Helpers | 6.00 | 5.00 |
| Mosaic and Trezzo Workers (Outside) | 9.00 | 7.20 |
| Helpers | 6.00 | 5.00 |
| Painters | 9.00 | 7.00 |
| Painters, Varnishers & Polishers (Outside) | 9.00 | 7.00 |

| CRAFT | Journeyman Mechanics | |
|---|----------------------|-------|
| | 1932 | 1933 |
| Pile Drivers and Wharf Builders | 9.00 | 8.00 |
| Pile Drivers Engineers | 10.00 | 9.00 |
| Plasterers | 11.00 | 8.80 |
| Plasterers' Hodcarriers | 7.50 | 6.00 |
| Plumbers | 10.00 | 8.00 |
| Roofers (All Classifications) | 8.00 | 6.40 |
| Sneet Metal Workers | 9.00 | 7.20 |
| Sprinkler Fitters | 11.00 | 9.00 |
| Steam Fitters | 10.00 | 8.00 |
| Stair Builders | 9.00 | ..... |
| Stone Cutters, Soft and Granite | 8.50 | 6.80 |
| Stone Setters, Soft and Granite | 9.00 | 8.00 |
| Stone Derrickmen | 9.00 | 7.20 |
| Tile Setters | 10.00 | 8.00 |
| Helpers | 6.00 | 5.00 |
| Tie, Cork and Rubber | 9.00 | 7.20 |
| Welders, Structural Steel Frame on Bldgs. | ..... | 9.60 |
| Welders, All Others on Buildings | ..... | 8.00 |
| Auto Truck Drivers—Less than 2500 lbs. | 6.00 | 5.50 |
| Auto Truck Drivers—2500 to 4500 lbs. | ..... | 6.50 |
| Auto Truck Drivers—4500 lbs. to 6500 lbs. | 7.00 | 6.50 |
| Auto Truck Drivers—6500 lbs. and over | 7.50 | 7.00 |
| General Teamsters, 1 Horse | 6.00 | 5.50 |
| General Teamsters, 2 Horses | ..... | 6.00 |
| General Teamsters, 4 Horses | 7.00 | 6.50 |
| Plow Teamsters, 4 Horses | 7.00 | 6.50 |
| Scraper Teamsters, 2 Horses | ..... | 6.00 |
| Scraper Teamsters, 4 Horses | 6.50 | 6.00 |

GENERAL WORKING CONDITIONS

(1) Eight hours shall constitute a day's work for all crafts, except as otherwise noted.

(2) Where less than eight hours are worked pro rata rates for such shorter period shall be paid.

(3) Plasterers' Hodcarriers, Bricklayers' Hodcarriers, Roofers' Laborers and Engineers, Portable and Hoisting, shall start 15 minutes before other workmen, both at morning and at noon.

(4) Five days, consisting of not more than eight hours a day, on Monday to Friday inclusive, shall constitute a week's work.

(5) The wages set forth herein shall be considered as net wages.

(6) Except as noted the above rates of pay apply only to work performed at the job site.

(7) Transportation costs in excess of twenty-five cents each way shall be paid by the contractor.

(8) Traveling time in excess of one and one-half hours each way shall be paid for at straight time rates.

(9) Overtime shall be paid as follows: For the first four hours after the first eight hours, time and one-half. All time thereafter shall be paid double time. Saturdays (except Laborers), Sundays and Holidays from 12 midnight of the preceding day, shall be paid double time. Irrespective of starting time, overtime for cement finishers shall not commence until after eight hours of work.

(10) On Saturday Laborers shall be paid straight time for an eight-hour day.

(11) Where two shifts are worked in any twenty-four hours, shift time shall be straight time. Where three shifts are worked, eight hours' pay shall be paid for seven hours on the second and third shifts.

(12) All work, except as noted in paragraph 13, shall be performed between the hours of 3 A. M. and 5 P. M.

(13) In emergencies, or where premises cannot be vacated until the close of business, men then reporting for work shall work at straight time. Any work performed on such jobs after midnight shall be paid time and one-half up to four hours of overtime and double time thereafter, provided, that if a new crew is employed on Saturdays, Sundays or Holidays which has not worked during the five preceding working days, such crew shall be paid time and one-half. No job can be considered as an emergency job until it has been registered with the Industrial Association and a determination has been made that the job falls within the terms of this section.

(14) Recognized holidays to be: New Year's Day, Declaration Day, Fourth of July, Labor Day, Admission Day, Thanksgiving Day, Christmas Day.

(15) Men ordered to report for work, for whom no employment is provided shall be entitled to two hours' pay.

(16) This award shall be effective in the City and County of San Francisco.

UNIT BID SUMMARY

Compiled from the Daily News Service of Pacific Constructor

JACKSON STREET PIPE LINE—HAYWARD

HAYWARD, Alameda Co., Cal.—Plazza & Greene, 296 N 4th St., San Jose at \$1753.99 awarded contract by city council to lay a new pipe line on Jackson St. to Castro St., all cast iron pipe to be furnished by the city. Project involves:

- (1) 4061 lin. ft. lay 12-in. c. l. b & a pipe (trench, backfill & repave).
- (2) 128 lin. ft. lay 12-in. c. l. double simplex pipe;

- (3) 50 lin. ft. lay 6-in. c. l. b & s pipe;
- (4) 1 fire hydrant (set);
- (5), (6), (7), (8) and (9) details as shown on plans;
- (10) set 3 12-in. valves;
- (11) set 3 6-in. valves;
- (12) set 4 12x6-in. c. l. tees.

All pipe and fittings to be furnished by City of Hayward.
Complete bids follow:

- (A) Plazza & Greene, San Jose \$1753.99
- (B) John Carcano, San Rafael 1795.60
- (C) C. M. Gest, S. F. 2313.37
- (D) Jones & King, Hayward 2328.45
- (E) Geo. DeGolyer, Oakland 2401.95
- (F) W. J. Tobin, Oakland 2450.44
- (G) City Const. Co., Berkeley 2484.30
- (H) Martin Murphy, Berkeley 2502.94
- (I) E. L. Burr, S. F. 2601.00
- (J) E. W. Heple, San Jose 3203.55

Unit bids follow:

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
|-----------|------|--------|-------|---------|---------|---------|---------|---------|---------|--------|--------|--------|
| (A) | \$34 | \$1.55 | \$.50 | \$ 8.00 | \$20.00 | \$20.00 | \$20.00 | \$20.00 | \$25.00 | \$2.50 | \$1.25 | \$2.50 |
| (B) | .40 | .40 | .40 | 12.00 | 6.00 | 6.00 | 6.00 | 6.00 | 6.00 | 7.00 | 7.00 | 4.00 |
| (C) | .47 | 1.40 | .75 | 16.00 | 36.00 | 18.00 | 18.00 | 18.00 | 25.00 | 6.00 | 5.00 | 6.00 |
| (D) | .45 | 1.00 | 1.60 | 20.00 | 60.00 | 30.00 | 30.00 | 30.00 | 90.00 | 3.00 | 3.00 | 5.00 |
| (E) | .53 | .73 | .59 | 19.00 | 15.00 | 14.00 | 19.00 | 10.00 | 25.00 | 5.00 | 4.00 | 3.00 |
| (F) | .50 | 1.73 | .75 | 10.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 3.00 | 3.00 | 2.00 |
| (G) | .50 | 1.50 | .60 | 30.00 | 30.00 | 30.00 | 30.00 | 30.00 | 30.00 | 6.00 | 4.00 | 7.50 |
| (H) | .54 | 1.00 | 1.00 | 12.00 | 20.00 | 10.00 | 10.00 | 10.00 | 25.00 | 8.00 | 3.00 | 3.00 |
| (I) | .50 | 3.00 | .60 | 15.00 | 25.00 | 20.00 | 25.00 | 20.00 | 20.00 | 4.00 | 2.50 | 3.00 |
| (J) | .65 | 2.05 | 1.20 | 20.00 | 30.00 | 25.00 | 22.50 | 25.00 | 60.00 | 5.50 | 3.50 | 8.00 |

L. A. HARBOR BREAKWATER—GOV'T.

LOS ANGELES, Cal.—Puget Sound Bridge & Dredging Co., Seattle, Wash., submitted low total bid to U. S. Engineer, 751 South Figueroa street, Los Angeles, Nov. 10, at \$465,410, to construct a section of rubble mound breakwater enrockment about 1400 ft. long in Los Angeles-Long Beach Harbor. Freight rate corrections will not affect the standing of the low bidder. Freight rates were

quoted as follows: Santa Fe, 60c per ton for all rock for Corona or May; Southern Pacific, 60c per ton for class A rock, and 45c per ton for class B rock from Declassville; Union Pacific, 60c per ton for class A rock, and 45c per ton for class B rock from Ormond. Bids were taken as follows:

- (4) Unit price for 120,000 cu. yds. class A rock, 8 tons or over, for top surfacing, running 160 lbs. to the cu.

- ft.;
 - (2) Total for class A rock;
 - (3) Freight rate for class A rock;
 - (4) Unit price for 120,000 cu. yds. class B rock, lighter or under stone;
 - (5) Total for class B rock;
 - (6) Freight rates for class B rock;
 - (7) Total bid;
 - (8) Number of days for completion.
- The bids, which were held under advisement, are as follows:

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|--|--------|--------------|---------|--------|-----------|---------|--------------|-----|
| Puget Sound Bridge & Dredging Co..... | \$2.07 | \$213,210.00 | \$ | \$2.11 | \$253,200 | \$ | \$466,410.00 | 270 |
| Standard Dredging Co. | 2.14 | 220,420.00 | .60 | 2.39 | 236,800 | ... | 507,220.00 | 365 |
| Mundo Engineering Co. | 1.55 | 159,650.00 | ... | 3.05 | 366,000 | ... | 525,650.00 | 300 |
| Pan-Pacific Piling & Construction Co. | 1.8538 | 190,941.40 | .64 | 3.0742 | 368,904 | ... | 559,845.40 | 300 |
| Guy F. Atkinson Co. | 2.10 | 216,300.00 | ... | 3.48 | 417,600 | ... | 633,900.00 | 360 |
| Lindgren & Swinerton. | 2.10 | 216,300.00 | .60 | 4.80 | 576,000 | .60 | 792,300.00 | 365 |
| Merritt-Chapman & Scott Corporation | 2.93 | 301,790.00 | .96 | 5.00 | 600,000 | .96 | 901,790.00 | 325 |
| Karl E. Kump. | 3.33 | 342,990.00 | .96 | 5.02 | 602,400 | .96 | 945,390.00 | 350 |
| Engineer's Estimate | | | | | | | 648,690.00* | |

*Including supervision.

TWO STEEL STRINGER BRIDGES—SAN LUIS OBISPO COUNTY

SAN LUIS OBISPO COUNTY, Cal.—Carl N. Swenson Co., 355 Stockton Ave., San Jose, at \$84,295.50 submitted low bid to State Highway Commission to construct two steel stringer bridges with concrete decks, one across Pico Creek three miles south of San Simeon, consisting of eight 55-foot spans and four 20-ft. spans, and the other across Little Pico Creek, two miles south of San Simeon, consisting of six 48-ft. spans, four 34-ft. spans and two 20-ft. spans, involving:

- (1) 1,870 cu. yds. struc. excavation;
- (2) 4,300 cu. yds. rdwy. excav., unclassified;

- (3) 7,170 lin. ft. furnish Douglas fir piles, inc. test piles;
- (4) 294 each drive do;
- (5) 450 cu. yds. Class A cem. conc. (footing blocks);
- (6) 2,212 cu. yds. Class A cem. conc. (struc.);
- (7) 247,000 lbs. bar reinf. steel;
- (8) 694,000 lbs. struc. steel;
- (9) 2,130 lbs. cast steel;
- (10) 2,370 lin. ft. solid timber railing;
- (11) 1 lot misc. items of work.

Complete bids follow:
(A) Carl N. Swenson Co., San Jose, \$84,295.50.
(B) Rocca & Caletti, San Rafael, \$90,190.85.

- (C) Herbert M. Baruch Co. and Robinson-Roberts Co., Los Angeles, \$91,447.41.
- (D) M. E. McGowan, San Francisco, \$91,684.00.
- (E) Hartman Const. Co. and G. A. Graham Co., Bakersfield, \$93,312.62
- (F) J. F. Shepherd, Stockton, \$94,688.00.
- (G) Theo. M. Maino, San Luis Obispo \$95,372.40.
- (H) Kuckenberg Wittman Co., Yosemite, \$99,608.00.
- (I) Oberg Bros., Los Angeles, \$99,649.80.

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) |
|------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| (1) | \$ 1.95 | \$ 2.50 | \$ 3.00 | \$ 3.00 | \$ 4.21 | \$ 8.00 | \$ 3.55 | \$ 5.00 | \$ 3.80 |
| (2) | .34 | .30 | .27 | .35 | .40 | .30 | .28 | .50 | .35 |
| (3) | .25 | .38 | .27 | .20 | .28 | .24 | .27 | .30 | .23 |
| (4) | 9.50 | 12.80 | 10.70 | 20.00 | 10.32 | 10.00 | 13.80 | 10.00 | 15.40 |
| (5) | 9.00 | 6.00 | 10.30 | 14.00 | 12.66 | 13.00 | 12.75 | 15.00 | 16.50 |
| (6) | 13.70 | 13.90 | 16.00 | 14.00 | 15.32 | 13.00 | 14.30 | 16.00 | 16.50 |
| (7) | .0345 | .0342 | .0415 | .035 | .0375 | .033 | .039 | .035 | .0375 |
| (8) | .0415 | .04 | .038 | .04 | .04 | .041 | .043 | .042 | .041 |
| (9) | .09 | .14 | .117 | .10 | .18 | 1325 | .15 | .10 | .12 |
| (10) | .90 | 1.25 | .80 | 1.00 | .80 | .50 | .80 | 1.00 | .83 |
| (11) | 600.00 | ..... | 800.00 | 999.00 | 1036.00 | 1100.00 | 1150.00 | 500.00 | 1000.00 |

IMP. BROADWAY—SAN GABRIEL—CITY

AWARD

SAN GABRIEL, Los Angeles Co., Cal.—Hall-Johnson Co., 950 Westminster St., Alhambra, submitted low bid (using asphaltic concrete) to the City Council Nov. 9, at \$16,853.14 to improve Broadway in the City of San Gabriel, under cash contract.

Southern California Roads Co., 2235 E 25th St., Los Angeles, submitted low bid using Warrenite-bitulithic, at \$24,626.01. Bids taken under advisement by Ira H. Stouffer, city clerk, one week.

The items were:

- (1) 41 ft. Class A curb;
- (2) 241 ft. Class B curb;
- (3) 706 sq. ft. cement sidewalk;

| | (1) | (2) | (3) | (4) | (4a) | (5) | (5a) | Total | Total |
|-----|-------|-------|-------|-------|-------|-------|-------|-------------|-------------|
| (A) | \$.40 | \$.30 | \$.09 | \$.05 | \$.10 | \$.07 | \$.11 | \$16,853.14 | \$26,572.44 |
| (B) | .45 | .35 | .10 | .05 | ..... | .07 | ..... | 16,874.30 | ..... |
| (C) | .35 | .31 | .15 | .054 | ..... | .076 | ..... | 18,325.02 | ..... |
| (D) | .55 | .45 | .12 | .06 | ..... | .0775 | ..... | 18,751.18 | ..... |
| (E) | .50 | .35 | .11 | .067 | .086 | .081 | .102 | 19,582.90 | 24,626.01 |
| (F) | .75 | .50 | .12 | .07 | ..... | .098 | ..... | 23,617.23 | ..... |

- (4) 8210 sq. ft. 4-in. asph. concrete pave. (2½-in. base, 1½-in. top);
- (4a) Alt. to (4) 4-in. Warrenite-bitulithic (2½-in. base, 1½-in. top);
- (5) 232,720 sq. ft. 6-in. asph. concrete pave. (4-in. base, 2-in. top);
- (5a) Alt. to (5), 6-in. Warrenite-bitulithic pave. (4-in. base, 2-in. top)

The bidders were:

- (A) Hall-Johnson Company.
- (B) Oswald Brothers.
- (C) Southwest Paving Company.
- (D) J. A. Thompson.
- (E) Southern California Roads Co.
- (F) Griffith Company.

The unit bids follow:

| | (1) | (2) | (3) | (4) | (4a) | (5) | (5a) | Total | Total |
|-----|-------|-------|-------|-------|-------|-------|-------|-------------|-------------|
| (A) | \$.40 | \$.30 | \$.09 | \$.05 | \$.10 | \$.07 | \$.11 | \$16,853.14 | \$26,572.44 |
| (B) | .45 | .35 | .10 | .05 | ..... | .07 | ..... | 16,874.30 | ..... |
| (C) | .35 | .31 | .15 | .054 | ..... | .076 | ..... | 18,325.02 | ..... |
| (D) | .55 | .45 | .12 | .06 | ..... | .0775 | ..... | 18,751.18 | ..... |
| (E) | .50 | .35 | .11 | .067 | .086 | .081 | .102 | 19,582.90 | 24,626.01 |
| (F) | .75 | .50 | .12 | .07 | ..... | .098 | ..... | 23,617.23 | ..... |

ASPHALT PAVING—GLENDALE

GLENDALE, L. A. Co., Cal.—Southwest Paving Co., 711 Lankershim Bldg., Los Angeles, submitted low bid to City Council at \$13,275.55 for improvement of Brand Blvd., bet. Los Feliz Road and the southerly city limits, and in portions of intersecting and terminating streets, under cash contract, involving:

- (1) 5050 lin. ft. curb, class B, including grading;
- (2) 80 lin. ft. curb, class B armored, including grading;
- (3) 60,800 sq. ft. 4-in. asphalt concrete base and 2-in. asphalt concrete wearing surface, including grading;

| | (1) | (2) | (3) | (4) | (5) | (6) | Total |
|----------------------|-------|-------|--------|--------|-------|--------|-------------|
| Southwest Paving Co. | \$.32 | \$.10 | \$.085 | \$.025 | \$.02 | \$.043 | \$10,827.55 |
| Heuser & Garnett | .30 | 1.00 | .09 | .026 | .026 | .05 | 11,356.50 |
| Oswald Bros. | .36 | .63 | .085 | .032 | .032 | .05 | 12,281.00 |
| Griffith Co. | .30 | 1.00 | .098 | .034 | .035 | .06 | 13,179.40 |

E. F. Fleming, P. O. Box 717, Glendale, submitted low bid to City Council at \$4063.36 for the improvement of Canada Blvd., adjacent to its southerly intersection with Verdugo Road, under Cash Contract, involving:

- (1) lump sum, grading, including removing and disposing of the improvements in place which conflict with the improvement called for, and bringing sewer manholes to grade;
- (2) 931 lin. ft. curb, class B;

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | Total |
|------------------|-----------|-------|--------|--------|-------|-------|-------|-----------|
| E. L. Fleming | \$.280.00 | \$.31 | \$.125 | \$.205 | \$.03 | \$.03 | \$.03 | \$4063.36 |
| Heuser & Garnett | .660.00 | .31 | .21 | 1.05 | 2.28 | .028 | .028 | 4417.82 |
| Griffith Co. | 250.00 | .30 | .18 | .11 | 2.46 | .04 | .03 | 4643.80 |
| Oswald Bros. | 450.00 | .40 | .22 | 1.25 | 2.79 | .04 | .04 | 5229.55 |

IMPROVE G. C. AVE. EXTENSION—SAN FRANCISCO

SAN FRANCISCO.—Union Paving Co., Call Building, San Francisco, at \$995.70 submitted low bid to Department of Public Works to improve G Iden Gate Ave. extension east to Stanyan St., involving:

- (1) 250 cu. yds. excavation;
- (2) 162 ft. armored conc. curb;
- (3) 70 ft. 6-in. V.C.P. side sewer;
- (4) 1 brick catchbasin;
- (5) 30 ft. 10-in. V.C.P. culvert;
- (6) 1,000 sq. ft. 1-course concrete sidewalk;
- (7) 700 sq. ft. Class E conc. pave.;

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) |
|-----|-------|-------|-------|-------|-------|-------|--------|-------|-------|
| (1) | \$.20 | \$.25 | \$.50 | \$.20 | \$.52 | \$.75 | \$.36 | \$.75 | \$.75 |
| (2) | .60 | .60 | .65 | 1.00 | .65 | .65 | .74 | 1.15 | 1.09 |
| (3) | .70 | .70 | .65 | 1.00 | .60 | .70 | .80 | 2.00 | 1.50 |
| (4) | 75.00 | 60.00 | 70.00 | 80.00 | 72.00 | 75.00 | 100.00 | 80.00 | 75.00 |
| (5) | 1.50 | 1.50 | 1.00 | 1.00 | .50 | 1.20 | 2.00 | 2.00 | 2.00 |
| (6) | .11 | .12 | .12 | .12 | .13 | .12 | .125 | .155 | .15 |
| (7) | .185 | .21 | .21 | .20 | .22 | .21 | .27 | .20 | .35 |
| (8) | .19 | .225 | .21 | .20 | .23 | .22 | .224 | .29 | .35 |
| (9) | .10 | .09 | .08 | .10 | .06 | .075 | .09 | .20 | .25 |

- (8) 2,000 sq. ft. asph. conc. pave.;
- (9) 600 sq. ft. asph. conc form pavement.

Complete bids follow:

| | |
|-----------------------------|------------|
| (A) Union Paving Co. | \$ 995.79 |
| (B) E. J. Treacy | \$1,084.70 |
| (C) M. J. Lynch | \$1,110.80 |
| (D) C. L. Harney | \$1,112.00 |
| (E) Theo. Cohn | \$1,153.30 |
| (F) California Concrete Co. | \$1,204.80 |
| (G) Fay Imp. Co. | \$1,241.88 |
| (H) L. Sartorio | \$1,648.80 |
| (I) M. Bertolino | \$1,834.50 |

Unit bids follow:

LAKE COUNTY, Cal.—Golden State Culvert Mfg. Co., 1911 Union Street, Oakland, at \$1,877 awarded contract by U. S. Bureau of Public Roads, San Francisco, to furnish corrugated metal pipe f.o.b. Hanks Camp, two mi. east of Bartlett Springs, involving:

- (1) 378 ft. 12-in. corr. metal pipe;
- (2) 573 ft. 15-in. do;
- (3) 742 ft. 18-in. do;
- (4) 112 ft. 24-in. do;
- (5) 222 ft. 30-in. do;
- (6) 28 ft. 36-in. do;
- (7) 56 ft. 42-in. do;
- (8) 54 ft. 48-in. do;
- (9) 6 coupling bands for 12-in. pipe;
- (10) 8 do for 15-in. pipe;
- (11) 2 do for 16-in. pipe;
- (12) 28 do for 18-in. pipe;
- (13) 5 do for 24-in. pipe;
- (14) 12 do for 30-in. pipe;
- (15) 1 do for 36-in. pipe;
- (16) 2 do for 42-in. pipe;
- (17) 2 do for 48-in. pipe;
- (18) 12 ½x½-in. galv. bolts for coupling bands.

Complete bids follow:

- (A) Golden State Culvert Mfg. Co., \$1,877.
- (B) Western Pipe & Steel Co., \$1,971.
- (C) California Corrugated Culvert Co., \$1,973.

Unit bids follow:

| | (A) | (B) | (C) |
|------|-------|-------|-------|
| (1) | \$.47 | \$.51 | \$.51 |
| (2) | .57 | .60 | .61 |
| (3) | .69 | .70 | .73 |
| (4) | 1.09 | 1.11 | 1.12 |
| (5) | 1.37 | 1.40 | 1.40 |
| (6) | 2.18 | 2.24 | 2.21 |
| (7) | 2.54 | 2.76 | 2.62 |
| (8) | 2.96 | 3.42 | 3.14 |
| (9) | .57 | .73 | .69 |
| (10) | .67 | .79 | .76 |
| (11) | .71 | .82 | .78 |
| (12) | .79 | .86 | .82 |
| (13) | 1.19 | 1.10 | 1.17 |
| (14) | 1.47 | 1.25 | 1.35 |
| (15) | 2.67 | 2.42 | 2.73 |
| (16) | 2.70 | 3.54 | 3.25 |
| (17) | 3.33 | 3.38 | 3.95 |
| (18) | ..... | .07 | .04 |

BIDS OPENED

SACRAMENTO, Cal.—Lord & Bishop, Native Sons Bldg., Sacramento, at \$8046.08 submitted low bid to district engineer, State Highway Commission, Sacramento, to construct structural steel floodgates with reinforced concrete abutments and wing walls on pile foundations, involving:

- (1) 490 cu. yds. struc. excav.;
- (2) 70 each, drive crosstod Douglas fir piles in place (piles to be furnished by state);
- (3) 272 cu. yds. Class A Portland cement concrete;
- (4) 20 cu. yds. Class F do;
- (5) 18,500 lbs. reinf. steel;
- (6) 33,700 lbs. struc. steel;
- (7) 1,966 lbs. cast steel in place;
- (8) 1 lot misc. items.

Complete bids follow:

- (A) Lord & Bishop, Sacramento, \$8,046.08.
- (B) A. F. Anderson, Chico, \$8,211.70.
- (C) Holder Const. Co., Sacramento \$8,731.46.
- (D) M. A. Jenkins, Sacramento, \$9,218.60.
- (E) P. F. Bender, North Sacramento, \$9,776.72.

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) |
|-----|---------|--------|---------|---------|---------|
| (1) | \$ 1.00 | \$.46 | \$ 1.05 | \$ 1.50 | \$ 2.25 |
| (2) | 8.50 | 11.00 | 8.25 | 10.00 | 9.64 |
| (3) | 13.00 | 12.00 | 12.90 | 14.00 | 14.50 |
| (4) | 15.00 | 12.50 | 13.50 | 14.00 | 15.00 |
| (5) | .085 | .035 | .04 | .04 | .04 |
| (6) | .06 | .072 | .0725 | .07 | .07 |
| (7) | .13 | .106 | .135 | .10 | .12 |
| (8) | 200.00 | 420.00 | 412.00 | 400.00 | 400.00 |

GRADE AND PAVE 4.4 MILES—SAN DIEGO COUNTY

SAN DIEGO COUNTY, Cal.—T. M. Morgan Paving Co., 5410 Wilshire Blvd., Los Angeles, at \$94,446.70 submitted low bid Nov. 16 to the State Highway Commission Alpine and Viejas Creek, including:

- (1) 234 sta. clear and grub right-of-way;
- (2) 52,000 cu. yds. rdwy. excav., unclassified;
- (3) 225,000 sta. yds. overhaul;
- (4) 1,350 M. gals. water (embank.);
- (5) 2,000 cu. yds. struc. excav.;
- (6) 30,500 sq. yds. subgrade for pave.;
- (7) 7,450 cu. yds. Class A cem. conc. (pave.);
- (8) 150 cu. yds. Class A do (struc.);
- (9) 177,000 lbs. bar reinf. steel;
- (10) 336 lin. ft. 8-in. corr. metal pipe;
- (11) 220 lin. ft. 18-in. do;
- (12) 650 lin. ft. 24-in. do;
- (13) 350 lin. ft. 30-in. do;
- (14) 100 lin. ft. 48-in. do;
- (15) 1,100 cu. yds. cem. conc. remove from exist. pave. and dispose of;
- (16) 630 lin. ft. bank protection fence;

- (17) 3 miles move and reset property fence;
- (18) 5.5 miles new property fence;
- (19) 40 gates complete in place;
- (20) 2,000 bbls. fuel oil (shoulders);
- (21) 70 culvert markers;
- (22) 234 sta. finish roadway;
- (23) 68 move and reset monuments. State will furnish steel posts, braces, wire and fastenings for new property fence and corrugated metal pipe and spillway assemblies.

Complete bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) |
|--|--------------|-----|-----|-----|-----|-----|
| (A) T. M. Morgan Paving Co., L. A. | \$94,446.70 | | | | | |
| (B) Daley Corp., San Diego | \$98,658.10 | | | | | |
| (C) Walter Trepcke, San Diego | \$101,056.00 | | | | | |
| (D) Sander Pierson, Santa Monica | \$104,230.00 | | | | | |
| (E) Weymouth-Crowell and E. Penn Watson, Jr., Pasadena | \$107,422.30 | | | | | |
| (F) Griffith Co., Los Angeles | \$111,103.00 | | | | | |

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) |
|------|---------|---------|---------|---------|---------|---------|
| (1) | \$ 5.00 | \$ 2.50 | \$ 3.00 | \$ 3.00 | \$ 5.00 | \$ 6.00 |
| (2) | .30 | .267 | .26 | .34 | .32 | .43 |
| (3) | .005 | .004 | .005 | .004 | .005 | .005 |
| (4) | .70 | .75 | 1.00 | .50 | .75 | .70 |
| (5) | .70 | .75 | .75 | .60 | 1.00 | .80 |
| (6) | .08 | .075 | .09 | .09 | .08 | .10 |
| (7) | 6.90 | 7.65 | 7.65 | 7.68 | 7.90 | 7.62 |
| (8) | 18.00 | 18.00 | 16.00 | 15.00 | 16.00 | 18.00 |
| (9) | .039 | .042 | .04 | .04 | .0425 | .04 |
| (10) | .20 | .25 | .25 | .25 | .30 | .50 |
| (11) | .40 | .35 | .35 | .30 | .30 | .50 |
| (12) | .50 | .35 | .40 | .35 | .40 | .60 |
| (13) | .50 | .50 | .50 | .40 | .65 | 1.00 |
| (14) | 1.00 | 1.00 | .90 | .60 | 1.00 | 2.00 |
| (15) | .50 | .75 | 1.50 | 1.50 | 1.00 | 2.00 |
| (16) | .40 | 2.67 | 3.50 | 4.00 | 3.80 | 3.00 |
| (17) | 125.00 | 100.00 | 150.00 | 200.00 | 200.00 | 200.00 |
| (18) | 200.00 | 100.00 | 200.00 | 300.00 | 400.00 | 200.00 |
| (19) | 15.00 | 15.00 | 2.50 | 2.25 | 2.25 | 2.00 |
| (20) | 2.50 | 2.00 | 1.50 | 1.25 | 1.50 | 2.00 |
| (21) | 1.75 | 2.00 | 1.25 | 1.75 | 1.50 | 2.00 |
| (22) | 5.00 | 4.00 | 5.00 | 4.00 | 5.00 | 4.00 |
| (23) | 1.50 | 2.00 | 1.00 | .75 | 2.00 | 2.00 |

IMP. BRAND BLVD.—GLENDALE—BIDS OPENED

GLENDALE, Los Angeles Co., Cal.—Chas. U. Heuser, 816 Allen Avenue, Glendale, submitted low bid to city council Nov. 17, at \$703,832, for improving Brand Blvd., bet. Los Feliz Rd. and Windsor Rd., and portions of intersecting and terminating streets, under cash contract, and in accordance with plans prepared by the city engineer, J. C. Albers.

Bids were taken on an alternate proposal to be used in the event that sufficient money for the complete job as outlined in items (1) to (7) inclusive, is not available.

- The items are:
- (1) 5027 lin. ft. curb, class B, including grading;
 - (2) 125 lin. ft. curb, class B armored, including grading;
 - (3) 10,100 sq. ft. 4-in. asphalt concrete base and 2-in. asphalt concrete wearing surface, including grading;
 - (4) 800 sq. ft. 3-in. asphalt concrete, including grading;
 - (5) 121,050 sq. ft. 2-in. asphalt concrete wearing surface, including bringing sewer manholes to grade, etc.;

- grade and remove excess asphalt from existing surface;
- (6) 33,700 sq. ft. asphalt concrete wearing surface, variable thickness, including bringing sewer manholes to grade and removing excess asphalt from existing pavement.
- (7) 19 tons asphalt concrete leveling course.

ALTERNATE PROPOSAL

- (4a) 800 sq. ft. 3-in. asphalt concrete, including grading;
- (5a) 124,050 sq. ft. 2-in. asphalt concrete wearing surface, including bringing sewer manholes to grade, etc.;
- (6a) 33,100 sq. ft. asphalt concrete wearing surface, variable thickness, including bringing manhole to grade, etc.;
- (7a) 10 tons asphalt concrete leveling course.

The bids were:

(A) Chas. U. Heuser.....\$703,832
 (B) Southwest Paving Co.....7137.35
 (C) Griffith Company.....8009.25
 (D) Oswald Brothers.....8424.54

Unit bids follow:

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (4a) | (5a) | (6a) | (7a) | Alt. T'l |
|-----|-------|--------|-------|-------|--------|--------|--------|-------|--------|--------|--------|-----------|
| (A) | \$.31 | \$1.00 | \$.12 | \$.06 | \$.027 | \$.021 | \$3.00 | \$.03 | \$.028 | \$.021 | \$3.00 | \$4262.50 |
| (B) | .40 | .90 | .07 | .05 | .027 | .027 | 2.40 | .05 | .027 | .029 | 2.40 | 4373.25 |
| (C) | .35 | 1.00 | .10 | .07 | .032 | .032 | 3.00 | .07 | .032 | .032 | 3.00 | 5114.80 |
| (D) | .37 | .70 | .12 | .068 | .033 | .033 | 2.50 | .068 | .033 | .033 | 2.50 | 5265.35 |

BIDS OPENED

SANTA CLARA COUNTY, Calif.—Basch Bros., 20550 Normandie Ave., Torrance, at \$181,271.21 submitted low bid to State Highway Commission, Sacramento, to grade and pave with Portland cement concrete 3.5 miles between Whisman Rd. and Lawrence Station, including:

- (1) 5,530 cu. yds. rdwy. excav. without class;
- (2) 66,600 cu. yds. imported borrow;
- (3) 1,904 cu. yds. struc. excav.;
- (4) 81,330 sq. yds. subgrade for pavement;
- (5) 19,345 cu. yds. Class A cement concrete (pave.);
- (6) 8 cu. yds. do for structures;
- (7) 270 lbs. bar reinf. steel (struc.);
- (8) 412,000 lbs. wire mesh reinforcement (pave.);
- (9) 1,150 tons asphalt concrete (type B surface);
- (10) 1,900 lbs. heavy fuel oil;
- (11) 1,640 lin. ft. 18-in. corr. metal pipe;
- (12) 1,034 lin. ft. 12-in. stand. reinf. concrete pipe;
- (13) 600 lin. ft. 10-in. extra strength reinf. conc. pipe;
- (14) 1,100 lin. ft. 12-in. do;
- (15) 500 lin. ft. 14-in. do;
- (16) 14 each irrigation siphon inlet & outlet assemblies;
- (17) 15 each catchbasins complete in place;
- (18) 1,570 each remove trees (size 1);
- (19) 27 each do (size 2);
- (20) 192 each do (size 3);
- (21) 5 each do (size 4);
- (22) 3 each do (size 5);
- (23) 1.1 miles new property fence;
- (24) 5 each fence gates;
- (25) 17 each, culvert markers;
- (26) 184 sta. finish roadway;
- (27) 33 each, monuments complete in place.

State will furnish corrugated metal pipe.

Complete bids follow:

- (A) Basch Bros., Torrance, \$181,271.21
- (B) Fredrickson & Watson and Fredrickson Bros., Oakland, \$195,929.90
- (C) Peninsula Paving Co., San Francisco, \$199,375.62
- (D) C. W. Wood, Stockton, \$207,413.65
- (E) M. J. Bevanda, Stockton, \$213,251.90

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) |
|------|--------|--------|--------|--------|--------|
| (1) | \$.15 | \$.20 | \$.12 | \$.19 | \$.22 |
| (2) | .37 | .35 | .50 | .43 | .40 |
| (3) | .60 | .75 | 1.00 | .60 | .75 |
| (4) | .08 | .08 | .05 | .06 | .10 |
| (5) | 5.90 | 6.50 | 6.45 | 6.25 | 7.25 |
| (6) | 20.00 | 30.00 | 18.00 | 15.00 | 20.00 |
| (7) | .05 | .05 | .035 | .05 | .04 |
| (8) | .045 | .047 | .045 | .045 | .035 |
| (9) | 4.00 | 5.00 | 4.50 | 4.50 | 5.00 |
| (10) | 1.85 | 2.00 | 1.60 | 1.90 | 2.25 |
| (11) | .25 | .25 | .25 | .25 | .40 |
| (12) | .89 | 1.00 | .78 | 1.00 | 1.25 |
| (13) | .79 | .85 | .74 | 1.00 | 1.15 |
| (14) | .94 | 1.05 | .88 | 1.25 | 1.50 |
| (15) | 1.20 | 1.35 | 1.17 | 1.50 | 2.00 |
| (16) | 20.00 | 16.00 | 20.00 | 20.00 | 25.00 |
| (17) | 60.00 | 60.00 | 60.00 | 50.00 | 50.00 |
| (18) | .50 | 1.00 | .50 | 1.00 | 1.00 |
| (19) | .75 | 2.00 | 1.00 | 2.00 | 1.00 |
| (20) | 1.75 | 2.50 | 4.00 | 5.00 | 3.00 |
| (21) | 5.00 | 3.50 | 6.00 | 8.00 | 5.00 |
| (22) | 10.00 | 5.00 | 15.00 | 10.00 | 10.00 |
| (23) | 500.00 | 450.00 | 500.00 | 400.00 | 500.00 |
| (24) | 14.00 | 12.00 | 8.00 | 15.00 | 25.00 |
| (25) | 1.50 | 2.00 | 2.00 | 2.00 | 3.00 |
| (26) | 3.00 | 4.00 | 5.00 | 4.00 | 7.50 |
| (27) | 2.00 | 2.50 | 2.50 | 3.00 | 3.00 |

SAN LUIS OBISPO, Cal.—City Engineer Leon W. Moore authorized to inspect Hill Street north from Mountain View St. with a view to improving by grading, laying sewer and water pipes, etc.

3.4 MILES GRADE AND PAVE—SAN DIEGO COUNTY

SAN DIEGO COUNTY, Cal.—T. M. Morgan Paving Company, 5410 Wilshire Blvd., Los Angeles, at \$184,040.80 submitted low bid to State Highway Commission to grade and pave with Portland cement concrete 3.4 miles between Chocolate Creek and Alpine, involving:

- (1) 180 sta. clear and grub grg of way;
- (2) 220,000 cu. yds. rdwy. excavation, unclassified;
- (3) 2,500,000 sta. yds. overhaul;
- (4) 4,710 cu. yds. struc. excav.;
- (5) 39,500 sq. yds. subgrade for pave.;
- (6) 8,400 cu. yds. Class A cem. conc. (pavement);
- (7) 800 cu. yds. do for structures;
- (8) 270,000 lbs. bar reinf. steel (pave. and struc.);
- (9) 1,254 lin. ft. 8-in. corru. metal pipe;
- (10) 60 lin. ft. 18-in. do;
- (11) 2,680 lin. ft. 24-in. do;
- (12) 260 lin. ft. 30-in. do;
- (13) 780 lin. ft. 36-in. do;
- (14) 260 lin. ft. 42-in. do;
- (15) 130 lin. ft. 48-in. do;
- (16) 270 cu. yds. cem. conc. to be removed from existing pave.;

- (17) 6,350 M. gals. water (embank.);
- (18) 1,860 bbls. fuel oil (shoulders and gutters);
- (19) 0.3 mile new property fence;
- (20) 2 each gates complete in place;
- (21) 260 timber guide posts;
- (22) 108 culvert markers;
- (23) 180 sta. finish roadway;
- (24) 50 monuments complete in place.

State will furnish steel posts, braces, wire and fastenings for new property fences and corrugated metal pipe and s;llway assemblies.

Complete bids follow:

- (A) T. M. Morgan Paving Co., Los Angeles, \$184,040.80.
- (B) Griffith Co., Los Angeles, \$197,835.00.
- (C) Weymouth Crowell Co. and E. P. Watson, Jr., \$201,289.50.
- (D) Peninsula Paving Co. and J. P. Holland, San Francisco, \$204,613.19
- (E) Bodenhamer Const. Co., Oakland, \$207,965.50.
- (F) Walter Treppe, San Diego, \$259,845.80.
- (G) Merritt-Chapman and Scott, San Pedro, \$262,319.30.

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) |
|------|---------|---------|---------|----------|---------|----------|----------|
| (1) | \$ 5.00 | \$ 6.00 | \$ 7.00 | \$ 17.00 | \$ 6.00 | \$ 15.00 | \$ 10.00 |
| (2) | .30 | .37 | .37 | .383 | .35 | .35 | .61 |
| (3) | .005 | .003 | .005 | .007 | .005 | .007 | .005 |
| (4) | .70 | .75 | .95 | .70 | .85 | 1.50 | .75 |
| (5) | .08 | .08 | .07 | .08 | .09 | .11 | .06 |
| (6) | 6.90 | 7.58 | 7.30 | 7.50 | 8.00 | 7.77 | 8.00 |
| (7) | 18.00 | 13.50 | 15.00 | 14.00 | 16.00 | 17.50 | 20.00 |
| (8) | .039 | .04 | .039 | .0325 | .045 | .04 | .0425 |
| (9) | .20 | .50 | .25 | .15 | .25 | .50 | .20 |
| (10) | .40 | .50 | .30 | .25 | .35 | .50 | .20 |
| (11) | .50 | .60 | .40 | .25 | .35 | .50 | .20 |
| (12) | .50 | .80 | .65 | .30 | .40 | .80 | .30 |
| (13) | .60 | .85 | .75 | .35 | .40 | .80 | .30 |
| (14) | .65 | 1.50 | 1.00 | .45 | .50 | .90 | .50 |
| (15) | 1.00 | 2.00 | 1.00 | .45 | .50 | 1.00 | .75 |
| (16) | .50 | 1.50 | 1.00 | 1.00 | 2.50 | 1.50 | 2.00 |
| (17) | .70 | .70 | .60 | .25 | 1.00 | .70 | 1.00 |
| (18) | 2.50 | 2.00 | 2.25 | 2.00 | 2.50 | 2.50 | 1.00 |
| (19) | 450.00 | 100.00 | 400.00 | 150.00 | 200.00 | 180.00 | 200.00 |
| (20) | 25.00 | 25.00 | 20.00 | 10.00 | 15.00 | 12.50 | 15.00 |
| (21) | 1.75 | 2.60 | 2.25 | 2.25 | 2.25 | 1.00 | 1.50 |
| (22) | 1.75 | 2.00 | 1.50 | 2.00 | 1.50 | 1.10 | 2.00 |
| (23) | 5.00 | 4.00 | 5.00 | 4.00 | 10.00 | 3.00 | 3.00 |
| (24) | 3.00 | 3.00 | 3.00 | 2.50 | 2.50 | 2.00 | 2.50 |

RESERVOIRS AND DAMS

LOS ANGELES, Cal.—Until 2 P. M., December 19, new bids will be received by County Supervisors for construction of a rock fill dam in San Gabriel Canyon, 2.4 miles downstream from the Forks and 8.6 miles above Azusa. The proposed dam will be 795 feet in height above streambed, 1670 ft. in length measured along the road on the crest, and 900 ft. thick at the base (streambed).

Copies of the plans and specifications may be obtained from the office of the Chief Engineer, 202 North Broadway, upon payment of \$4, not returnable.

E. C. Eaton, Los Angeles County Flood Control Engineer and Designer of the Dam, 202 N. Broadway, has revised the specifications to the extent that several new combinations are permissible and showing the zoning of the rock in the four quarries in San Gabriel Canyon designated by the county.

Proposals must be accompanied by certified or cashier's check as follows: Proposal No. 1, \$500,000; Alternative Proposal No. 2, \$29,900; Proposal No. 3, \$19,000; Proposal No. 4, \$22,000; Proposal No. 5, \$30,000; Proposal No. 6, \$4500; Proposal No. 7, \$4500; Proposal No. 8, \$16,000; Proposal No. 9, \$24,900; Proposal No. 10, \$251,000.

The estimated available rock, stripping and waste, as figured by the chief engineer, follows:

QUARRY NO. 10—Available rock measured in dam, 6,900,000 cu. yds.; stripping measured in place, 1,000,000 cu. yds.; waste measured in waste dumps, 2,000,000 cu. yds.

BICHOTA QUARRY—Available rock, 6,000,000 cu. yds.; stripping, 600,000 cu. yds.; waste 1,200,000 cu. yds.

NARROWS QUARRY—Available rock, 6,000,000 cu. yds.; stripping, 700,000 cu. yds.; waste, 1,500,000 cu. yds.

DEVIL'S CANYON—Available rock, 6,000,000 cu. yds.; stripping, 500,000 cu. yds.; waste, 1,000,000 cu. yds.

No. 10 is the base or free-haul quarry. Bids are to be taken on Contracts as follows:

Proposal No. 1, all work complete using Gunite facing slabs.
Alternative Proposal No. 2—all open cut excavation.

Alternative Proposal No. 3—driving of all tunnels and inclined shafts.
Alternative Proposal No. 4—furnishing and placing of all rock fill.

Alternative Proposal No. 5—furnishing and placing of all concrete Gunite.
Alternative No. 6—drilling of all grout holes and the grouting thereof.
Alternative Proposal No. 7—placing of metal.

Alternative Proposal No. 8—driving of all tunnels and inclined shaft and the lining thereof with concrete.

Alternative Proposal No. 9—all concrete and Gunite except tunnel lining.
Alternative Proposal No. 10—all open cut excavation and furnishing and placing all rock fill.

The complete list of quantities and items as called for in the complete proposal and in the segregated contracts, are as follows:

PROPOSAL NO. 1

- (1) 400,000 cu. yds. class A excavation on west abutment above elevation 1190;
- (2) 125,000 cu. yds. class B excavation on east abutment above elevation 1190;

REINFORCED CONCRETE BRIDGES—KERN COUNTY

KERN COUNTY, Cal.—J. F. Shepherd, 108 East Miner St., Stockton, at \$21,139 submitted low bid Nov. 16 to State Highway Commission, Sacramento, to construct bet. Union Ave., Bakersfield, and Oil Junction, two reinforced concrete slab bridges and five reinforced concrete box culverts and one reinforced box culvert to be extended, involving:

- (1) 500 cu. yds. channel excavation;
- (2) 2,150 cu. yds. struc. excavation;
- (3) 1,212 cu. yds. Class A cem. conc.;
- (4) 115,000 lbs. bar reinf. steel;
- (5) 545 lin. ft. solid timber railing;
- (6) 1 lot misc. items of work.

- (A) J. F. Shepherd, Stockton, \$21,139.
- (B) Hartman Const. Co. and care A. Graham, Bakersfield, \$21,522.
- (C) Frederickson & Watson and Fredrickson Bros., Oakland, \$22,296.50.
- (D) Valley Constructors, Inc., Modesto, \$22,321.45.
- (E) Sam Sclarrino, San Jose, \$22,648.26
- (F) F. W. Gridley, Pasadena, \$22,984.80
- (G) F. W. Nighbert, Bakersfield, \$24,697.90.
- (H) R. H. Travers, Los Angeles, \$25,988.50.
- (I) Stroud Bros. & Seabrook, Bakersfield, \$23,970.70.

Bodenhamer Const. Co., Oakland, bid irregular.

Complete bids follow:

| | (1) | (2) | (3) | (4) | (5) | (6) |
|-----|--------|--------|---------|-------|--------|----------|
| (A) | \$5.50 | \$1.00 | \$12.00 | \$0.3 | \$1.00 | \$200.00 |
| (B) | .30 | .73 | 11.75 | .0393 | 1.31 | 221.00 |
| (C) | .25 | .55 | 12.75 | .04 | .80 | 500.00 |
| (D) | .40 | .75 | 12.60 | .038 | .95 | 350.00 |
| (E) | .50 | .75 | 13.00 | .0358 | .90 | 422.25 |
| (F) | .45 | .80 | 13.40 | .0365 | .75 | 192.75 |
| (G) | .40 | 1.00 | 13.95 | .038 | .90 | 560.00 |
| (H) | .25 | .90 | 15.25 | .037 | .80 | 600.00 |
| (I) | .30 | 1.00 | 17.35 | .0425 | 1.00 | 210.00 |

IMPROVE SICKLES AVE.—SAN FRANCISCO

- (3) 659,000 cu. yds. class C excavation, streambed below elevation 1290 in vicinity of cut-off;
- (4) 633,000 cu. yds. class D excavation, streambed below elevation 1190 downstream from cut-off;
- (5) 15,060 cu. yds. class E excavation, cut-off trenches;
- (6) 24,000 cu. yds. class F excavation, miscellaneous open cut;
- (7) 1750 cu. yds. class G excavation, inclined outlet shaft;
- (8) 62,700 cu. yds. class H excavation, main outlet tunnel;
- (9) 735 cu. yds. class J excavation, spillway pilot tunnel;
- (10) 55,000 cu. yds. backfill;
- (11) 4,100,000 cu. yds. class A rockfill in body of dam;
- (12) 642 cu. yds. class B rockfill below streambed downstream from cut-off;
- (13) 470,000 cu. yds. class C rockfill, large rock on downstream face;
- (14) 243,000 cu. yds. class D rockfill, packed on upstream face;
- (15) 19,100 cu. yds. class A concrete, main cut-off wall;
- (16) 725 cu. yds. class B reinf. concr.;
- (17) 3300 cu. yds. class C concrete, trash racks and tunnel outlet;
- (18) 400 cu. yds. class D concrete, lining in outlet shaft;
- (19) 13,500 cu. yds. class E concrete, lining in outlet tunnel;
- (20) 35,500 cu. yds. Class F concrete, plain concrete;
- (21) 325 cu. yds. Class G conc., tunnel plug;
- (22) 6600 cu. yds. Class H concrete, floater slabs;
- (23) 2,167,000 sq. ft. placing 6-in. Gunite facing slabs;
- (23A) 2,167,000 sq. ft. do;
- (24) 4500 lin. ft. drilling grout holes, Class A, less than 10 ft.;
- (25) 11,300 lin. ft. drilling grout holes, Class B, greater than 10 ft. and less than 50 ft.;
- (26) 24,000 lin. ft. drilling grout holes, Class C, greater than 50 ft. and less than 150 ft.;
- (27) 8500 lin. ft. drilling grout holes, Class D, redrilling through grout;
- (28) 17,500 lin. ft. drilling grout holes, Class E, less than 20 ft. in shaft tunnels only;
- (29) 2500 holes, placing fittings on grout holes;
- (30) 6650 lin. ft. placing grout pipe;
- (31) 620 cu. yds. pressure grouting;
- (32) 36,000 lin. ft. placing metal seals;
- (33) 220,000 lbs. place gates & valves;
- (34) 154,000 lbs. place steel trash racks;
- (35) 3000 lbs. place iron pipe hand-railing;
- (36) 5350 lbs. placing structural steel;
- (37) 148,000 lbs. install pipe for valve operation;
- (38) 1000 lbs. place operating machinery;
- (39) 7,675,000 lbs. place reinf. steel;
- (40) 1500 lbs. place iron pipe conduit;
- (41) 3100 lbs. place misc. metal;
- (42) 2040 lin. ft. place tile drains;
- (43) 1120 lin. ft. place steel dowels;
- (44) 560,000 cu. yds. quarry stripping at any quarry designated in the spec.;
- (45) 1,800,000 cu. yds. quarry waste at any quarry designated in the spec.;
- (46) extra for overhaul from Bichota Quarry to Dam for rock of all classifications;

SAN FRANCISCO — Theo. Chn., Russ Bldg., San Francisco, at \$15,958.70 submitted low bid to Department of Public Works to improve Sickles Ave. from Mission Street to Alemany Blvd., involving:

| | | | | | | | | |
|--|------|--------|-------|--------|--------|-------|-------|-------|
| (1) 25,000 sq. ft. asph. conc. pave. with 2-in. wearing surface; | (A) | (B) | (C) | (D) | (E) | (F) | (G) | |
| (2) 22,000 do with 1½-in. do; | (1) | 18 | 195 | .187 | .205 | .20 | .24 | .25 |
| (3) 25,000 sq. ft. 2-in. asph. concrete wearing surface; | (2) | .27 | .278 | .276 | .28 | .31 | .30 | .30 |
| (4) 100 tons asph. concrete binder course; | (3) | .06 | .06 | .057 | .06 | .055 | .06 | .07 |
| (5) 13,000 sq. ft. 1-course concrete sidewalk; | (4) | 4.40 | 3.60 | 4.30 | 4.75 | 5.00 | 6.00 | 4.50 |
| (6) 400 ft. armored concrete curb; | (5) | .12 | .11 | .12 | .12 | .13 | .13 | .12 |
| (7) 800 ft. reset granite curb; | (6) | .65 | .60 | .67 | .65 | .65 | 1.00 | .70 |
| (8) 130 ft. 12-in. V.C.P. sewer; | (7) | .20 | .25 | .21 | .15 | .30 | .25 | .20 |
| (9) 350 ft. 6-in. V.C.P. side sewer; | (8) | 1.25 | 1.20 | 1.58 | 1.50 | 1.75 | 1.50 | 1.39 |
| | (9) | .70 | .65 | 1.00 | .20 | .75 | 1.00 | .60 |
| | (10) | .50 | .55 | 1.20 | 1.40 | 1.00 | 1.00 | 1.25 |
| | (11) | 1.60 | 1.60 | 1.00 | 2.50 | 1.00 | 1.00 | 2.00 |
| | (12) | 70.06 | 75.00 | 80.00 | 60.00 | 75.00 | 85.00 | 80.00 |
| | (13) | 00.00 | 35.00 | 40.00 | 35.00 | 40.00 | 40.00 | 50.00 |
| | (14) | .12 | .15 | .18 | .15 | .20 | .30 | .15 |
| | (15) | .39 | .40 | .58 | .30 | .32 | .32 | .60 |
| | (16) | .40 | .40 | .77 | .50 | .40 | .60 | .70 |
| | (17) | 150.00 | 50.00 | 127.00 | 150.00 | 30.00 | 40.00 | 40.00 |

- (10) 300 ft. 10-in. V.C.P. culvert;
 - (11) 4 12-in. Y or T branches;
 - (12) 2 brick catchbasins;
 - (13) 5 brick catchbasins reset;
 - (14) 210 ft. 2x12-in. re-weld header;
 - (15) 1000 ft. 1½-in. N.E.C. galv. conduit;
 - (16) 150 ft. 2-in. do;
 - (17) relocate one light standard, base and conduit;
- Complete bids follow:
- (A) Theo. Chn., F., \$15,958.70.
 - (B) Union Paving Co., \$16,255.40.
 - (C) Fay Improvement Co., \$16,449.80.
 - (D) E. J. Treacy, \$16,858.50.
 - (E) Eaton & Smith, \$17,459.00.
 - (F) C. L. Harney, \$18,696.
 - (G) California Constr. Co., \$19,028.50.
- Unit bids follow:

WIDEN OCEAN AVE.—SAN FRANCISCO

SAN FRANCISCO.—E. J. Treacy, 309 Call Bldg., submitted low bid to S. J. Hester, Secretary, Department of Public Works, to widen the northeast one-half of Ocean Ave. between Aptos and Lakewood Avenues, and to improve the sidewalks at the northwest and southwest frontages of the Aptos Playground, involving:

| | | | | | | | | | |
|--|-----|-------|-------|-------|-------|-------|-------|-------|-------|
| (1) 800 ft. armored conc. curb, reset; | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | |
| (2) 400 ft. armored concrete curb; | (1) | 12 | 20 | .30 | .24 | .20 | .40 | .30 | .46 |
| (3) 8 brick catchbasins, reset; | (2) | .65 | .65 | .74 | .70 | .65 | .85 | .66 | .60 |
| (4) 6,200 sq. ft. asph. conc. pave.; | (3) | 30.00 | 30.00 | 35.00 | 42.00 | 65.00 | 50.00 | 40.00 | 50.00 |
| (5) 7,600 sq. ft. one-course conc. sidewalk; | (4) | .225 | .20 | .215 | .22 | .21 | .24 | .27 | .27 |
| (6) 2,300 sq. ft. asph. conc. wearing surface; | (5) | .125 | .11 | .125 | .12 | .125 | .11 | .13 | .12 |
| | (6) | .03 | .07 | .065 | .085 | .10 | .10 | .10 | .06 |
| | (7) | .07 | .09 | .057 | .085 | .08 | .10 | .08 | .06 |
| | (8) | 50.00 | 55.00 | 22.50 | 48.00 | 30.00 | 30.00 | 25.00 | 30.00 |

- (7) 3,500 sq. ft. asph. conc. conform pavement;
 - (8) 1 electrolier, reset and rubble wall to be constructed.
- Complete bids follow:
- (A) E. J. Treacy, S. F., \$3,271.75
 - (B) M. J. Lynch, S. F., \$2,877.00
 - (C) Pacific Pavements, S. F., \$2,492.00
 - (D) Fay Imp. Co., S. F., \$2,477.00
 - (E) Union Paving Co., S. F., \$2,753.00
 - (F) C. L. Harney, S. F., \$3,829.00
 - (G) Eaton & Smith, S. F., \$3,859.00
 - (H) MacDonald & Kahn, S. F., \$3,999.00
- Unit bids follow:

IMPROVE EL CAMINO DEL MAR—SAN FRANCISCO

SAN FRANCISCO.—E. J. Treacy, 309 Call Bldg., at \$2,941 submitted low bid to S. J. Hester, Secretary, Dept. of Public Works, to improve El Camino Del Mar between 32nd Ave. and Lincoln Park, involving:

| | | | | | | |
|--|-----|--------|--------|--------|--------|--------|
| (1) 1,050 cu. yds. excav. (lump sum); | (A) | (B) | (C) | (D) | (E) | |
| (2) 9,000 sq. ft. asph. conc. pave.; | (1) | 350.00 | 326.00 | 495.00 | 925.00 | 714.00 |
| (3) 3,000 sq. ft. 2-inch asph. concrete wearing surface; | (2) | .215 | .21 | .22 | .195 | .215 |
| (4) 220 ft. armored concrete curb; | (3) | .08 | .08 | .075 | .06 | .057 |
| (5) 1,200 sq. ft. 1-course conc. sidewalk; | (4) | .50 | .06 | .65 | .51 | .74 |
| | (5) | .10 | .13 | .12 | .10 | .13 |
| | (6) | 5.00 | 30.00 | 5.00 | 40.00 | 30.00 |
| | (7) | .70 | .50 | .55 | .65 | .68 |
| | (8) | .045 | .07 | .09 | .075 | .16 |
| | (9) | .48 | .50 | 1.60 | .80 | .74 |

- (6) 2 storm water inlets, reset;
 - (7) 20 ft. concrete gutter;
 - (8) 2,500 sq. ft. planting ice plants;
 - (9) 150 Veronica shrubs, plant.
- Complete bids follow:
- E. J. Treacy \$2941.00
 - Eaton & Smith \$318.20
 - Fay Improvement Co. \$3473.00
 - MacDonald & Kahn \$3492.70
 - Pacific Pavements \$2715.40
- Unit bids follow:

- (A) for hauling a total of less than 250,000 cu. yds. of rock;
- (B) for hauling a total of more than 250,000 and less than 500,000 cu. yds. of rock;
- (C) for hauling a total of more than 500,000 and less than 1,000,000 cu. yds. of rock;
- (D) for hauling a total of more than

- 1,000,000 and less than 1,500,000 cu. yds. of rock;
- (E) for hauling a total of more than 1,500,000 cu. yds. of rock;
- (47) extra for overhaul from Narrows Quarry to Dam (A), (B), (C), (D) and (E);
- (48) extra for overhaul from Devil's Quarry to Dam (A), (B), (C), (D) and (E);
- (49) extra or less for rock obtained outside of San Gabriel:
- (A) for a total of less than 250,000 cu. yds. of rock;
- (B) for a total of more than 250,000 cu. yds. and less than 500,000 cu. yds. of rock;
- (C) for a total of more than 500,000 and less than 1,000,000 cu. yds. of rock;
- (D) for a total of more than 1,000,000 and less than 1,500,000 cu. yds. of rock;
- (E) for a total of more than 1,500,000 cu. yds. of rock.

The above prices are to be (deducted from or added to) the unit prices as bid in this proposal under Items 11, 12, 13 and 14.

ALTERNATE PROPOSAL NO. 2

FOR ALL OPEN CUT EXCAVATION

- (1) 380,000 cu. yds. excav., Class A on west abutment above elev. 1190;
- (2) 120,000 cu. yds. excav., Class B do
- (3) 625,000 cu. yds. excav., Class C, streambed below elev. 1190 in vicinity of cutoff;
- (4) 600,000 cu. yds. excav., Class D, streambed below elev. 1190 downstream from cutoff;
- (5-A) 14,800 cu. yds. excav., Class E-1 main cut off trench.

ALTERNATE PROPOSAL NO. 3 FOR DRIVING OF ALL TUNNELS AND INCLINED SHAFT

- (6-B) 21,000 cu. yds. excav., Class F-2, misc. open cut;
- (7) 1750 cu. yds. excav., Class G, inclined outlet shaft;
- (8) 62,700 cu. yds. excav., Class H, main outlet tunnel;
- (9) 735 cu. yds. excav., Class J, spillway pilot tunnel.

ALTERNATE PROPOSAL NO. 4 FOR FURNISHING AND PLACING COMPLETE ALL ROCK FILL

- (1) 20,000 cu. yds. excav. Class A on west abutment above elevation 1190;
- (2) 5000 cu. yds. excav. Class B east abutment above elevation 1190;
- (3) 34,000 cu. yds. excav. Class C, streambed below elev. 1190 in vicinity of cutoff;
- (4) 33,000 cu. yds. excav. Class D, streambed below elev. 1190 downstream from cut-off;
- (5-B) 200 cu. yds. excav., Class E-2, misc. cut-off trenches;
- (6-A) 3000 cu. yds. excav., Class F-1, misc. open cut except tunnel approaches;
- (10) 55,000 cu. yds. backfill;
- (11) 4,100,000 cu. yds. rockfill, Class A, in body of dam;
- (12) 643,000 cu. yds. rockfill, Class B, below streambed downstream from cutoff;
- (13) 470,000 cu. yds. rockfill, Class C, large rock on downstream face;
- (14) 349,000 cu. yds. rockfill, Class D, packed rock on upstream face;
- (44) 900,000 cu. yds. quarry stripping at any quarry;
- (45) 1,800,000 cu. yds. quarry waste at any quarry;

Construction of diversion works complete, lump sum;

- (46) (47) (48) (49) extra for overhaul same as under Proposal No. 1.

ALTERNATE PROPOSAL NO. 5 FURNISHING AND PLACING ALL CONCRETE AND GUNITE

- (15) 19,100 cu. yds. concrete, Class A, main cutoff wall;

- (16) 725 cu. yds. concrete, Class B, reinforced concrete;
- (17) 3300 cu. yds. concrete, Class C, trash racks and tunnel outlet;
- (18) 600 cu. yds. concrete, Class D lining in outlet shaft;
- (19) 19,300 cu. yds. concrete, Class E, lining in outlet tunnel;
- (20) 35,500 cu. yds. concrete, Class F, plain concrete;
- (21) 325 cu. yds. concrete, Class G, tunnel plug;
- (22) 6000 cu. yds. concrete, Class H, floater slab;
- (23) 2,167,000 sq. ft. placing 6-in. gunite facing slabs;
- (23-A) 2,167,000 sq. ft. 6-in. concrete facing slab;
- (42) 2040 lin. ft. place tile drain.
- Total inc. item 23 and exc. 23-A.
- Total inc. item 23-A and exc. 23.

ALTERNATE PROPOSAL NO. 6 FOR DRILLING ALL GROUT HOLES AND GROUTING THEREOF

- (24) 4500 lin. ft. drilling grout holes, Class A, less than 10 ft.;
- (25) 11,300 lin. ft. drilling grout holes, Class B, greater than 10 ft., less than 50 ft.;
- (26) 34,000 lin. ft. drilling grout holes, Class C, greater than 50 ft., less than 150 ft.;
- (27) 8500 lin. ft. drilling grout holes, Class D, re-drilling thru grout;
- (28) 17,500 lin. ft. drilling grout holes, Class E, less than 20 ft. in shaft and tunnels only;
- (29) 2500 holes placing fittings on grout holes;
- (30) 6650 lin. ft. place grout pipe;
- (31) 620 cu. yds. pressure grouting.

ALTERNATE PROPOSAL NO. 7 PLACING OF METAL

- (32) 32,000 lin. ft. placing metal seals;
- (33) 20,000 lbs. place gates and valves
- (34) 154,000 lbs. place steel trash racks
- (35) 3000 lbs. place iron pipe handrailing;
- (36) 5350 lbs. place structural steel;
- (37) 148,000 lbs. install pipe for valve operation;
- (38) 100 lbs. place operating machinery;
- (39) 7,675,000 lbs. place reinf. steel;
- (40) 1500 lbs. place iron pipe conduit;
- (41) 3100 lbs. place misc. metal;
- (43) 1120 lin. ft. place steel dowels.

ALTERNATE PROPOSAL NO. 8 FOR DRIVING OF ALL TUNNELS AND INCLINED SHAFT AND THE LINING THEREOF WITH CONC.

- (6-B) 21,000 cu. yds. excav., Class F-2, misc. open cut;
- (7) 1750 cu. yds. excav., Class G, inclined outlet shaft;
- (8) 62,700 cu. yds. excav., Class H, main outlet tunnel;
- (9) 735 cu. yds. excav., Class J, spillway pilot tunnel;
- (18) 400 cu. yds. concrete, Class D, lining in outlet shaft;
- (19) 13,800 cu. yds. concrete, Class E, lining in outlet tunnel;
- (42) 1940 lin. ft. placing tile drains.

ALTERNATE PROPOSAL NO. 9 PLACING OF ALL CONCRETE AND GUNITE EXCEPT TUNNEL LINING

- (15) 19,100 cu. yds. concrete, Class A, main cutoff wall;
- (16) 725 cu. yds. concrete, Class B, reinf. concrete;
- (17) 3300 cu. yds. concrete, Class C, trash racks and tunnel outlet;
- (20) 35,500 cu. yds. concrete, Class F, plain concrete;
- (21) 325 cu. yds. concrete, Class G, tunnel plug;
- (22) 6000 cu. yds. concrete, Class H, floater slab;
- (23) 2,167,000 sq. ft. placing 6-in. Gunite facing slabs;
- (23-A) alt. to (23) 2,167,000 sq. ft. placing 6-in. conc. facing slabs;
- (42) 100 lin. ft. placing tile drains.

ALTERNATIVE PROPOSAL NO. 10 FOR ALL OPEN CUT EXCAVATIONS AND FURNISHING AND PLACING OF ALL ROCK FILL.

- (1) 400,000 cu. yds. excav., Class A on west abutment above elev. 1190;
- (2) 125,000 cu. yds. excav., Class B on east abutment above elev. 1190;
- (3) 659,000 cu. yds. excav., Class C, streambed below elev. 1190 in vicinity of cutoff;
- (4) 633,000 cu. yds. excav., Class D, streambed below elev. 1190 downstream from cutoff;
- (5) 15,000 cu. yds. excav. Class E, cut-off trenches;
- (6a) 3000 cu. yds. excav., Class F-1, misc. open cut;
- (10) 55,000 cu. yds. backfill;
- (11) 4,100,000 cu. yds. backfill, Class A in body of dam;
- (12) 643,000 cu. yds. rockfill, Class B, below streambed, downstream from cutoff;
- (13) 470,000 cu. yds. rockfill, Class C, large rock on downstream face;
- (14) 349,000 cu. yds. rockfill, Class D, packed rock on upstream face;
- (44) 900,000 cu. yds. quarry stripping;
- (45) 1,800,000 cu. yds. quarry waste.
- Construct diversion works, complete, lump sum.
- (46) (47) (48) and (49) extra for overhaul as in Prop. No. 1.

Bids on San Gabriel Dam No. 1 were first opened on Aug. 1, 1932, the only bidder at that time being Constructors, Inc., at \$11,270,943.55 on Prop. 1 and \$11,235,868.55 on Prop. 2. The bid was rejected August 8 and new bids on alternative proposals received Sept. 19. On the latter date, the low bidders on Proposals 1 and 2 and the alternative proposals were:

No. 1 and No. 2—Constructors, Inc., only bid—Prop. 1, \$11,268,975.55; Prop. 2, \$11,236,473.55. Engineer's estimate: Prop. 1, \$9,734,380; Prop. 2, \$9,691,040.

Alt. No. 3—Geo. Pollock Co., Sacramento, \$684,730. Engineer's estimate, \$957,450.

Alt. No. 4—S. H. Palmer and J. P. Holland, Inc., San Francisco, at \$279,400. Engineer's estimate, \$303,825.

Alt. No. 5—Constructors, Inc., only bid, at \$9,068,050. Engineer's estimate, \$7,220,200.

Alt. No. 6—American Concrete and Steel Pipe Co., only bid at \$990,847. Engineer's estimate, \$984,800.

Alt. No. 6-A—American Concrete & Steel Pipe Co., only bid at \$969,177. Engineer's estimate, \$941,640.

Alt. No. 7—Halliburton Grouting Co. low at \$103,742.50. Engineer's estimate \$135,380.

Alt. No. 8—Los Angeles Contracting Co. low at \$117,262.75. Engineer's estimate, \$132,725.

WARRENDALE, Ore.—U. S. War Department has authorized a \$50,000 expenditure for a survey by Army Engineer to determine the feasibility of constructing a dam on the Columbia river near Warrendale, Oregon.

OGDEN, Utah.—City Engineer J. C. Brown is preparing plans for 2,000,000-gallon concrete lined reservoir to be undertaken in connection with the improvements to the water system for which the Reconstruction Finance Corporation has granted a loan of \$645,620.

LOS ANGELES, Cal.—Lacy Mfg. Co. Washington Bldg., awarded contract by County Supervisors at \$2790 to furnish five Type B structural steel tunnel liners for San Gabriel Dam No. 2. The bids were opened October 17.

ENGINEERING NEWS

BRIDGES

SAN FRANCISCO.—Following contracts awarded by the directors of the Golden Gate Bridge and Highway District, Financial Center Bldg., in connection with the Golden Gate Bridge: Contract 1B—Cable, suspenders and accessories, John A. Roebling Sons Co., 646 Folsom St., San Francisco, \$5,-850,000.

Contract 2—Main Piers, Pacific Bridge Co., Walter and East Salmon Streets, Portland, Ore., \$2,935,000.

Contract 3—Anchorages: Barrett & Hlp., 918 Harrison St., San Francisco, \$1,859,854.

Contract 4—San Francisco and Marin approach spans, Bridge Builders, Inc., 155 Sansome St., San Francisco, \$934,800.

Contract 5—Presidio Road, Eaton & Smith, 715 Ocean Ave., San Francisco, \$966,000.

Contract 6—Sausalito Road, Chigris & Sutsos, 221 18th St., San Francisco \$58,780.

Contract 7—Paving main approach spans; no action.

Contract 8—Electrical Work, A I t a Electric and Mechanical Co., 938 Howard St., San Francisco, \$169,320.

LOS ANGELES, Cal.—James Noon, Baldwin Park, submitted low bid to County Supervisors Nov 7 at \$3390 to construct a reinforced concrete arch culvert at the intersection of Mission Road and Granada Ave., in the City of Alhambra. Cash Contract No. 418. The bids were:

| | |
|--------------------------------|-------|
| James Noon | 33399 |
| S. & W. Constr. Co. | 33689 |
| Carl Hallin | 3870 |
| Contracting Engrs., Inc. | 3323 |
| G. A. Ciebisell | 3959 |
| J. E. McLatosh | 4181 |
| R. H. Liggett | 4183 |
| L. B. Kotjevov | 4346 |
| Franklin E. Gridley | 4339 |
| Charles Booth | 4485 |
| Wm. Hess & J. & B. Constr. Co. | 4564 |
| W. J. Disteli | 4773 |
| Geo. Tennyson | 4939 |
| A. A. Alexander | 4915 |
| N. I. Fadel | 5359 |
| Marko Matick | 5679 |
| Associated Constructors, Inc. | 5980 |
| E. P. Nitlinger | 6139 |
| R. G. Whinery | 6941 |

LOS ANGELES, Cal.—The City of Los Angeles has applied to the Railroad Commission for authority to widen Tunnel Station bridge across the Southern Pacific tracks near Newhall Pass on the San Fernando Road. It is proposed to widen the existing bridge by adding reinforced concrete girder construction to each side to provide for a 40-ft. roadway and one 4-ft. sidewalk. While the angle of turn at the southwesterly end is increased to approximately 47 degrees, the average turning radius will be increased to approximately 190 feet. The cost of the proposed widening is estimated at \$53,000.

SAN DIEGO COUNTY, Cal.—As previously reported, M. H. Golden, 404 California Bank Bldg., San Diego, submitted low bid at \$30,174.25 to State Highway Commission to construct a bridge across Viejas Creek about three miles east of Alpine. Bid was submitted on irregular and incomplete bid form, and for this reason has been thrown out. E. O. Larsen, 1340 E St.,

San Diego, submitted second low bid at \$30,191.25, which will be considered by the Commission

LOS ANGELES COUNTY, Cal.—Artukovich Bros., Hynes, at \$71,564.55 submitted low bid to State Highway Commission to construct an undergrade crossing under Culver Blvd. and the Pacific Electric Railway near Venice, consisting of two structures, each involving a plate girder span approximately 76-ft. long with concrete deck and two reinforced concrete girder approach spans approximately 35-ft. long and grading and paving approaches with asphalt concrete, involving:

- (1) 1346 cu. yds. struc. excav.
- (2) 109,900 cu. yds. idwy. excav.
- (3) 14,649 lin. ft. furnish erect. Doug. fir piles, incl. test piles;
- (4) 364 drive erect. Doug. fir piles, incl. test piles;
- (5) 1630 cu. yds. Class "A" cem. conc. (struc.);
- (6) 123 cu. yds. Class "F" cem. conc. (deck of steel span of railway struc.);
- (7) 13 cu. yds. Class "E" cem. conc.;
- (8) 234,000 lbs. reinf. steel;
- (9) 159,000 lbs. struc. steel (highway struc.);

- (10) 13,425 lbs. cast steel;
- (11) 430 lbs. bronze;
- (12) 220 lin. ft. pipe hand rail;
- (13) 1 lot paint second and third coats on entire steel surf. of struc.;
- (14) 3060 sq. yds. subgrade for pave.;
- (15) 1060 tons asph. conc. pave.;
- (16) 1 lot misc. items of work (highway struc.);
- (17) 1 lot misc. items of work (railway struc.);

State will furnish cast steel covers and frames for catchbasins.

- Complete bids follow:
- (A) Artukovich Bros., Hynes, \$71,-564.55.
 - (B) Clinton Const. Co., Los Angeles, \$77,797.80.
 - (C) Oberg Bros., Los Angeles, \$83,-835.70.
 - (D) Weymouth-Crowell Co., Los Angeles, \$83,880.88.
 - (E) Lynch-Cannon Eng. Co., Los Angeles, \$83,952.00.
 - (F) Sharp & Fellows, Los Angeles, \$84,270.35.
 - (G) Robinson-Roberts, Los Angeles, \$85,211.90.
 - (H) J. E. Haddock, Pasadena, and F. B. Gridley, Pasadena, \$86,076.90
 - (I) H. M. Baruch Corp., Los Angeles, \$88,105.45.
 - (J) E. A. Watson, Los Angeles, \$93,-197.10.
 - (K) Dimmitt & Taylor, Los Angeles, \$99,361.20.

BAKERSFIELD, Kern Co., Calif.—Stroud Bros., Union Ave. at Sulway, Bakersfield, at \$2125.13 awarded contract by county supervisors to construct a timber pile bridge across Beardsley Canal near the foot of China Grade, involving:

- (1a) construction and removal of detour, \$135;
- (2a) removal of present bridge, \$85;
- (3a) 40 cu. yds. excavation, \$40;
- (7b) 35 cu. yds. embankment, \$40;
- (4a) 538 lin. ft. cedar piles in place, \$110;
- (1b) 90 lin. ft. cedar pile cut-offs, \$50;
- (4c) 3453 M. ft. b.m. redwood timber, \$85;
- (4d) 15,667 do Douglas fir timber, \$54;
- (5a) 2 fire barrels, \$10;
- (6a) 1.2 cu. yds. concrete, \$20.

Complete bids follow:

- (A) Stroud Bros., Bakersfield, \$2125.13
- (B) J. P. Shephardson, Bakersfield, \$2155.73
- (C) P a u l Opperman, Bakersfield, \$2255.27
- (1) Earl Bowen, Strathmore, \$2285.67
- (E) Wm. Elisser, Bakersfield, \$2360.04
- (F) G. A. Graham, Bakersfield, \$2375.89
- (C) F. A. Greenough, Bakersfield, \$2509.07.
- (1) R. McGray, Taft, \$2776.84.

YUBA CITY, Sutter Co., Cal.—County supervisors plan to apply to the Reconstruction Finance Corporation for a loan of \$45,000 to cover annual installment on Knights Landing bridge project.

SPOKANE, Wash.—Bids will be asked about the first of the year for widening the undercrossing on the Apple Way at Dishman, at present 20 ft. wide, to be widened to 40 ft., the present width of the highway. Lacey V. Morrow, District Highway Engineer. Plans being prepared under the supervision of S. Murray, Chief Engineer of the Union Pacific Railroad at Portland.

DREDGING, HARBOR WORKS & EXCAVATIONS

STOCKTON, San Joaquin Co., Cal.—Until Nov. 25. 3 P. M., under Circular Proposal No. 33-129, Specifications No. 4984, bids will be received by U. S. Engineer Office, California Fruit Bldg., Sacramento, for dredging approximately 251,000 cu. yds. of material from the San Joaquin River 26 ft. Channel, in a reach approximately 13,700 feet long, extending from approximately Sta. 100+00, near the mouth of Stockton Channel, downstream to approximately Sta. 237+00, near the mouth of the Calaveras River. Specifications on file in office of the DAILY PACIFIC BUILDER and may be inspected by those interested.

COLUSA, Cal.—Lord & Bishop, Native Sons Bldg., Sacramento, at \$1934 submitted low bid to U. S. Engineer Office, Sacramento, to furnish, deliver and place approximately 800 tons of rip-rap stone on the easterly bank of the Sacramento river near Moulton Weir, about 13 miles downstream from Colusa. Complete bids follow:

- Lord & Bishop, Sacramento, \$248; \$1984.
- Daniel Con. Co., San Francisco, \$3.71 weight 165 lbs., \$2992.
- Engineer's estimate, \$2790.

CAPITAL CITY TITLE COMPANY

J. C. PALEN,
Manager

914 Seventh Street

Sacramento :: California

LOS ANGELES, Cal.—Standard Dredging Co., Central Bldg., submitted low bid to J. S. Engineer, 751 South Figueroa street, on Nov. 10, at 21.9c per cu. yd., or a total of \$104,901, for dredging at San Diego Harbor, involving 479,000 cu. yds. material to be removed and replaced on northerly side of North Island. San Francisco Bridge Company submitted the only other bid at 26c per cu. yd., or a total of \$124,540. The bids were taken under advisement.

SAN DIEGO, Cal.—Until 11 A. M., Nov. 29, bids will be received by Public Works Officer, Eleventh Naval District, San Diego, for the reconstruction of quay wall and crane track at the Eleventh Naval District, San Diego, Calif. (Naval Operating Base—Destroyer Base), Specifications No. 7099. The work consists of about 395 linear feet of timber quay wall deck and about 1155 linear feet of concrete crane track and includes excavation; wood piles; concrete piers, beams and conduit; steel ladders and miscellaneous steel and iron work; timber framing and deck plank; air and water piping; and electrical work. Bidding data obtainable from Public Works Officer, Headquarters, Eleventh Naval District, Foot of Broadway, San WDiego, on deposit of check or postal money order for \$10 payable to Chief of Bureau of Yards and Docks.

LONG BEACH, Cal.—G. A. Giebisch, 12 Virgil Walk, Long Beach, awarded contract by city council at \$2,790 to construct reinforced concrete sheet pile bulkhead, 166 ft. long and 10 in. thick, at Second St. and Bayshore Ave., Long Beach. Other bids were: W. W. Hoagland, \$3100; R. H. Liggett, \$3553; R. Bishop, \$3900; W. J. Esser, \$3950; Pan-Pacific Filling and Const. Co., \$5286; Merritt-Chapman & Scott Corp., \$5600; Gunderson & Dennis Constructors, \$6100.

GRAY'S HARBOR, Wash.—U. S. War Department has allotted \$50,000 to finance dredging the ocean bar at the entrance to Gray's Harbor.

LOS ANGELES, Cal.—Stanton-Reed Co., 816 W. Fifth St., Los Angeles, awarded contract by Harbor Department on Nov. 2 at \$10,808.87 to construct 2194 lin. ft. of reinforced concrete parapet wall. 2083 lin. ft. of cement concrete coping and 300 lin. ft. of 8x18-in. plastered curb for Fish Harbor Mole; Specification No. 898.

LOS ANGELES, Calif.—California Corrugated Culvert Co., 409 Leroy St., submitted only bid to County Supervisors October 31 at \$359.02 (\$3342.22 net) to furnish corrugated iron culverts and outlet units for Pacoima Spreading Ground No. 2, involving: (1) 180 ft. 18-in. 1 D., 16-gauge, corrugated galv. iron culverts; (2) outlet gates, consisting of 8-in. dia. corr. iron culverts with gate fabricated at inlet of each: (a) 174 pieces 10 ft. long; (b) 136 pieces 9 ft. long; (c) 152 pieces 8 ft. long; (3) eight 12-in. band couplers for 18-in. pipe. The prices were: (1) \$1.25 (2a) \$7.35 (2b) \$6.72 (2c) \$1.94 (3) \$1.94.

SACRAMENTO, Calif.—The harbor committee of the chamber of commerce is reported ready to present plans to the city council for a \$60,000 yacht harbor. Jack Foster is chairman of the chamber committee.

HOQUIAM, Wash.—Four engineers from U. S. Engineer Office will survey the Hoquiam River to determine its depth and width as a preliminary to additional dredging, funds for which will be available out of the \$49,500 allotment on the project.

LOS ANGELES, Cal.—Ray Schweitzer, 2475 E 9th St., submitted low bid to County Supervisors October 31, at \$6041.72 to furnish steel reinforcement bars for precast concrete block matress for Pacoima Wash Spreading Grounds No. 2, i.o.b. site of work: (1) 115,950 lbs. steel reinf. bars, A & D (2) 49,200 lbs. do, C and E; (3) 12,600 lbs. do, B and F.

The total bids were: (A) Ray Schweitzer, \$6041.71 net. (B) Concrete Eng. Co., \$6371.28; with discount, \$6339.42. (C) Los Angeles Iron & Steel Co., \$6,477.15; with discount, \$6444.76. (D) Soule Steel Co., \$7260.64; with discount, \$7224.34. (E) Blue Diamond Co., \$8030.78; with discount, \$7990.63. The unit prices were: (1) (2) (3) (4) (5) (1)..... \$0.3399 .036 .037 .04145 .0485 (2)..... .03399 .036 .036 .04145 .0415 (3)..... .03399 .0338 .033 .03295 .029

SAN DIEGO, Cal.—Sparks & McClellan, 23rd and Central Ave., Newport Beach, at \$24,050 awarded contract by Eleventh Naval District for dredging at the Naval Operating Base (Supply Depot), San Diego.

LOS ANGELES, Cal.—Bids for furnishing crosstied lumber for wharf facilities under specifications No. 2947, received by City Purchasing Agent, Thomas Oughton, Nov. 5, follow: SECTION "A"

8-lb. crosstied sawn Douglas Fir, selected common, rough and surfaced or edged, for maintenance of wharf at Berths 195-196.

(1) 6 pcs. 14-in.x14-in.—30 ft. rough; (2) 8 pcs. 8-in.x12-in.—20 ft. rough; (3) 109 pcs. 4-in.x16-in.—30 ft. SIS to 15 $\frac{1}{2}$ -in.; (4) 313 pcs. 2-in. to 6-in.—16 ft. SIS to 1 $\frac{1}{2}$ -in.; (5) 417 pcs. 2-in.x6-in.—12 ft. SIS to 1 $\frac{1}{2}$ -in. (6) Total bid for non-incised material based on unit prices of all items under Section "A".

The bids follow: J. H. Baxter Co., (1) \$42.50, (2) \$42.50, (3) \$42.50, (4) \$42.50, (5) \$42.50, (6) \$1284.86.

*Chas. R. McCormick Lumber Co., (1) \$39.50, (2) \$39.50, (3) \$40.50, (4) \$39.50, (5) \$39.50, (6) \$1210.16.

Consolidated Lumber Co., (1) \$42.00, (2) \$42.50, (3), (4) and (5) no bid, (6) \$1269.74.

Patten-Blinn Lumber Co. (1) \$39.20, (2) \$39.20, (3), (4) and (5) no bid, (6) \$1185.09.

*No add. for 4-inch thicker incised material, all others add \$1.00 per M ft. SECTION "B"

8-lb. crosstied sawn Douglas Fir, select common, rough, for Cargo Ramps in Wharf at Berth 146.

(1) 16,100 bd. ft. of various sizes and lengths, none exceeding 30 ft., including 10-in.x16-in., 14-in.x16-in., 14-inx 14-in., 12-in.x16-in., 12-in.x12-in., 6-in.x12-in., 4-in.x16-in., 6-inx6-in., 4-in.x6-n., 2-inx10-in., and 2-inx8-in. (2) Total bid for non-incised material, based on unit of item (1).

The bids follow: J. H. Baxter Co., (1) \$47.50, (2) \$774.80.

*Chas. R. McCormick Lumber Co., (1) 10x16, 14x16, 14x14, 12x16 and 4x16, \$41.75, balance \$39.50.

Consolidated Lumber Co., (1) \$42.00, (2) \$68.80.

Patten-Blinn Lumber Co., (1) \$41.20, (2) \$675.68.

*No add. for 4-inch thicker incised material, all others add \$1.00 per M ft. SECTION "C"

8-lb. and 16-lb. crosstied sawn Douglas Fir, select common, rough, for Ramps at Foot of 22nd St. 8-lb. empty cell

(1) 5600 Bd. ft. of various sizes and lengths, none exceeding 32 ft., incl. incl. 10-in.x12-in.; 6-in.x12-in., 4-in.x 6-in., 3-in.x16-in., 2-in.x8-in. and 1-inx6-in.

(1-A) Total bid for non-incised material based on unit price of item (1). 16-lb. full cell

(2) 2700 Bd. ft. of various sizes and lengths, none exceeding 32 ft., incl. 10-in.x12-in., 8-in.x8-in., 4-in.x12-in. and 3-in.x16-in.

(2-A) Total bid for non-incised material based on item (2).

The bids follow: J. H. Baxter Co., (1) \$42.50, (1-A) \$358, (2) \$52.56, (2-A) \$141.75.

*Chas. R. McCormick Lumber Co., (1) 3x16, \$41.75, balance \$39.50, (2) 3x 16, \$53.00, balance \$52.06.

Consolidated Lumber Co., (1) \$42.00, (1-A) \$235.20, (2) \$53.00 (2-A) \$143.10.

Patten-Blinn Lumber Co., (1) \$41.20 (1-A) \$206.00, (2) \$41.20, (2-A) \$111.24

*No add. for 4-inch thicker incised material, all others add \$1.00 per M

TERRA BELLA, Tulare Co., Calif.—Terra Bella Irrigation District sets December 5 as date for bond election on \$409,000 irrigation bonds, 2% interest.

EL CENTRO, Imperial Co., Calif.—Date of the first conference concerning the proposed amendments to the All-American Canal contract was set for November 16 in Washington, D. C., according to a telegram received at Imperial Irrigation district headquarters Nov. 10 from Elwood Mead of the reclamation service. Even though the amendments concern a separate contract between Imperial district and the government, representatives of Coachella Valley were instructed to be present at the conference. Coachella was given a definite, limited time for inclusion in Imperial district under the terms of the contract. The district directors and officials who will make the trip to Washington have not been selected as yet.

STREET LIGHTING SYSTEMS

SAN FRANCISCO.—M. Flatland (Globe Electric Works), 1899 Mission St., at \$7250 awarded contract by the Department of Public Works for ornamental street lights for Market St. from Mono St. to 24th St.

MACHINERY AND EQUIPMENT

SAN FRANCISCO—Following contracts awarded by U. S. Forest Service, Ferry Bldg., to furnish four hydraulic trap builders, as follows:

(1) two trapbuilders installed on Caterpillar No. 50—Master Equipment Co., P. O. Box, 517, Florence Branch, Los Angeles, \$2544, 2% net;

(2) one do, installed on Cletrac No. 50 Mack Woodrige Co., Inc., Los the, Wash., \$1140, 7%.

(3) one do, installed on Cletrac No. Angeles, \$1068, 1%.

SAN FRANCISCO—Seven identical bids at \$3002, submitted to U. S. Forest Service, Ferry Bldg., to furnish one 360 air compressor. Following firms bid:

Chicago Pneumatic Tool Co., Ingersoll-Rand Co., Rix Co., Sullivan Machinery Co., Gardner-Denver Co., Ed R. Bacon Co., Schramm, Inc.
Western Equipment & Supply Co., Sacramento, bid \$3750. Bids held under advisement.

LOS ANGELES, Cal.—Contracts for furnishing tractors and rooters under Spec. No. 4384 awarded by the County Purchasing Agent, as follows:

Shepherd Tractor & Equipment Co., three rooters at \$315 each and one tractor at \$2365.
Smith Booth Usher, one tractor at \$2725.
Crook Co., one tractor at \$2550.

RENO, Nevada—Bids are being received by Charles E. Basso, President and Manager, Monarch Gole Ledge Mines, 416 Clay Peters Bldg., Reno, to furnish machinery and equipment for the mine 3 miles south of Eslegate. The plans call for a Diesel power plant, electric generator, a mill of 50-ton capacity and an electric hoist and air compressor for the mine.

SACRAMENTO, Cal.—A. L. Young Machinery Co., 26 Fremont St., San Francisco, at \$138.75 awarded contract by U. S. Engineer Office to furnish gasoline engine and centrifugal pump direct connected, 2-in. suction, Scott Machine Co., 960 Polson Street, San Francisco, at \$340.50 awarded contract by U. S. Engineer Office to furnish gasoline engine and centrifugal pump, 3-in. suction.

RAILROADS

CALIFORNIA—Southern Pacific Railroad, 65 Market St., San Francisco will spend in excess of \$500,000 for repairs, including track work, bridges and grading in the territory west of Los Angeles recently damaged by flood. The work will be undertaken by company forces and under separate contracts.

PIPE LINES, WELLS, ETC.

SACRAMENTO, Cal.—Golden State Culvert Mfg. Co., 1911 Union St., Oakland, at \$167.50 awarded contract by U. S. Engineer Office, California Fruit Bldg., Sacramento, to furnish f. o. b. trucks or railroad cars at Sacramento:

- (1) 80 lin. ft. 16-gauge, corrugated galvanized iron culvert pipe, 24-in. dia., to be made up in four sections, each 20 ft. long;
- (2) three 10-gauge, corr. galv. iron coupling bands to fit 24-in. dia. pipe of Item 1. Each band to be 12½-in. wide and complete with bolts, etc.

Complete bids follow:
Golden State Culvert Mfg. Co.....\$167.50
Western Pipe & Steel Co..... 169.47
California Corru. Culvert Co..... 171.85

KETTLEMAN HILLS, Cal.—Standard Oil Co. is reported to have completed surveys for a natural gas pipe line from Kettleman Hills to Oregon and Washington. The outline of the proposed extension was given during the progress of a hearing by the State Railroad Commission on the application of the P. G. & E. to purchase the Pacific Public Service Company.

LOS ANGELES, Cal.—Contracts for furnishing pipe culverts, etc., awarded

by City Purchasing Agent, follow:
Western Pipe & Steel Co. of California, item 1 at \$2,390.
Golden State Culvert Mfg. Co., Ltd., item 2 at \$3,275.45.

LOS ANGELES, Calif.—California Corrugated Culvert Co., 409 Leroy St. awarded contract by County Supervisors Nov. 2 at \$3,242.22 net for furnishing corrugated iron culverts and outlet units for Pacoima Spreading Grounds No. 2, under Prop. No. 7.

LOS ANGELES, Cal.—Golden State Culvert Co. awarded contract by City Purchasing Agent at \$147.10 to furnish 40 ft. 12-ga. 54-in. galvanized corrugated culvert with two 30-degree angles under Bid No. 1935.

SEATTLE, Wash.—City council has passed a resolution authorizing the Board of Public Works to ask bids to construct a pipe line from a connection with the Maple Leaf Reservoir to 17 avenue northeast, and on 17th avenue northeast and other streets and avenues in King County. Estimated cost \$376,000. It is expected that the coming bids will be cast on wood stave, concrete and steel pipe; 73-inch in diameter.

EL SEGUNDO, Los Angeles Co., Cal.—Application has been made by the Standard Oil Co. of California for War Department permission to construct in Santa Monica Bay one 8- and one 16-in. submerged pipe line extending north 83 degrees west 3200 feet, and one 8- and one 16-in. submerged pipe line extending south 70 degrees west 2200 feet from the outer end of the applicant's wharf at El Segundo, together with hoses extending to the water surface from the outer ends of each pipe line and submerged telephone lines along the pipe lines. Permission is also requested to install five mooring buoys and two marking buoys at the outer ends of the two sets of pipe lines. The pipe lines are for use in loading or unloading oil and water ballast onto or from tankers. Maps showing location of the proposed work will be on exhibition. W. H. Lanagan, Major, Corps of Engineers, District Engineer.

SEWERS AND SEWAGE DISPOSAL PLANTS

LOS ANGELES, Cal.—J. C. Hickey, 320 S Palm Drive, Alhambra, submitted low bid to board of public works at \$20,014.08 to construct sewers in San Rafael Ave. bet. Sea View Ave. and Avenue 37, and other streets in San Rafael Ave. and Ave. 37 Sewer District, under the 1911 Act, involving 5325 ft. 8-in. sewer, inc. 228 8x6-inch wyes;

- 1849 ft. 6-in. pipe sewer, inc. 77 6-in. ¼th bends;
- 14 manholes B;
- 2 drop manholes S;
- 1 junction chamber H;
- 4 flushing manholes E;
- 21 manhole frame and cover sets;
- 1 existing struc. to be remodeled;
- 130 lin. ft. concrete reinf. for 8-inch pipe, type Z.

The bids were taken on the following items:

- (1) sanitary sewer complete;
 - (2) 1849 ft. house connection sewers;
 - (3) 149,372 sq. ft. Class AA resurf.
- The bids received July 6 were rejected Aug. 8. Granich & Granich, 3356 Ramona Blvd., were previous low bidders at \$19,836.64.
The bidders were:
(A) J. C. Hickey.
(B) Granich & Granich.

(C) Martin Construction Co.
(D) Leo Miletich.
(E) Engineer's estimate.
The bids were:

| | (1) | (2) | (3) | (4) |
|-----|-------------|--------|--------|-------------|
| (A) | \$15,000.00 | \$1.50 | \$0.15 | \$20,914.98 |
| (B) | 17,998.95 | 1.00 | .02 | 22,746.39 |
| (C) | 21,000.00 | 1.50 | .02 | 26,760.94 |
| (D) | 24,000.00 | 1.50 | .02 | 29,760.94 |
| (E) | 12,136.00 | 1.55 | .015 | 17,242.53 |

LOS ANGELES, Cal.—Schuck Construction Co., Ltd., 1937 West 62nd street, awarded contract, Nov. 10, at \$192 by the Board of Public Works to install service pipes for the automatic control gate at the Hyperion sewage treatment plant.

MONTEREY PARK, Los Angeles Co., Cal.—City of Monterey Park has applied to Los Angeles County Supervisors for an appropriation of \$25,000 toward the cost of labor for the construction of a sewage disposal system for Monterey Park. City proposes to hook into the Tri-City system if Pasadena will make a favorable proposition. Pasadena is reported as willing to offer a ten-year contract and that the Tri-City group is planning to install a new unit at the disposal works.

LONG BEACH, Cal.—A. H. Adams, director of public service, authorized by city council to prepare plans for a modified scheme of trunk sewers for the North Long Beach district in lieu of the proposed \$800,000 system, proceedings for which were abandoned a few weeks ago on account of protests as to cost. The abridged plan provides for trunk lines to cost not more than \$300,000. The city council has been asked to contribute \$50,000. Oscar H. Wolter is the councilman from North Long Beach.

LOS ANGELES, Cal.—Until 2 P. M. Nov. 23, bids will be received by the board of public works to construct sanitary sewer in First St. bet. Beacon and Centre Streets, San Pedro, under cash contract, involving 420.50 ft. of standard strength vitrified pipe sewer, including reinforcement, structures, house connections, resurfacing, etc.

BRISBANE, San Mateo Co., Calif.—W. J. Tobin, 3701 Baker Ave., Oakland, at \$3497.54 submitted low bid to Brisbane Public Utility District. H. O. Royce, President, to construct a 12-inch sanitary sewer outfall, involving:

- (1) 3 burnt brick manholes complete with cast iron frames and covers;
- (2) 875 lin. ft. 12-in. vit. sewer pipe, trench, lay and backfill, inc. 30 cu. yds. pipe bet. Sta. 4+57.7 and 8+47.6;
- (3) 10 12x6-in. wyes;
- (4) 203 lin. ft. 12-inch cast iron pipe, trench, lay and backfill, Sec. A;
- (5) 100 lin. ft. 12-in. c. i. pipe to be placed beneath Bayshore Highway, bored or trench, Sec. D;
- (6) 125 lin. ft. 12-in. c. i. pipe, trench, timber mat, lay, backfill, Sec. B;
- (7) 300 lin. ft. 12-in. c. i. pipe timber trestle, lay complete, Sec. C.

Complete bids follow:
(A) W. J. Tobin, Oakland.....\$3497.54
(B) Oakland Sewer Const. Co..... 4420.39
(C) Martin Murphy, Berkeley..... 4435.50
Unit bids follow:

| | (A) | (B) | (C) |
|----------|---------|---------|---------|
| (1)..... | \$65.00 | \$47.00 | \$60.00 |
| (2)..... | .87 | 1.38 | 1.50 |
| (3)..... | 1.20 | 1.00 | 1.50 |
| (4)..... | 1.93 | 2.12 | 3.50 |
| (5)..... | 8.73 | 8.66 | 8.15 |
| (6)..... | 2.34 | 3.50 | 2.90 |
| (7)..... | 3.24 | 4.42 | 3.40 |

Bids held under advisement.

STOCKTON, San Joaquin Co., Cal.—City council has authorized the sale of \$95,000 worth of municipal improvement bonds of 1924 to finance construction of concrete curbs and gutters and extension of sewers with a view to relieving unemployment.

LOS ANGELES, Calif.—Mike Sego, 1526 Redondo-Riverside Blvd., Gardena submitted low bid to board of public works November 2 at \$2293.50 to construct sanitary sewer in Montecito Drive, bet. Griffin Ave. and a point 651.83 ft. south.

IDAHO FALLS, Idaho—City votes bonds of \$75,000 to finance construction of storm sewers in various sections of the city.

LOS ANGELES, Cal.—Contracts to furnish bell and spigot cast iron pipe under Spec. No. 2918, awarded by the City Purchasing Agent follow:

Pacific States Cast Iron Pipe Co., item (7) at \$8,680.
National Cast Iron Pipe Co., items (32) and (34) at \$14,975.

United States Pipe and Foundry Co. items (1) to (6) inc. (8) to (14) inc. (19) to (29) inc. (31) to (33) inc., at \$185,355.

R. D. Wood Co., items (15) to (18) inc. and item (30) at \$41,350.

American Cast Iron Pipe Co., items (35) to (37) inc. at \$27,250.

OGDEN, Uth.—City Engineer J. C. Brown is completing plans for 23,000 lin. ft. 26-in. c. i. pipe to replace the present wooden pipe; 4418 lin. ft. 48-in. c. i. pipe; purchasing and installing 2,000 water meters, construct 2,000,000-gallon concrete lined reservoir. A loan of \$645,620 has been granted by the Reconstruction Finance Corporation to finance this work.

MISCELLANEOUS CONSTRUCTION

LOS ANGELES, Cal.—In addition to those previously reported, following have secured plans and specifications for construction in connection with the Metropolitan Water District, 206 W. 2nd St., Los Angeles, bids for which will be opened on the dates specified:

CONSTRUCT SAN JACINTO TUNNEL—BIDS OPEN NOV. 29

Merritt-Chapman & Scott Corp., 720 Wilmington-San Pedro Rd., San Pedro.
Lynn Atkinson, 813 Edwards & Widley Bldg., Los Angeles.

National Surety Co., 160 Sansome St., San Francisco.
Electric Storage Battery Co., 341 W. 18th St., Los Angeles.

Nash Bros. Engineering Constr. Co., Otis Bldg., Chicago.

Construction Equipment Corp., Rochester, Pa.

Northern States Constr. Co. (LeRoy Luller, Biltmore Hotel, Los Angeles)

G. W. London Co., Grain Exchange Bldg., Omaha, Neb.

J. F. Shea Co., Portland Ore. (Chas. A. Shea, Pres., Biltmore Hotel, Los Angeles).

LOS ANGELES, Cal.—The Supreme Court of the District of Columbia has dismissed the suit brought by Burnham and other opponents of the aqueduct plan to restrain the Reconstruction Finance Corp. from purchasing the \$40,000,000 bond of bonds to be issued by the Metropolitan Water District for construction of the aqueduct. This clears away all legal obstacles and leaves the board of directors of the district in a position to advertise for bids for \$2,016,000 of the

bonds to finance the initial construction program. The Reconstruction Finance Corp. has pledged itself to purchase a total of \$40,000,000 to finance construction over a two-year period.

In its ruling, the court stated that it had no jurisdiction in the matter and held that the group of citizens did not have sufficient legal interest to maintain the suit.

WATERWORKS

SEATTLE, Wash.—Finance committee will recommend to city council that bid of First National Company & Associates be accepted for \$500,000 block of city water bonds. Bids were asked for \$1,000,000 and bid forms permitted options of bidding for \$1,000,000, \$300,000, \$500,000 or \$800,000. First National Company bid \$91.41 for each \$100 par value with effective rate about 5.96%. Due to high interest rate the committee recommends accepting offer for \$500,000. Bonds will finance start of extensive water system improvement planned as unemployment relief.

TACOMA, Wash.—W. A. Kunig, city water superintendent, is making surveys for reconditioning and extension of the Green River gravity system, preparatory to making application to Reconstruction Finance Corporation for loan to finance the work. It is expected a loan of \$1,000,000 will be asked.

VICTORVILLE, San Bernardino Co., Cal.—Reconstruction Finance Corp. has notified the Victorville Water District that the corporation cannot loan funds for the purchase of an existing system but that if the district can arrange the purchase of the existing system the corporation will then be able under the law to consider an application for funds for the construction of additions and betterments.

SAN FRANCISCO.—Following identical bids received by City Purchasing Agent to furnish flake calcium chloride for the Hetch Hetchy Project, as follows:

| | | |
|----------------|---------------|-------------|
| (1)..... | 300 tons..... | \$ 2,300.00 |
| (2)..... | 100 tons..... | 575.00 |
| Net total..... | | 12,746.25 |

S. L. Abbot, Jr., Company.
George Herman.
Pacific Silicate.
L. H. Butcher.
Braun-Knecht-Helmann Co.
Bids held under advisement.

SAN FRANCISCO.—Twenty-one identical bids were received Oct. 31 by T. A. Brooks, City Purchasing Agent, under Bid No. 916, to furnish and deliver standard wrought steel galvanized pipe, made in the U. S. A. as follows:

| | |
|-----------------------|---------------------|
| (1) 2,000 ft. ½-in., | \$4.89 per 100 ft.; |
| (2) 30,000 ft. ¾-in., | \$5.98 per 100 ft.; |
| (3) 2,000 ft. 1-in., | \$8.51 per 100 ft.; |
| (4) 2,000 ft. 2-in., | \$18.52 per 100 ft. |

Woodin & Little; Marshall-Nowell; Pacific Pipe Co.; A. J. Glenser; Richmond Sanitary Co.; Turner Co.; Steam & Plumbing Service.

Pacific Pump & Supply Co.; S. H. McCabe; Petroleum Equip. Co.; Walworth-California Co.; Pacific Hardware Co.; Dunham-Carrigan & Hayden Co.; E. E. Newhall.
Olsen & Heffernan; Tay-Holbrook, Inc.; United Pipe and Supply Co.; Crane Co.; General Machinery & Supply Co.; P. E. O'Hair; Federal Pipe &

Supply Co.; Dalziel-Moeller Co.; Baker-Hamilton Pacific Co.
All bids were 2% cash discount for 10th of the following month, except that of Dalziel-Moeller which provided 2% 10th following month on pipe not including freight and Baker-Hamilton Pacific Co. 2% 20 days from date of invoice.

KINGSBURG, Fresno Co., Calif.—Following contracts awarded by city council to furnish pipe and fittings as follows:

- (1) 1,160 ft. 6-in. hub end or bell and spigot c. i. pipe;
- (2) 1,950 ft. 8-in. do;
- (4) 3 8x8x4x4 crosses do;
- (5) 1 6x6x8 tee do;
- (6) 1 8x8x8 tee do;
- (7) 1 8x8x6 tee do;
- (8) 1 6x6x8 tee do;
- (9) 4x4x6 tee with 4-in. connections for standard screw connection and six connections to be hub end or bell and spigot;
- (10) 2 6x8x6 tee hub end or bell and spigot connection;
- (11) 1 6-inch ell do;
- (12) 1 45-degree 8-in. ell do;
- (13) 7 4-in. gate valves do;
- (14) 3 8-in. gate valves do;
- (15) 2 6-in. gate valves do;

Cast iron pipe shall be "Class 150" with hub end or bell and spigot connections as De Labaud cast iron pipe or the equivalent.

All pipe to be coated inside and outside with a coat of tar pitch varnish. Fittings to withstand working water pressure up to 175-lbs. All bids f.o.b. Kingsburg.

Pacific Pipe Co. at 37c ft. for 160 ft. 6-in. c. i. pipe and at 54c ft. for 1950 ft. 8-in., c. i. pipe, f.o.b. Kingsburg. The Alhambra Foundry Co. at \$150 for fittings. The Rensselaer Valve Co. at \$10.33 for 4-in. gate valves and \$23.36 for 8-in. valves.

BELMONT, San Mateo Co., Cal.—Bond election date set for December 22 to vote on \$45,000 bonds for construction of a water system.

SUNNYVALE, Santa Clara Co., Cal.—Frederick W. Snook Co., 596 Clay St., San Francisco, awarded contract by Bureau of Yards and Docks on November 5, at \$62,084 to construct 85 steel, helium gas storage tanks, a reinforced concrete structure to enclose the tanks, helium and drainage piping, indicating gauges, accessories and pipe connections at the Naval Air Station, Sunnyvale; Spec. 6904.

LA HABRA, Orange Co., Cal.—John Sanks, city engineer, authorized by city council to prepare plans and specifications for the proposed municipal water system estimated to cost \$80,000. Bonds in the sum of \$100,000 were sold recently to R. H. Moulton & Co. of Los Angeles. The estimate includes drilling two wells, each with pumping plant, and a reservoir in the hills north of the city. The plans include a complete distribution system, involving 6- to 12-in. pipe.

The segregated costs are: Pipe and fittings, \$42,000; installation of pipe lines, \$10,000; pumping plants, \$10,000; reservoir, \$6000; land for same, \$1000; fire hydrants, \$2700; meters and house connections, \$5000; legal and miscellaneous expense, \$3300.

CHEHALIS, Lewis Co., Wash.—Until Nov. 21, bids will be received by county commission to furnish c. i. water pipe, f.o.b. Chehalis, involving:

- (1) 2560 ft. 4-in. c. i. pipe;
- (2) 4975 ft. 6-in. c. i. pipe.

Specifications obtainable from the county clerk.

LOS ANGELES, Cal.—Construction of approx. 1900 small check dams in the San Gabriel Canyon watershed as a water conservation measure and for flood debris control, at an estimated cost of \$260,000, as recommended by E. C. Eaton, County Flood Control Engineer, was approved by County Supervisors October 31.

The report submitted by the Chief Engineer recommended the construction of 177 rock and wire dams and 1722 loose rock dams, construction of 86 miles of trails, and incidental work.

An immediate allocation of \$25,000 to start construction of the trails was voted upon motion of Supervisor H. A. Thatcher. About 300 men will be employed.

LOS ANGELES, Cal.—Santa Fe Pipe & Supply Co. awarded contract by the City Purchasing Agent at \$1380 or \$47 per C. ft., to furnish 4000 lin. ft. 4-in. black wrought steel line pipe, f.o.b. department of water and power trucks 245 E 15th St., under Bid No. 1934.

LOS ANGELES, Cal.—Goslin-Birmingham Co., Inc., Birmingham, Ala., submitted low bid to county supervisors, Nov. 7, at \$23,433, for furnishing butterfly valves and sluice gate for San Gabriel Dam No. 2, delivered f.o. b. district's freight yard, Azusa, Calif.

- (1) Valve No. 1 and No. 2—two 84-in. butterfly valves complete, including hydraulic operating mechanism, static head 226 ft. operating head 226 ft.
- (2) Valve No. 2—one 84-in. butterfly valve complete, including hydraulic operating mechanism, static head 154-ft., operating head 154 ft..
- (4) Valve No. 5—one 84-in. butterfly valve complete, including hydraulic operating mechanism, static head 109 ft., operating head 109 ft.
- (5) Valve No. 6—one 84-in. butterfly valve complete, including hydraulic operating mechanism, static head 73 ft., operating head 73 ft.
- (6) one 30x30-in. sluice gate complete with hydraulic operating mechanism, static head 233 ft.; operating head 100 ft.

The total bids were:

- (A) Goslin-Birmingham Co., Inc., Birmingham, Ala., \$23,250.
- (B) Pelton Water Wheel Co., San Francisco, \$23,493.
- (C) Hardie-Tynes Mfg. Co., Birmingham, Ala., \$23,990.
- (D) Consolidated Steel Corp., Ltd., Los Angeles, \$25,250.
- (E) Chapman Valv. Co., Los Angeles, \$27,586.

The unit prices were:

| | (A) | (B) | (C) | (D) | (E) |
|-----|-------|--------|--------|-----------|--------|
| (1) | \$750 | \$3917 | \$3855 | \$4231.50 | \$4655 |
| (2) | 3750 | 3917 | 3855 | 4231.50 | 4535 |
| (3) | 3750 | 3917 | 3855 | 4041.50 | 4535 |
| (4) | 3750 | 3938 | 3855 | 3393.50 | 4290 |
| (5) | 2750 | 3298 | 3855 | 3599.50 | 4290 |
| (6) | 750 | 1029 | 860 | 1315.00 | 626 |

La MESA, San Diego Co., Cal.—Until 7:30 P. M., Nov. 25, bids will be received by the Board of Directors of La Mesa, Lemon Grove and Spring Valley Irrigation District, 4769 Spring St., La Mesa, for the purchase of \$500,000 of Six Per Cent Serial Gold Bonds of the district. The bonds are a portion of the Second Issue which was for the principal sum of \$2,500,000. The present block of bonds consists of 500 bonds of par value of \$1000 each and are dated Jan. 1, 1925. Certified check, 2 per cent, must accompany each proposal. The La Mesa, Lemon Grove and Spring Valley Irrigation District will furnish the buyer of said bonds with the approving legal opinion of Messrs. O'Melveny, Millikin,

Tuller & MacNeil of Los Angeles, California, now O'Melveny, Tuller & Myers, of Los Angeles, California, Ruth C. Drew, Secretary.

STREETS AND HIGHWAYS

LOS ANGELES, Cal.—Councilman James M. Hyde has presented to the city council a resolution urging allocation of \$400,000 of state funds to assist in the widening of Highland Ave. The city and county have already set aside \$416,000 for the project and it is hoped that \$400,000 may be provided by the state highway commission. The completed highway will provide a 100-ft. thoroughfare between Cahuenga Blvd. and Santa Monica Blvd.

LOS ANGELES, Cal.—Jahn & Breski Const. Co., Lane Mortgage Bldg., Los Angeles, at \$280,169 awarded contract by State Highway Commission to pave with Portland cement concrete 12.1 miles bet. Piru Creek and Gorman.

SANTA CLARA COUNTY, Calif.—Basich Bros., 20550 Normandie Ave., Torrance, at \$28,956 awarded contract by the State Highway Commission to grade and pave with Portland cement concrete 4.7 miles bet. Oregon Avenue and Wishman Road.

OAKLAND, Calif.—County supervisors contemplate bond issue for \$3,000,000 to finance new construction and improvement of roads in various sections of the country. Four thousand men now employed on road work must cease operations on November 8 unless funds are provided.

STOCKTON, San Joaquin Co., Cal.—City council has authorized the sale of \$95,900 worth of municipal improvement bonds of 1924 to finance construction of concrete curbs and gutters and extension of sewers with a view to relieving unemployment.

SAN FRANCISCO.—Union Paving Co., Call Bldg., San Francisco, at \$3,576.50 submitted low bid to Department of Public Works to widen and reconstruct roadway in Turk St. bet. Divisadero and Broderick Sts., involving:

- (1) 13,500 sq. ft. 6-in. Class E concrete pavement;
- (2) 920 ft. reset granite curb;
- (3) 4 brick catchbasins, reset;
- (4) 25 ft. 10-in. V. C. P. culverts;
- (5) 2000 sq. ft. 1-course concrete sidewalk;
- (6) 1000 sq. ft. asph. conc. conform pavement;
- (7) 420 sq. ft. asph. conc. pave., 2-in. wearing surface.

Complete bids follow:

- (A) Union Paving Co., San Francisco, \$3576.50.
- (B) Fay Imp. Co., \$3728.20.
- (C) E. J. Treacy, \$3738.60.
- (D) Eaton & Smith, \$3945.00.
- (E) T. Cohn, \$3983.00.
- (F) M. J. Lynch, \$4152.20.
- (G) MacDonald & Kahn, \$4231.70.
- (H) C. L. Harney, \$4238.70.
- (I) L. Sartorio, \$4296.90.

RENO, Nevada—Preliminary plans approved by E. C. Brown, Engineer, U. S. Bureau of Public Roads, for five and one-half miles highway reconstruction between Reno and Huffakers, bids for which will be asked by State Highway Commission, S. C. Durkee, State Highway Engineer, about Jan. 1, 1923. Estimated cost, \$12,000. The surfacing will be 20 ft. in width, with 10 ft. shoulders, making the right-of-

way 4 ft. wider than the remainder of the Carson road.

SUNNYVALE, Santa Clara Co., Cal. Peninsula Paving Co., 715 Standard Oil Bldg., San Francisco, under item (1) at \$109,220 awarded contract by Bureau of Yards and Docks, Navy Department, Washington, D. C., under Specification No. 7033, for bituminous macadam roads, concrete curbs and gutters and sidewalks, ditches and drain piping, manholes and catch-basins at the Naval Air Station, Sunnyvale.

M. J. Bevanda, Stockton, submitted low bid under item (2) at \$106,250 and under item (3) at \$97,250.

EL DORADO COUNTY, Cal.—M. J. Bevanda, Elks Bldg., Stockton, at \$36,213.00 submitted low bid to State Highway Commission, Sacramento, Nov. 9, to grade and surface 0.4 miles with crusher run base and bituminous treated crushed gravel or stone surfacing (road mixed), involving:

- (1) 18 sta. clear and grub right-of-way;
- (2) 16,170 cu. yds. rdwy. excav. without class;
- (3) 161,000 sta. yds. overhaul;
- (4) 3500 cu. yds. imp. borrow;
- (5) 1550 cu. yds. struc. excav.;
- (6) 1500 tons cru. run base;
- (7) 450 tons cru. gravel or stone (unt. surf.);
- (8) 850 tons cru. gravel or stone (bit. tr. surf.);
- (9) 70 M. gals. water applied to base and surf.;
- (10) 45 lbs. light fuel oil;
- (11) 50 tons cut-back asphalt (surf. and seal coat);
- (12) 535 cu. yds. Class "A" cement conc. (struct.);
- (13) 55 cu. yds. Class "A" cement conc. (curbs and sidewalks);
- (14) 56,000 lbs. bar reinf. steel (struc.);
- (15) 16 lin. ft. 12-in. corr. metal pipe
- (16) 220 lin. ft. 18-in. do;
- (17) 258 lin. ft. 24-in. do;
- (18) 50 lin. ft. 6-in. wr. iron pipe and fittings complete in place;
- (19) 50 lin. ft. 6-in. wr. iron pipe (clean and relay);
- (20) 30 lin. ft. 2-in. pipe hand-rail;
- (21) 10 lin. ft. 6-in. drain tile (parapet and retaining walls);
- (22) 300 cu. yds. rubble masonry (retaining wall);
- (23) 250 lin. ft. masonry parapet;
- (24) 65 cu. yds. light riprap;
- (25) 0.25 mi. new property fence;
- (26) 250 cu. yds. remove and dispose of cem. conc. and rubble masonry if exist. pave. and struc.;
- (27) 630 lin. ft. remove exist guard rail;
- (28) 60 lin. ft. special timber header;
- (29) 20 sta. finish roadway;
- (30) 15 monuments complete in place. State will furnish corr. metal pipe, cast steel frames and covers for drop inlets, gate valves and cast iron frames and covers for manholes.

Complete bids follow:
 (A) M. J. Bevanda, Stockton, \$36,213.-30.
 (B) Larsen Bros., Galt, \$37,648.50.
 (C) S. M. McGaw, Stockton, \$37,988.40
 (D) Bundesen & Lauritzen and Delta Dredging Co., Pittsburg, \$39,528.30.
 (E) A. J. Anderson, Sacramento, \$39,896.50.
 (F) R. R. Reeves, Sacramento, \$42,001.30.
 (G) C. W. Wood, Stockton, \$42,920.00.

MODESTO, Stanislaus Co., Cal.—City council has appropriated \$21,000 as its share of proposed improvement of Ninth Street, which will be a part of the Golden State Highway. Frank J. Rossi is city engineer.

VENTURA COUNTY, Calif.—J. L. McClain, 3452 W. Slauson Ave., Los Angeles, at \$119,852 submitted low bid to State Highway Commission to pave with cement concrete 10.9 miles bet. Hueneme Road and Little Sycamore Creek, involving:

- (1) 68,000 cu. yds. subgrade for pave.;
- (2) 14,559 cu. yds. Class "A" cem. conc. (pave.);
- (3) 223,000 lbs. bar reinf. steel (pave.);
- (4) 2700 bbls. heavy fuel oil (shoulders);
- (5) 90 barrels light fuel oil (subgrade treatment);
- (6) 9 tons asph. road oil (subgr. treatment);
- (7) 400 cu. yds. salvaged surf.;
- (8) 574 sta. finish rwy.

- Complete bids follow:
- (A) J. L. McClain, Los Angeles, \$119,852.00.
 - (B) Griffith Co., Los Angeles, \$121,498.00.
 - (C) Kovacevich & Price, Los Angeles, \$123,320.00.
 - (D) J. E. Haddock, Pasadena, \$125,412.50.
 - (E) United Concrete Pipe Corp., Los Angeles, \$127,127.50.
 - (F) E. H. Bashaw, Hollywood, \$128,814.50.
 - (G) Saunder Pearson, Santa Monica, \$129,814.47.
 - (H) C. W. Wood, Stockton, \$131,430.50
 - (I) Oswald Bros., Los Angeles, \$139,677.50.
 - (J) Weymouth Crowell & E. P. Watson, \$143,223.75.
 - (K) Fredrickson & Watson, Oakland, \$144,526.50.

SHASTA COUNTY, Cal.—Until Nov. 29, 2 P. M., bids will be received by C. H. Sweetser, district engineer, U. S. Bureau of Public Roads, 461 Market St., San Francisco, for 4.501 ml. grading Section A of Route 75, the Manzanita Lake National Forest Highway, involving:

- (1) 26 acres clearing;
- (2) 71,000 cu. yds. unclass. excav.;
- (3) 300 cu. yds. unclass. excav., struc.
- (4) 25,000 sta. yds. overhaul;
- (5) 4.501 ml. finish earth graded road;
- (6) 52 cu. yds. concrete;
- (7) 3500 lbs. reinforcing steel;
- (8) 300 lin. ft. culvert pipe,
- (9) 69 lin. ft. drainage tunnel.

Specifications obtainable from above office on deposit of \$10, returnable, checks certified and payable to Regional Fiscal Agent, U. S. Forest Service.

TULARE COUNTY, Cal.—Until Dec. 1, 2 P. M., bids will be received by C. H. Sweetser, district engineer, U. S. Bureau of Public Roads, 461 Market St., San Francisco, for 3.57 ml. grading Section B of the General Grant-Sequoia Park Road, involving:

- (1) 29 acres clearing;
- (2) 154,000 cu. yds. unclass. excav.;
- (3) 885 cu. yds. unclass. excav. struc.
- (4) 122,000 sta. yds. overhaul;
- (5) 2.570 ml. finish earth graded road
- (6) 2 cu. yds. concrete;
- (7) 150 lbs. reinf. steel;
- (8) 140 cu. yds. masonry;
- (9) 3228 lin. ft. corr. galv. metal pipe;
- (10) 530 cu. yds. hand laid rock embankment;
- (11) 576 lin. ft. stone guard rail.

Specifications obtainable from above office on deposit of \$10, returnable, checks to be certified and payable to Regional Fiscal Agent, U. S. Forest Service.

STOCKTON, San Joaquin Co., Cal.—Earl W. Heple, 494 Delmas Ave., San Jose, at \$1975 awarded contract by county supervisors for grading Paradise Ave. (California Irrigated Farms

road No. 567) located approximately 3 miles north of Santa. Project involves 12,500 cu. yds. grading, imported borrow. Complete bids (unit and total) follow:

- Earl W. Heple, San Jose, \$158; \$1,975.00.
- R. E. McCarty, Stockton, \$16; \$2,000.00.
- Pereira & Reed, Tracy, \$165; \$2,062.50.
- Willard & Blasotti, Stockton, \$1,6575 \$2109.35.
- E. L. Lilley, Stockton, \$17; \$2,125.
- Guy Bros., Stockton, \$17; \$2,125.
- Harms Bros., Galt, \$18; \$2,250.
- Harrison & Harrison, Oakland, \$21; \$2625.

SANTA CLARA CO., Calif.—Basich Bros., 20550 Normandie Ave., Torrance at \$181,271.21 awarded contract by the State Highway Commission to grade and pave with Portland cement concrete 3.5 miles between Whisman Rd. and Lawrence Station.

ORMSBY COUNTY, Nev.—Larsen Bros., P. O. Box 274, Galt, at \$72,011, submitted low bid to and recommended for award by U. S. Bureau of Public Roads, San Francisco, for 4.99 ml. grading Section A, Route 1, Lake Tahoe National Forest Highway, Tahoe National Forest, involving:

- (1) 24 acres clearing;
- (2) 125,500 cu. yds. unclass. excav.;
- (3) 950 cu. yds. unclass. excav. struc.;
- (4) 83,000 sta. yds. overhaul;
- (5) 4.99 ml. finish earth graded road;
- (6) 152 cu. yds. class A concrete;
- (7) 30 cu. yds. class B concrete;
- (8) 12,700 lbs. reinf. steel;
- (9) 88 lin. ft. 18-in. corr. metal pipe in place;
- (10) 720 lin. ft. 24-in. do;
- (11) 16 lin. ft. 30-in. do;
- (12) 124 right-of-way monuments;
- (13) 1044 lin. ft. remove and relay existing corr. metal pipe culverts.

- Complete bids follow:
- (A) Larsen Bros., Galt \$72,011
 - (B) Meyer Rosenberg, S. F. 77,356
 - (C) Isbell Constr. Co., Carson City, Nev. 89,669
 - (D) Engineer's Estimate 80,695

| | (A) | (B) | (C) | (D) |
|------|----------|----------|----------|----------|
| (1) | \$400.00 | \$500.00 | \$300.00 | \$200.00 |
| (2) | .40 | .43 | .54 | .50 |
| (3) | 1.00 | 1.00 | 1.50 | 2.00 |
| (4) | .02 | .01 | .03 | .02 |
| (5) | 300.00 | 250.00 | 350.00 | 200.00 |
| (6) | 26.00 | 25.00 | 35.00 | 30.00 |
| (7) | 25.00 | 25.00 | 35.00 | 30.00 |
| (8) | .06 | .08 | .06 | .07 |
| (9) | 2.00 | 1.60 | 2.00 | 1.75 |
| (10) | 2.50 | 2.50 | 2.50 | 2.25 |
| (11) | 3.00 | 3.00 | 4.00 | 3.00 |
| (12) | 3.00 | 3.00 | 3.00 | 3.00 |
| (13) | 1.00 | 1.75 | .55 | 1.00 |

PERSHING COUNTY, Nev.—On or about December 28 bids will be received by S. C. Durkee, State Highway Engineer, Carson City, to construct a cement concrete pavement through the City of Lovelock, 1.23 ml. Specifications may be obtained about Dec. 12 from above office; the County Clerk's office at Lovelock; U. S. Bureau of Public Roads, 461 Market St., San Francisco, on deposit of \$15, \$10 of which is returnable. Certified check 5% required with bid.

ALAMEDA, Cal.—Until Nov. 30, 11 A. M. Bids will be received by Capt. Leonard Larsen, Constructing Quartermaster, Benton Field, Alameda, for replacement of rock underfill for roads and paved area at Benton Field, involving approximately 13,500 cubic yards.

SANTA MARIA, Santa Barbara Co., Cal.—Santa Maria Const. Co., Santa Maria, submitted low bid to the city council Nov. 7, at about \$12,064.22 for improving Orange St. from Miller St. and Airport Ave., under 1911 Act, involving:

- (1) 63,715.71 sq. ft. grading;
- (2) 63,715.71 sq. ft. 4-in. asph. conc. paving;
- (3) 6275.41 sq. ft. gutter;
- (4) 1569.54 sq. curb;
- (5) 2385.4 sq. ft. walk;
- (6) 1 driveway (about 50 sq. ft.).

The total bids were:

- (A) Santa Maria Const. Co., \$12,064.22.
- (B) Southwest Paving Co., Los Angeles, \$13,468.17.

The unit bids were:

| | (A) | (B) |
|-----|--------------|--------------|
| (1) | \$0.15 | \$0.15 |
| (2) |134 |118 |
| (3) |15 |185 |
| (4) |50 |58 |
| (5) |155 |20 |
| (6) |18 |22 |

The bids taken under advisement.

LOS ANGELES, Calif.—Griffith Co., Los Angeles Railway Bldg., submitted low total bid to harbor department Nov. 9, at \$12,519.88 for paving Fish Harbor Mole and approach; Spec. No. 899. The bids follow:

- Griffith Co. (1) 107,930 sq. ft. 5-in. asphaltic concrete base pave, 8 1/2¢, total \$9174.05; (2) 107,930 sq. ft. 2-in. asphaltic concrete wearing surface, 3.1¢, total \$3345.83.
- Sully-Miller Const. Co., (1) 8.3¢, total \$850.26; (2) 3.7¢, total \$3993.41.

SHASTA COUNTY, Cal.—Milton A. Purdy, 15 Spear St., San Francisco, at \$11,668 awarded contract by the State Highway Commission for grading 0.6 mile at west city limits of Redding.

CLARK COUNTY, Nev.—Bids will be asked shortly by S. C. Durkee, state highway engineer, Carson City, to be opened about December 21, to reconstruct a portion of state highway in Clark County, through the city of Las Vegas, a length of 4.13 miles. Plans will be ready for contractors about December 5 and will be on file in the office of the U. S. Bureau of Public Roads, 461 Market St., San Francisco, after that date or may be obtained from the engineer on deposit of \$15, of which \$10 is returnable. Certified check 5% will be required with bid.

SAN DIEGO COUNTY, Cal.—T. M. Morgan Paving Company, 5410 Wilshire Blvd., Los Angeles, at \$184,040.89 awarded contract by State Highway Commission to grade and pave with Portland cement concrete 3.4 miles between Chocolate Creek and Alpine.

MOUNTAIN VIEW, Santa Clara Co., Cal.—City council adopts Resolution No. 4 to extend Moffett Blvd. from the northeastern city limits to the Bayshore Highway. Protest hearing will be Nov. 30, at 7:30 P. M. Eay Hays, City Clerk, C. C. Kennedy, Call Bldg., San Francisco, city engineer.

LONG BEACH, Cal.—Bids for furnishing decomposed granite and asphaltic concrete for the improvement of Pico Ave., between Anaheim and Willow Sts., opened by City Manager, were:

- Sully-Miller Constr. Co.—(1) decomposed granite, \$1.26 ton; asphalt. conc., \$2.20 ton.
- Kreen Paving Co.—(1) \$1.30; (2) \$2.55.
- Oswald Pros.—(1) \$1.20; (2) \$2.05.

BUILDING NEWS

CHURCHES

Construction Started.
CATHEDRAL Cost, \$100,000
 SAN FRANCISCO. California and
 Mason Streets.
 Completion of three bays of nave and
 aisles, etc. (reinforced concrete
 construction).
 Owner—Grace Cathedral.
 Architect—Lewits P. Hobart, Crocker
 Bldg., San Francisco.
 Engineer—T. Ronneberg, Crocker
 Bldg., San Francisco.
 Contractor—Dixwiddle Constr. Co.,
 Crocker Bldg., San Francisco.
 Reinforcing steel bids are in and
 contract will be awarded shortly.

Planned.
RELIGIOUS CENTER Cost, \$250,000
 BERKELEY, Alameda Co., Cal. Camp-
 us of the University.
 Religious center.
 Owner—Regents of the University of
 California, Berkeley.
 Architect—Not Selected.
 Proposed project is in a very pre-
 liminary stage. Further details will
 be given at a later date.

FACTORIES AND WARE- HOUSES

REDDING, Shasta Co., Cal.—Con-
 struction is under way on a \$150,000
 mill on the Shasta View gold group
 near Redding, the work being financed
 by A. R. Grund and associates of St.
 Louis, Mo. The plant will have a ca-
 pacity of 200 tons of ore daily and will
 be electrically operated in all depart-
 ments.

OAKLAND, Cal.—Laseo Brake Prod.
 Co., 26th and Magnolia, Oakland, will
 expend \$75,000 in the plant improve-
 ments, including the installation of
 additional machinery and equipment.
 Purchase of equipment will be made
 within the next thirty days.

Planned.
RENOVATE PLANT Cost, \$25,000
 FRESNO, Fresno Co., Cal. 100 M St.
 Renovate brewery (new equipment,
 machinery, etc.)
 Owner—Fresno Beverage Co., 100 M
 St., Fresno.
 Architect—Not Given.

SAN FRANCISCO.—John A. Roeb-
 ling Sons of California, plans to erect
 a wire cable plant to cost between
 \$200,000 and \$400,000. Factory unit and
 equipment to be announced after
 technical survey of production facili-
 ties necessary to manufacture cable
 suspenders and accessories for Golden
 Gate Bridge.

Planned.
WAREHOUSE, ETC. Cost, \$15,000
 SAN RAFAEL, Marin Co., Cal. Yacht
 Harbor.
 Warehouse and storage tanks.
 Owner—Richfield Oil Co., 245 Emery
 St., San Francisco.
 Plans by Engineering Dept. of Owner.

SEATTLE, Wash.—Elmer Henrich,
 2918 Airport Way, President of the
 Columbia Breweries, Inc., of Seattle,
 announces plans for the construction
 of a brewery with a capacity of 100,000
 barrels a year. Further information
 will be given when available.

GARAGES AND SERVICE STATIONS

November 3, 1932
 Plans Being Figure.
SERVICE STATION Cost, \$15,000
 BURLINGAME, San Mateo Co., Cal.
 El Camino Real and Burlingame
 Avenue.
 Modernistic steel frame service sta-
 tion.
 Owner—Shell Oil Co., Shell Bldg., San
 Francisco.
 Plans by Eng. Dept. of Owner.

GOVERNMENT WORK AND SUPPLIES

SUNNYVALE, Santa Clara Co., Cal.
 —Following bids received by Bureau
 of Supplies and Accounts, Washington
 D. C., for structural steel towers, sec-
 tions and heads at the Naval Air Sta-
 tion, Sunnyvale.

(1) delivered; (2) l.o.b.
 Pacific Coast Steel Corp., San Fran-
 cisco, (1) \$1,756.79.

Lehigh Structural Steel Co., Allen-
 town, Pa., (1) \$1,898.00; (2) \$1,508.
 Golden Gate Iron Works, San Fran-
 cisco, (1) \$2,076.25; (2) \$2,076.25.
 Hofius Steel Equipment Co., Seattle,
 (2) \$2,115.00.
 American Car & Foundry Co., New
 York City, (1) \$2,116.40; (2) \$1,-
 782.74.

Decatur Iron & Steel Co., Decatur,
 Ala., (1) \$2,132.00; (2) \$1,813.00.
 Missouri Rolling Mills Corp., St. Louis
 (1) \$2,257.19; alternate, \$2,539.50.
 American Bridge Co., Washington, D.
 C., (1) \$2,264.00; (2) \$1,895.00.
 H. Wick Iron Works, Oakland, (1) \$2,-
 23.00.

Wisconsin Bridge & Iron Co., Mil-
 waukee, (1) \$2,396.12; (2) \$1,778.60.
 International Stacy Corp., Columbus,
 Ohio (1) \$2,418.10; (2) \$2,248.78.
 Muskegee Iron Works, Muskegee, Ok.,
 (1) \$2,418.26; (2) \$2,199.50.

Toledo Allied Manufacturers, Toledo,
 Ohio (1) \$2,513.75; (2) \$1,991.12.
 Walter Bros. Co., New York City,
 (1) \$2,627.40.

Minneapolis-Moline Power & Imple-
 ment Co., Los Angeles, (1) \$2,-
 776.85; (2) \$2,368.50.

Safety Guard & Manufacturing Co.,
 Pittsburgh, Pa., (1) \$3,788.00; (2)
 \$2,512.60.

Bids held under advisement. 7

Bids Wanted—To Close Dec. 8th.
QUARTERS Cost, \$—
 ROCKWELL FIELD, San Diego Co.,
 Calif.

Construction of thirty quarters.
 Owner—United States Government.
 Plans by Constructing Quartermaster,
 Rockwell Field.

PEARL HARBOR, T. H.—Newbery
 Electric Corp., 1038 Venice Blvd., Los
 Angeles, at \$14,970 awarded contract
 by the Bureau of Yards and Docks,
 Washington, D. C., for electrical work
 for the engine and aircraft overhaul
 shop at the Fleet Air Base at Pearl
 Harbor, T. H. Following is a complete
 list of the bids:
 Newbery Elec. Corp., L. A. \$14,970
 Hawaiian Elec. Corp., Honolulu 15,550
 Teves & Joaquin, Honolulu 15,937

CRESCENT CITY, Del Norte Co.,
 Cal.—Following have procured plans
 under Spec. No. 7009 for the purpose
 of submitting bids to the Public
 Works Officer, Mare Island Navy
 Yard, for repairs and replacements to
 plumbing and heating systems at the
 Naval Direction Finder Station at
 Point St. George, Crescent City:
 Theo. Johanns, 1020 15th St., San
 Francisco.

J. A. Fazio, 402 Castro St., Oakland
 J. H. Pinkerton, 927 Howard St.,
 San Francisco.

M. J. Reeves Heating Co., 959 Nat-
 toria St., San Francisco.
 Crane Co., 301 Brannan St., San
 Francisco.

O'Mara & Stewart, 218 Clara St.,
 San Francisco.
 Herman Lawson, 465 Tehama St.,
 San Francisco.

SAN FRANCISCO.—Until 3 P. M.,
 December 1, bids will be received by
 the Treasury Department, Office of the
 Supervising Architect, Washington, D.
 C., for painting plaster in the U. S.
 Marine Hospital at San Francisco.

Further information obtainable from
 the Construction Engineer, Marine
 Hospital, San Francisco.

CALIFORNIA—The Prison Bureau,
 Washington, D. C., is considering
 sites in California for a Federal Jail,
 to cost approximately \$125,000. The
 exact location has not been deter-
 mined and Los Angeles, San Francisco
 and San Diego are being considered.

DENVER, Colo.—The following con-
 tracts awarded by Contracting Officer,
 Quartermaster Corps, Fitzsimmons
 General Hospital, Denver:
 Stearns - Rogers Mfg. Co., Denver,
 at \$2210 for three each pumps and
 turbines, installed.

Stearns - Rogers Mfg. Co., Denver,
 at \$2235 for deaerating heater and me-
 ter, installed.

Baumgardner Const. Co., Denver, at
 \$1950 for automatic control for pump-
 ing station, installed.

York Ice Machinery Corp., Denver,
 at \$2708.80 for refrigerator, 6-comp.,
 and equipment necessary to keep the
 compartments at required tempera-
 ture automatically.

York Ice Machinery Corp., Denver,
 at \$2367.10 for refrigeration plant, fully
 automatic, of latest design and
 make, installed.

Following contracts rejected:
 Deaerating Heater & Meter; Water
 Softener and Meter; Steam Turbine;
 Water Regulators; Pump Controls
 (pressure regulators).

EL RENO, Okla.—Bellows Const. Co.
 Oklahoma Savings Bank Bldg., Okla-
 homa City, awarded contract by Bu-
 reau of Prisons, Department of Jus-
 tice, at \$98,600 for the construction of
 dormitories A, B, C and D at the U.
 S. Southwestern Reformatory, El Re-
 no. Each building will be one-story,
 290x38-ft. in area, and will have con-
 crete foundations, brick walls, face
 brick exterior, stone trim, asbestos
 shingle roofs, steel sash, hollow metal
 doors and frames, tile work, steam heat
 from central plant. Hawk & Parr, ar-
 chitects, Oklahoma City.

Bids Wanted—To Close Dec. 28.
ADDITION Cost, \$750,000
SAN FRANCISCO, Seventh and Mission Streets.

Four-story Class A reinforced concrete addition to post office (granite exterior).

Owner—United States Government.
Architect—Geo. W. Kelham, 315 Montgomery Street.

Additional Prospective Bidders.
SANTORQUIM, ETC. Cost, \$375,000
ALBUQUERQUE, New Mexico.

Sanatorium building, two physicians' cottages, nurses' home & garages.
Owner—United States Government.
Plans by Department of Interior.

Washington, D. C.
Following are additional prospective bidders. Bids open Dec. 6:

F. A. Avery & Son, 1722 Washington St., Parsons St., Kansas.
Nathan Wohlfeld, 411 Construction Bldg., Dallas, Texas.

Manhattan Constr. Co., Muskogee, Okla.

Chamblis & Nash, Shoreham Bldg., Washington, D. C.
George Griffiths Constr. Co., 1231 Temple Place St., Louis, Mo.

SUNNYVALE, Santa Clara Co., Cal.—Dohrmann Hotel Supply Co., 972 Mission St., at \$19,858 awarded contract for kitchen and bakery equipment exclusive of commissary work, and Sichel Bakery Equip. Co., 148 1st St., San Francisco, at \$6,972 awarded contract for work in the commissary by Bureau of Yards and Docks, Washington, D. C., for kitchen and bakery equipment at the Naval Air Station, Sunnyvale. Spec. No. 6957.

Bids Wanted—To Close December 6.
FEDERAL BLDG. Cost, \$—
GIBEN, Utah.

Federal Building (to house the U. S. Forest Service Offices).

Owner—United States Government.
Architect—Hodgson & McClenahan, Ogden.

Bids are being received by the Supervising Architect's Office, Treasury Department, Washington, D. C.

ALBROOK FIELD, C. Z.—Plans are on file at the office of Captain H. B. Nurse, Constructing Quartermaster, Fort Mason, covering the construction and completion of hangar roads, hangar ramps, warming-up aprons, air corps warehouse and shop ramp and all utilities for the Technical Area at Albrook Field, C. Z., bids for which will be opened December 16 by the Department Quartermaster at Quarry Heights, C. Z. Deposit of \$10, returnable, required for plans, checks for same to be made payable to the Treasurer of the U. S.

FORT McDOWELL, Cal.—General Engineering & Drydock Company, 1100 Sansone St., San Francisco, at \$9427 awarded contract by Contracting Officer, Quartermaster Corps, Fort McDowell, for drydocking and repairs to harbor boat General Frank M. Cox.

Contract Awarded.
POST OFFICE Cont. Price \$109,000
MODESTO, Stanislaus Co., Cal. 12th and I Streets.

Two-story Class A masonry and steel post office (tile roof, steam heating system, hardwood and terrazzo floors, terra cotta exterior, etc.)

Owner—United States Government.
Plans by Supervising Architect, Treasury Dept., Washington, D. C.

Contractor—Murch Bros. Const. Co., Railway Exchange Bldg., St. Louis

Low Bidders.
POST OFFICE Cost, \$185,000
VALLEJO, Solano Co., Cal. Main and Carolina Streets.

One-story steel frame Post Office (granite and terra cotta facing, steam heating system, freight and passenger elevator, etc.)

Owner—United States Government.
Architect—Chas. Dean, California Life Bldg., Sacramento.

Structural Engineer—Nathaniel Ellery
2124 E-39th St., Oakland.

Mechanical Engr.—Robert L. St. John,
544 Market St., San Francisco.

Low Bidder—K. E. Parker Co., 135 South Park St., San Francisco.

Following are three low bidders:
(1) aluminum windows; (2) steel windows.

K. E. Parker Co., S. F. (1) \$111,370
..... (2) 107,550
Wm. Spivock, S. F. (1) \$117,000
..... (2) 113,500
MacDonald & Kahn, S. F. (1) \$117,999
..... (2) 115,199

WALLA WALLA, Wash.—Until December 9, 2:30 P. M., bids will be received by the Veterans' Administration at the Office of the Supervising Superintendent of Construction, Veterans' Administration Hospital, Palo Alto, for one plunger electric passenger elevator and elevator enclosure doors and trim for Building No. 68. Plans and specifications obtainable from the above office. Certified check, 25% of amount of bid required.

HOSPITALS

Preparing Working Drawings.
HOSPITAL Cost, \$1,090,000
VENTURA, Ventura Co., Cal. 1700-acre tract near Oxnard.

Two-story reinforced concrete hospital (to accommodate 1500 patients).
Owner—State of California.

Architect—Geo. D. McDougall, Public Works Bldg., Sacramento.

Bids will be asked about March 1. Construction Postponed Temporarily
HOSPITAL Cost, \$70,000
REDDING, Shasta Co., Cal.

One and two-story reinforced concrete hospital (245x36 feet); two ward wings and composition roof, steam heating system.

Owner—County of Shasta.
Architect — Otto Deichmann, 110 Sutter St., San Francisco.

Bid Call Rescinded.
INSURITE BLDG. Cost, \$400,000
SAN FRANCISCO. Potrero Ave. and Twenty-second St.

Five-story Class A steel frame and reinforced concrete physchopathic institute building (tar and gravel roof, steam heating system to connect to main plant, etc.)

Owner—City and County of San Francisco.

Architect—Alfred I. Coffey and Martin J. Rist, associated, Phelan Bldg., San Francisco.

Bids were reported to be opened November 16, but due to changes in the wage scale that date has been postponed. A new date will be set shortly.

Bids are being received by S. J. Hester, Secretary, Department of Public Works, 2nd Floor, City Hall, on the following:

(1) general construction\$310,000
(2) mechanical and plumbing..... 70,000
(3) electrical work 25,000

Previously reported for general construction only. Plans obtainable from Bureau of Architecture, 2nd Floor, City Hall.

LOS ANGELES, Cal.—W. R. Harriman, Los Angeles county superintendent of charities, has submitted Spec. MWFEA-1 of 1932, hospital beds for Los Angeles general hospital, to the county supervisors. The initial order will be for about 725 adjustable bottom beds and for about 150 parts of guard rails. The supervisors will advertise for bids shortly.

HOTELS

Contract Awarded.
HOTEL Cost, \$15,000
LOS BANOS, Merced Co., Cal.

Two-story frame and stucco hotel (Spanish type), 20x30 ft.; 21 rooms lobby, large vestibule, 21 dining rooms, kitchen and breakfast room.

Owner—New Goni Hotel Inn.
Architect—Not Given.
Contractor—Clyde D. Jones, Dos Palos

POWER PLANTS

MODESTO, Stanislaus Co., Cal.—Westinghouse Electric & Mfg. Co., 1 Montgomery St., San Francisco, at \$52,250 awarded contract by Modesto Irrigation District under Item E-19, to furnish and deliver 3 outdoor type induction regulators. Identical bid submitted by General Electric Co., San Francisco.

LOS ANGELES, Cal.—Gaines Bros. Co., 422 East 8th St., Los Angeles, at \$27,310, apparently submitted low bid to Metropolitan Water District, 306 West 3rd St., Los Angeles, Nov. 10, to construct all lines and substations, furnish and haul all materials except transformers, condensers and oil circuit breakers (item 20) using copper condensers and grade of poles as specified under items (19) and (9) or (11) to construct approximately 45 mi. of 66,000 volt transmission lines, 30 mi. of 23,000 volt transmission lines with 12 mi. of telephone circuit, built jointly, two 6000 KVA substations and three 1000 KVA substations, located in the vicinity of Colton, Lakeview and Cabazon.

H. H. Walker, Inc., Newbery Electric Corp. and Quality Electric Co., Ltd., bidding jointly, submitted low bid on item (1) at \$42,785 to construct transmission line from Colton to Cabazon, using copper conductors. These firms also submitted the low bid on item (2), same as (1), but using aluminum conductors, at \$47,410.

THEATRES

Bids Opened.
THEATRE Cost, \$—
WILLOW GLEN, Santa Clara Co., Cal. East Lincoln Avenue.

One-story frame theatre (Spanish type) to seat approx. 500.

Owner—Hester Theatre Corp. (Melton F. Senais and E. I. McKay, 1433 The Alameda, San Jose).

Architect — Einder & Curtis, 25 W. San Carlos St., San Jose.
Low Bidder—Neves & Harp, 831 Harrison St., Santa Clara.

Following is a complete list of bids: Neves & Harp, Santa Clara.....\$14,680
R. C. Summers, San Jose..... 14,917
Chas. Thomas, San Jose..... 15,987
Wells P. Goodenough, Palo Alto 15,323
Carl N. Swenson, San Jose..... 15,960
H. A. Bridges, San Jose..... 15,965
F. F. Edmans, San Jose..... 16,246
W. J. Ochs, San Jose..... 16,493
E. Nommensen, San Jose..... 17,743

Bids held under advertisement.

MEMBERS OF THE ASSOCIATED GENERAL CONTRACTORS PACIFIC COAST AND INTERMOUNTAIN TERRITORY

CALIFORNIA STATE BRANCH

1318 Pershing Square Bldg.—Trinity 9418—Los Angeles

O. C. STRUTHERS, President

E. L. KIER, Vice-President

GEORGE HERZ, Secretary

MELVILLE DOZIER, JR., Manager

NORTHERN CALIFORNIA CHAPTER

206 Sansome St.—Garfield 7107—San Francisco, Calif.

C. W. Wood, President Geo. G. Pollock, Vice-President
Floyd O. Booe, Secretary-Manager

| | | |
|--|---|--------------------|
| Atkinson, Lynn S. (HPR)..... | 1316-17 Edwards & Wildey Bldg., L. A., Tr. | 7451 |
| Atkinson, Guy F., Co., Inc. (BHPR) 601 Russ Bldg., S. F., Su. | 3629 | |
| Bali, N. M. (HP)..... | 1889 Yosemite Rd., Berkeley, Cal. | 6722 |
| Basalt Rock Co., Inc. (H)..... | 900 8th St., Napa | 105 |
| Bechtel Co., W. A. (BHPR)..... | 155 Sansome St., S. F. | 0780 |
| Bevanda, M. J. (HP)..... | 319 Elks Bldg., Stockton | 7470 |
| Bishop, E. B. (HP)..... | 900 Forum Bldg., Sacramento, Capitol | 2456 |
| Bodenhammer Const. Co. (HPR)..... | Box 643, 354 Hobart St., Oakland, Clencourt | 5022 |
| Calif. Const. Co. (BHPR)..... | 715 Standard Oil Bldg., S. F. | 4820 |
| Casson, Jack A. (HP)..... | Hayward, Calif. | 856 |
| Clark & Henry Const. Co. (HP)..... | 364 Market St., S. F. | 2903 |
| Colley, W. C. (HPR)..... | 35 Northampton Ave., Berkeley, Ash. | 1323 |
| Conner, J. L. (HP)..... | P. O. Box No. 86, Monterey | 1137-M |
| Connolly, T. E. (BHPR)..... | 461 Market St., S. F., Kearny | 6408 |
| Conyes, R. A. (HPR)..... | 1043 38th St., Oakland, Olym. | 9391 |
| Currie, James (HPR)..... | 1100 Peninsula Ave., Burlingame, Burl. | 3497 |
| Delin, C. M. (HPR)..... | 206 Sansome St., San Francisco, Gar. | 7107 |
| Dodge Bros., Inc. (HP)..... | Fallon, Nevada, Main | 1761 |
| Drumm, A. D., Jr. (HP)..... | Fallon, Nevada, Main | 4427 |
| Eaton & Smith (HPR)..... | 715 Ocean Ave., San Francisco, De. | 6700 |
| Fairbanks, A. J. & J. L., Inc. (HPR)..... | Linden Ave., So. S. F. | 436 |
| Fay Improvement Co., The (HPR)..... | Phelan Bldg., S. F., KE. | 4044 |
| Fitzmaurice, J. H. (HP)..... | 2857 Hannah St., Oakland, Hight | 2490 |
| Force Const. Co. (HP)..... | 70 Bellevue, Piedmont, Calif., HU. | 9349 |
| Franks Contrtg. Co. (RHP), 260 California St., S. F., Doug. | 6684 | |
| Frederickson Bros. (BPW)..... | First Natl. Bank Bldg., Stockton, 5974 | |
| Frederickson & Watson Const. (BHPR)..... | 873 81st Ave., Oakland, SW. | 1264 |
| French, George J., Jr. (HP)..... | P. O. Box No. 675, Stockton, 6676 | |
| Gerwick, Ben C., Inc. (HP)..... | 112 Market St., S. F., SU. | 8454 |
| Granite Construction Co. (BHPR)..... | Watsonville, California, 988 | |
| Hanrahan Co. (HP)..... | Fallon, Nevada, Main | 1920 |
| Harney, Charles L. (HP)..... | 74 New Montgomery St., S. F., CA. | 1711 |
| Hauser, W. H. (HPR)..... | 3129 E. 7th St., Oakland, FR | 6790 |
| Healey-Moore Co. (HP)..... | 344 High St., Oakland, AN. | 0466 |
| Hemstreet & Bell (HP)..... | 411 "C" Street, Marysville, | |
| Heple, Earl W. (BHPR)..... | 494 Delmas Ave., San Jose, Calif. | |
| Hodgman & MacVicar (HP)..... | 714 Plymouth, Pasadena, Ter. | 1563 |
| Holland, J. P., Inc. (HPR)..... | 1834 McKinnon Ave., S. F., MI. | 5400 |
| Isbell Const. Co. (HP)..... | Corson City, Nev., Ph. | 1754 (Also Fresno) |
| Jenkins, M. A. (HPR)..... | 3560 "E" St., Sacramento Capital | 472 |
| Jones & King (HPR)..... | Hayward, Calif., Hay. | 74 |
| Kaiser Paving Co. (BHPR)..... | Latham Square Bldg., Oak., HI. | 2614 |
| Knapp, J. F. (HPR)..... | 916 Fitchfield Bldg., Oak., GL. | 1620 |
| Larsen Bros. (HP)..... | 2023 23rd St., Sacramento, Cap. | 1806 |
| Lee, U. B. (HP)..... | 10059 Carpenter St., San Leandro, Sweet. | 1717 |
| Le Tourneau, R. G. (HPR)..... | 122 Moss Ave., Stockton, 471 | |
| Lord & Bishop (HPR)..... | Native Sons Bldg., Sacramento, Main | 3981 |
| Lovelace, Note (HP)..... | 343 "W" St., Sacramento, Cap. | 1920 |
| Malcon, C. T. (HPR)..... | Walnut Creek, Calif., W. C. | 277 |
| McDonald, D. (HPR)..... | 204 23rd St., Sacramento, Cap. | 1806 |
| McGillivray Const. Co. (HP)..... | Box 927, Sacramento, Capital | 2170 |
| McMillan, W. K. (HP)..... | 2088 Howard St., San Francisco, CA. | 1846 |
| Mercer-Fraser Co. (BHPR)..... | Eureka, Eureka, 808 | |
| Nevada Contracting Co. (HPR)..... | Fallon, Nevada, Phone | 1851 |
| Nevada Rock & Sand Co. (HP)..... | Reno, Nevada, Reno | 5291 |
| Night, Fred (HP)..... | Fallon, Nevada, Capital | 1920 |
| Pacific Pavements Co., Ltd. (HP)..... | 85 Barstow St., S. F., HE. | 479 |
| Pacific States Construction Co. (HP)..... | Call Bldg., S. F., DO. | 0879 |
| Phillips, John, Co. (HP)..... | 582 Market St., San Francisco, KE. | 4471 |
| Pollock, Geo. J. (HP)..... | P. O. Box 903, Sacramento, Main | 1457 |
| Robl, H. W., Co. (HPR) 4351 Alhambra Ave., Los Angeles, CI. | 6141 | |
| Six Companies, Inc. (BHPR) Financial Center Bldg., S. F., Gar. | 3842 | |
| Siems-Helmets, Inc. (BHPR)..... | 206 Sansome St., S. F., EX. | 5140 |
| Strels & Graham Co. (HPR)..... | P. O. Box 576, Roseville, Calif. | |
| Tedford, J. N. (HP)..... | Fallon, Nevada, Capital | 1920 |
| Teichert, A. & Son, Inc. (HP) 1846 37th St., Sacramento, Main | 6586 | |
| Tieslar Bros. (HP)..... | 2819 Grove St., Berkeley, BE. | 8635 |
| Tucker, H. V., Co. (HP)..... | 300 Vermont St., S. F., MA. | 7583 |
| Ulrich Const. Co., Geo. J. (BHPR)..... | Modesto, Modesto, 6214 | |
| Von der Hellen & Pierson (HPR)..... | Castaic, Calif. | |
| Ward Engineering Co. (HP) 315 Montgomery St., S. F., Doug. | 6072 | |
| Wood, C. W. (HP)..... | P. O. Box 1435, Stockton, 8743 | |
| Young, Clarence (HP)..... | 2250 Broadway, Ter., Oakland, OL. | 4743 |
| Young & Son Co., Ltd. (HP) 599 Colusa Ave., Berkeley, Berk | 5551 | |

Associate Members

| | | |
|---|--|------|
| American Bitumuls Co. (Bitumuls)..... | 200 Bush St., S. F., CA. | 6653 |
| Anderson Bros. Supply Co. (Commissary)..... | Boulder City, Nev. | |
| Andrews, F. T., Co. (C. P. A.)..... | 1922 Russ Bldg., S. F., SU. | 0832 |
| Associated Oil Co. (Asso. Prod.)..... | 79 N. Mont'g St., S. F., KE. | 4800 |
| Austin Western Road Machinery Co. (Road Machinery)..... | 435 Brannan St., San Francisco, DO. | 2183 |
| Autocar Sales & Service Co. (Autocar Trucks)..... | 326 Howard, San Francisco, UN. | 4545 |
| Bacon, Edward R., Co. (Road Machinery)..... | Folsom and 17th Sts., San Francisco, UN. | 4545 |
| Blake Bros. Co. (Crushed Rock)..... | Balboa Bldg., S. F., KE. | 5320 |
| Calaveras Cement Co..... | 315 Montgomery, San Francisco, DO. | 4224 |
| California Corrugated Culvert Co. (Corrugated Pipe)..... | 5th & Parker, West Berkeley, BE. | 5420 |
| Cement Gun Construction Co. (Gunite)..... | 35 Second St., San Francisco, SU. | 8306 |
| Contractors' Ins. Agency (Insurance)..... | 206 Sansome, S. F., SU. | 3400 |
| Cowell Lime & Cement Co. (Cement)..... | 2 Market St., S. F., CA. | 4870 |
| Geiger Iron Works (Equip.)..... | P. O. Box 423, Stockton, Stock. | 1898 |
| Granite Rock Co. (Crushed Rock)..... | Watsonville, Wat. | 988 |
| Harneschfeiger Sales Corp. (Equip.)..... | 82 Beale St., S. F., DO. | 2313 |
| Harron, Rickard & McConne Co. (Equip.)..... | 1600 Bryant St., San Francisco, UN. | 3740 |
| Link-Belt Co. (Equip.)..... | 400 Paul Ave., San Francisco, DE. | 6400 |
| Marion Steam Shovel Co. (Power Shovels)..... | 571 Howard St., San Francisco, KE. | 7493 |
| Modern Vehicle Co. (Mfrs. Steel Dump Bodies)..... | 437 4th St., San Francisco, CA. | 1402 |
| Murray & Ready (Labor Agency) 784 Howard St., S. F., SU. | 1205 | |
| Northwest Engineering Co. (Shovels)..... | 23 Main St., S. F., SU. | 7093 |
| Pacific Coast Aggregates..... | 700 Wells Fargo Bldg., S. F., SU. | 8940 |
| Pacific Coast Engineering Co. (Structural Steel)..... | Foot of W. 14th St., Oakland, HI. | 1322 |
| Pacific H. B. A. Steel Co., Inc. (Drill Steel)..... | 540 Brannan St., San Francisco, CA. | 6683 |
| Pacific Portland Cement Co. (Golden Gate)..... | Hunter-Dulin Bldg., San Francisco, CA. | 4100 |
| Pland-Evan (Commissary)..... | Merchant's Ex. Bldg., S. F., CA. | 5923 |
| Robinson Tractor Co. (Caterpillar Tractors)..... | 1705-09 E. 12th St., Oakland, FR. | 2485 |
| Roebling's, Jno. A., Sons Co. (Wire Rope)..... | 1175 Howard St., San Francisco | |
| Santa Cruz Portland Cement Co. (Santa Cruz)..... | 646 Folsom St., San Francisco, CA. | 6490 |
| Shell Oil Co. (Shell Products)..... | Crocker Bldg., San Francisco, CA. | 3307 |
| Soule Steel Co. (Reinforcing Steel)..... | 1750 Army St., S. F., VA. | 4141 |
| Spears-Wells Machinery Co. (Equip.)..... | 1832 9th St., Oak., HO. | 4100 |
| Standard Oil Co. of Calif. (Standard Products)..... | Standard Oil Bldg., San Francisco, SU. | 7700 |
| Traffic Service Bureau (Freight Audits)..... | 24 Calif. St., S. F., CA. | 6194 |
| Union Oil Co. of Calif. (Union Prod.) Mills Bldg., S. F., SU. | 1400 | |
| United Commercial Co., Inc. (Equip.)..... | 234 Stewart St., S. F., DO. | 0430 |
| Western Pipe & Steel Co. (Steel Pipe)..... | 444 Market, S. F., GA. | 6788 |

SOUTHERN CALIFORNIA CHAPTER

1318 Pershing Square Bldg.—Trinity 9418
Los Angeles, Calif.

C. G. FitzGerald, President Melville Dozier, Jr., Manager
LYNN S. ATKINSON, First Vice-President (Engineering Div.)
WM. A. SIMPSON, Second Vice-President (Building Div.)

The address of the firm is the same city in which is located the Chapter office unless otherwise shown in membership list.

Building Contractors

| | | |
|---|--------------------------------------|-------|
| Atkinson, J. F. | 1102 Story Bldg., VAndike | 7783 |
| Baruch Corp., Herbert M. | 1015 Lincoln Bldg., Trinity | 5473 |
| Bradley Constr. Co., K. R. | 1833 West Pico, Washington | 2786 |
| Burgin, W. Joy. | 1100 Redondo Ave., Long Beach, L. B. | 81103 |
| Eyerts & Dunn. | 7908 Santa Monica Blvd., Crestview | 9602 |
| Clinton Construction Co., 1103 Spring Arcade Bldg., MAdison | 2597 | |
| Crowell, W. M. | 495 S. Bdwy., Pasadena, WAlkfield | 6692 |
| Crowell Co., Weymouth. | 2104 E. 15th St., Westmore | 5708 |
| DeCamp-Hudson Co., Ltd. | 1277 W. 24th St., Westmore | 3382 |
| Dixon, L. Co. | 609 So. Grand Ave., Trinity | 4925 |
| Eschrich Bros. | 234 W. 37th Place, Adams | 6294 |

Class of Construction: (B) Building; (H) Highway; (P) Public Works; (R) Railroad.

ALAMEDA COUNTY CHAPTER

354 Hobart St., Rm. 410—Glencourt 7400—Oakland, Calif.

S. G. Johnson, President H. J. Christensen, Treasurer
Geo. J. Maurer, Vice-President W. E. Hague, Manager

| | |
|--------------------------------|--------------------------------------|
| Brennan, J. P. (B)..... | 2820 Regent, Berkeley, BE. 0346 |
| Christensen, H. J. (B)..... | 1924 Broadway, Oakland, LA. 7164 |
| DeVelbiss, C. Dudley (B)..... | 369 Pine St., S. F., CA. 3225 |
| Dyer Construction (B)..... | 337 17th St., Oakland, GL. 3203 |
| Furlong, Thos. H. L. (B)..... | 460 Jerome Ave., Piedmont, HU. 0620 |
| Jacobs & Pattiani (BP)..... | 337 17th St., Oakland, GL. 3203 |
| Johnson, S. C. (B)..... | 4652 Dolores Ave., Oakland, FR. 6650 |
| Keating, W. C. (B)..... | 925 Forum Bldg., Sacramento |
| Leisure, E. T. (B)..... | 87 Ross Circle, Oakland, OL. 0389 |
| Littlefield, R. W. (B)..... | 337 17th St., Oakland, HI. 0994 |
| Lyons, W. E. (B)..... | 354 Hobart St., Oakland, HO. 5325 |
| Maurer, George J. Co. (B)..... | 50 York Drive, Oakland, HU. 3457 |
| Nordstrom, David H. (B)..... | 354 Hobart St., Oakland, HU. 7400 |
| Pedgrift, James H. (B)..... | 4106 Broadway, Oakland, HU. 1300 |
| Petersen, George (B)..... | 1841 Bancroft, San Leandro, TR. 2043 |
| Petersen, James B. (B)..... | 4021 Ajax Vista, Oakland, FR. 9887 |
| Schultz, Herbert (B)..... | 811 Mendocino, Berkeley, AS. 2360 |
| Sullivan & Sullivan (B)..... | 2653 Best Ave., Oakland, AN. 4724 |
| Thornally, W. C. (B)..... | 354 Hobart St., Oakland, GL. 8476 |
| Westlund, Fred J. (B)..... | 625 40th St., Oakland, OL. 7446 |

Associate Members

| | |
|--|-------------------------------------|
| Calaveras Cement Co..... | 315 Montgomery St., San Francisco |
| Cowell, Henry, Lime & Cemt. Co..... | 81 Franklin St., Oakland, HI. 3398 |
| East Bay Glass Co..... | 621 Sixth St., Oakland |
| Lannom Bros. Mfg. Co..... | Fifth and Magnolia Sts., Oakland |
| Maxwell Hardware Co..... | 1320 Washington St., Oakland |
| Melrose Building Materials Co..... | 4591 Tidewater Ave., Oakland |
| Oakland Planing Mill..... | Second and Washington Sts., Oakland |
| Pacific Portland Cement Co., 111 Sutter, San Francisco, CA. 4100 | |
| Santa Cruz Portland Cement Co..... | 354 Hobart St., Oakland |
| Sunset Lumber Co..... | 400 High St., Oakland |
| Tilden Lumber Co..... | Foot of University Ave., Berkeley |

SAN DIEGO CHAPTER

Spreckels Theater Bldg.—Main 4289—San Diego, Calif.

George R. Daley, President M. A. Mathias, Manager
M. H. Golden, Vice-President

| | |
|-------------------------------------|--|
| Carroll, B. G..... | 4396 Maryland St., Hillcrest 5274-M |
| Daley Corporation (HP)..... | 4430 Boundary St., Randolph 1136 |
| Dennis Constr. Co., V. R. (HP)..... | Box 183, Sta. A, Hillcrest 8293 |
| Ford, E. Paul (HP)..... | Box 201, E. San Diego, Randolph 5101 |
| Golden, M. H. (B)..... | 404 California Bank Bldg., Franklin 7983 |
| Grove, Cecil B..... | 4316 Island Ave., Franklin 7474 |
| Hazard Constr. Co., R. E. (HP)..... | 2508 Kettner Blvd., Franklin 6315 |
| Jarboe Constr. Co. (B)..... | 208 Spreckels Theatre Bldg., Franklin 3392 |
| Kier Const. Co., W. E. (B)..... | First National Bank Bldg., Main 2472 |
| Larsen, B. O. (B)..... | 1340 E. St., Main 4752 |
| Miracle Constr. Co. (HP)..... | Box 601, E. San Diego, Main 2295 |
| Penick & Sons, T. B. (HP)..... | 3075 L St., Main 4582 |

| | |
|------------------------------|--|
| Hall, J. F..... | 531 Douglas Bldg., MUTual 6722 |
| Houghton & Anderson..... | 143 Rose St., MUTual 5430 |
| K. P. Lowell & Co., Ltd..... | 606 Union Bank Bldg., VAndike 4072 |
| Macdonald & Driver..... | 311 Board of Trade Bldg., TUcker 6462 |
| McKee, Robert E..... | 1128 Central Bldg., TRinity 0291 |
| Miller, Geo. E..... | 401 N. Canon Dr., B. H., OXFord 7404 |
| Simpson Construction Co..... | 1007 Architects Bldg., MUTual 7261 |
| Snell, Fred C..... | 339 N. Beverly Dr., Beverly Hills, OXFord 6409 |
| Willard-Brent Co..... | 254 E. 27th St., Richmond 2101 |

Bridges, Foundations

| | |
|-------------------------------|--------------------------------------|
| Ledbetter Co., W. M..... | Box 1264, Arcade St., Capitol 13415 |
| Ober Brothers..... | 707 San Fernando Bldg., Angelus 8759 |
| Raymond Concrete Pile Co..... | 1008 Washington Bldg., VAndike 6536 |

Highways, Paving, Grading

| | |
|---------------------------------|--|
| Basich Bros..... | Torrance, Gardena 446 |
| Bock, Geo. J..... | 1007 S. Harvard, Empire 7614 |
| Donovan & Sons, J. G..... | 4031 Goodwin Ave., OLYmpic 0423 |
| Ferry, Peter L..... | San Fernando Rd. and Bdwy., Glendale, OL. 0164 |
| Fleming Construction Co..... | L. A. Railway Bldg., Westmore 9343 |
| Griffith Company..... | Pomona |
| Hall-Johnson Co..... | P. O. Box 387, Alambra, Eliot 1855 |
| Herz & Co., Geo..... | 310 Platte Bldg., San Bernardino, S. B. 241-42 |
| Heuser, Chas. U..... | 316 Allen Ave., Glendale, DOUGlas 3965 |
| Hudson, Chas. H..... | 408 Rives-Strong Bldg., VAndike 3374 |
| Jahn & Bressi..... | 701 Lane Mortgage Bldg., TRinity 8674 |
| Lang Transportation Co..... | 5501 Santa Fe Ave., JEFFerson 3104 |
| Lewis Construction Co..... | 300 S. Juanita St., WASHINGTON 1407 |
| Packard & Tanner..... | 905 W. Latham St., PHOenix, Ariz |
| Pearson & Dickerson..... | 4011 Goodwin Ave., Capitol 7603 |
| Ross, M. S..... | P. O. Box 596, Santa Ana, 227 |
| Wells & Bressler..... | 2119 E. 25th St., LAfayette 9826 |
| Willis, C. G., & Sons, Inc..... | |

Pipe Lines, Water Works

| | |
|--------------------------------|--|
| American Concrete Pipe Co..... | P. O. Box 1428, Arcade Sta., JE. 4211 |
| Haverty Co., Thos..... | 316 E. 8th St., VAndike 1171 |
| United Concrete Pipe Co..... | Box 1, Station H, L. A., TWInoaks 9196 |

Subways, Conduits

| | |
|----------------------------|-----------------------|
| Delta Construction Co..... | P. O. Box 79, Compton |
|----------------------------|-----------------------|

General Engineering

| | |
|------------------------------------|---|
| Atkinson, Lynn S..... | 609 S. Grand, TRinity 7451 |
| Bartmus, Peter..... | Hollywood Riviera, Redondo, 6404 |
| Bent Bros., Inc..... | 418 S. Pecan St., Angelus 7510 |
| Campbell-Reichert Co..... | 4000 Whiteside Ave., Angelus 0598 |
| Cox, R. L..... | 1100 Westminster, ALhambra 1699 |
| Emseo Conc. Cutting Corp..... | 1517 Santa Fe Ave., VAndike 7168 |
| Fitz-Gerald Eng. & Constr. Co..... | 216 Rowan Bldg., TRinity 5088 |
| Foley, D. A. Construc. Co..... | 716 Grant Bldg., TUcker 7814 |
| Kemper Const. Co., Ltd..... | 3701 Overland, Los Angeles |
| Macco Construction Co..... | Hynes, JEFFerson 1148 |
| Merritt-Chapman-Scott Corp..... | P. O. Box 507, San Pedro, 2880 |
| Mittry Bros. Construction Co..... | 722 Detwiler Bldg., VAndike 0210 |
| Morrison-Knudsen Co..... | 411 West Fifth St., MUTual 7684 |
| Robinson-Roberts Co..... | 706 Rives-Strong Bldg., TRinity 2889 |
| Spicer, C. A..... | 818 Financial Center Bldg., TUcker 9570 |
| Standard Dredging Co..... | 225 Central Bldg., TRinity 3253 |
| Watson, R. A..... | 1026 N. McCadden Pl., GRANite 4121 |

Affiliates

| | |
|----------------------------------|--|
| Brashears & Co., C..... | 501 Security Bldg., TRinity 5091 |
| Consolidated Rock Prod. Co..... | 656 S. Los Angeles St., TRinity 0241 |
| Gilmore Oil Co..... | 2423 E. 28th St., JEFFerson 1211 |
| Graham Brothers..... | 1215 W. 7th St., Long Beach, L. B. 65251 |
| Hartford Accident & Ind. Co..... | 548 S. Spring St., MADison 1471 |
| L. A. Brick Co..... | 1078 Mission Road, Angelus 5684 |
| Sun Lumber Co..... | Crescent Drive, Beverly Hills, OXFord 6191 |
| Union Oil Co..... | Union Oil Bldg., TUcker 7211 |

PACIFIC NORTHWEST BRANCH

4134 Arcade Building, Seattle, Wash.

JAS. MURDOCK, President
J. C. COMPTON, Vice-President

H. V. BOGERT, Rec. Secretary

J. B. WARRACK, Treasurer
P. L. CROOKS, Vice-Pres. and Secretary

PORTLAND CHAPTER

Multnomah Hotel—Atwater 7883—Portland, Ore.

Paul L. Crooks, President Philip Hart, 2nd Vice-President
Ross B. Hammond, 1st Vice-President J. A. Lyons, Treasurer
G. B. Herington, Executive Secretary

| | |
|-------------------------------------|----------------------------|
| Baker Construction Co. (B)..... | Security Bldg., Atw. 9211 |
| Christensen, Fred, Inc. (BHP)..... | 187 E. 34th St., Ea. 8934 |
| Cochrane Construction Co. (HP)..... | 65th & Ainsworth, Tr. 5944 |

| | |
|--|--------------------------------------|
| Compton, J. C. (HP)..... | McMinnville, Ore., McM. 106 |
| Crooks, P. L., Inc. (HPR)..... | Henry Bldg., Atw. 7767 |
| Dann, J. J. (PHR)..... | 300 Henry Bldg., Atw. 5837 |
| Edlfsen-Weygandt Co. (HP)..... | Foot of Jefferson, Atwater 4090 |
| Endicott, Wm..... | Corvallis, Oregon |
| Gates, E. L. (HPR)..... | Eugene, Oregon |
| Gilpin Construction Co. (HPR)..... | Henry Bldg., Atw. 6220 |
| Greenwood, A. C. (HPR)..... | 500 N. Front St., Br. 3030 |
| Guthrie & Co., A., Inc. (BPHR)..... | 552 Sherlock Bldg., Atw. 8316 |
| Hammond, Ross B. (B)..... | 1312 Public Service Bldg., Atw. 2159 |
| Hauser Bros. Construction Co. (PHR)..... | Multnomah Hotel, Atw. 7441 |

Class of Construction: (B) BUILDING; (H) HIGHWAY; (P) PUBLIC WORKS; (R) RAILROAD.

| | |
|--------------------------------|---|
| Hoffman, L. H. (BP) | Public Service Bldg., Atw. 3181 |
| Jacobsen-Jensen Co. (PH) | 407 Stanton, Gar. 3313 |
| Johnson Contract Co. (HPR) | 414 Exchange Bldg., Atw. 0678 |
| Johnson-Gardner Co. (HPR) | 414 Exchange Bldg., Atw. 0678 |
| Kern & Kibbe (HPR) | 290 E. Salmon St., Ea. 4116 |
| Kernan, F. J. | Porter Bldg., At. 2055 |
| La Pointe Constr. Co. (PHR) | 1291 Cumberland Rd., Be. 6000 |
| Lindstrom & Felgenson (BPHR) | 1991 Halsey St., Ta. 9226 |
| Lyons, J. A. (BPHR) | 1001 Halsey St., Tr. 2841 |
| Milne Constr. Co. | 1853 E. Broadway, Tab. 7277 |
| Morrison & Knudsen (BPHR) | 319 Broadway, Boise, Idaho |
| Morgan, T. M. (H) | 5410 Wilshire Blvd., Los Angeles |
| Newport Construction Co. (PHR) | 317 Exchange Bldg., Atw. 5900 |
| Pacific Bridge Co. (BPHR) | Ft. of E. Salmon St., Ea. 2164 |
| Parker & Banfield (BP) | 984 E. 17th St., Sel. 6182 |
| Parker-Schram Co. (PHR) | Couch Bldg., Atw. 4375 |
| Peck, E. C., & Co. (PH) | Aberdeen, Wash. |
| Puckett, W. H. Co. (PHR) | 319 Broadway, Boise, Idaho |
| Quinn, J. L. (B) | Box 1109, Klamath Falls, Ore. |
| Rebman, J. (PH) | 343 Vancouver Ave., Tr. 7825 |
| Rohrborn, Hay & Wallace (B) | 605 Weatherly Bldg., Ea. 3613 |
| *Saxton & Looney | Corvallis, Ore. |
| Seed, J. S. (B) | 201 Worcester Bldg., Atw. 6444 |
| | Honorary Member and Director of Chapter |
| Shea & Co., J. F. (PHR) | 211 Henry Bldg., Atw. 2435 |
| Sullivan & Doyle (PHR) | Ft. of Curry St., Atw. 5297 |
| | Box 104, Portland, Ore. |
| United Contracting Co. (BPHR) | 309-10 Stock Ex. Bldg., Atw. 5296 |
| von der Hellen & Pierson (HR) | Naches, Wash. |
| White, Ernest & Co. (B) | Twin Falls, Idaho |
| Wren & Greenough (PHR) | 485 28th St. |
| Wright Constr. Co. (BPH) | Aberdeen, Wash. |
| Young, I. L. (BPH) | 524 Henry Bldg., At. 027 |

Associate Members Portland Chapter

| | |
|-------------------------------------|----------------------------------|
| Balzer Machinery Co. | 275 Pine St., Atw. 9391 |
| Beall Pipe & Tank Co. | 85 Columbia Blvd., Wa. 3171 |
| Clyde Equipment Co. | 555 Thurman St., Br. 5561 |
| Collins Concrete Pipe Co. | 410 River St., Wa. 7670 |
| Feenaughty Machinery Co. | 309 E. Yamhill, Ea. 2187 |
| Grand Sheet Metal Works | 60 E. Third N., Ea. 2181 |
| Lature, J. L. Equip. Co. | 312-314 E. Madison St., Ea. 8166 |
| Loggers & Contractors Machy. Co. | 345 E. Madison St., Ea. 4128 |
| Metropolitan Casualty Ins. Co., The | Wilcox Bldg., Atw. 7521 |
| National Hospital Assn. | 400 Mohawk Bldg., Atw. 5291 |
| Oregon Portland Cement | 321 E. Madison, Ea. 3116 |
| Phoenix Iron Works | 360 Hawthorne, Ea. 0029 |
| Pomeroy, J. H., & Co. | Box 48, Seattle, Wash. |
| Pure Iron Culvert & Mig. Co. | 763 Gladstone, Sel. 2275 |
| Santa Cruz Portland Cement | 45 Fourth St., Atw. 9848 |
| Standard Oil Co. | Pacific Bldg., Bea. 4161 |
| Swigert, Hart & Yett. | Ft. of E. Salmon St., Lan. 1125 |
| Union Oil Co. of California | Yeon Bldg., Atw. 9521 |
| Wallace Bridge & Structural Steel | P. O. Box 48, Seattle, Wash. |
| Shell Oil Co. | Commerce Bldg., At. 7321 |

SPOKANE CHAPTER

West 515 First Avenue—Main 6822—Spokane

| | |
|-------------------------------|--------------------------------|
| Max J. Kunej, President | I. G. Anderson, Vice-President |
| Nick Norman, Vice-President | Dan Hannah, Secty.-Treas. |
| Alloway & Georg (B) | Hutton Bldg. |
| Auld & Shinn (B) | 1121 Indiana |
| Burmette, C. A. (H) | 1118 Ide Ave. |
| Byers, W. A. (H) | W. 1204 Mansfield |
| Clifton & Applegate (HPR) | Hutton Bldg. |
| Collins, J. H. & Co. (H) | Colville, Wash. |
| Colonial Building Co. (BH) | Hutton Bldg. |
| Crick, James (H) | Realty Bldg. |
| Degerstrom, N. A. (HPR) | Peyton Bldg. |
| Edwards, J. E. (H) | S. 1423 Adams |
| Geist, W. L. (H) | W. 444 23rd Ave. |
| Hansen Construction Co. | Opportunity |
| Harding, Geo. (H) | Walla Walla, Wash. |
| Hargrave Construction Co. (H) | W. 418 Twentieth |
| Hewett, F. R. (H) | W. 420 Twenty-second |
| Joslin & McAllister (H) | East 3038 Trent Ave. |
| Kunej, Max J. (H) | Hutton Bldg. |
| Larson Bros. (B) | Hyde Bldg. |
| Long, Oliver J. (H) | W. 1924 Mansfield |
| Lyon & Price (H) | W. 503 Fourteenth |
| March Construction Co. | W. 1002 Riverside, Spokane |

| | |
|----------------------------------|------------------------|
| Martin, F. E. (B) | Galax Hotel |
| McLellan, A. (B) | E. 932 Ermina |
| Medby, M. C. (B) | S. 3614 Arthur |
| Meyers, W. G. | S. 2217 Tekoa St. |
| Morin, S. G. (B) | S. 309 Bernard |
| Norman, Nick (B) | 231 Waverly Place |
| Nyberg, Carl (H) | Realty Bldg. |
| Orino, Sam (H) | E. 3104 Boone |
| Payne, Mrs. C. M. | N. 2602 Hamilton St. |
| Powder, C. A. (H) | S. 1703 Grand |
| Siems, Spokane Co. (BPHR) | Realty Bldg. |
| Standard Asphalt Paving Co. (HF) | Chronicle Bldg. |
| Sullivan, D. A., & Co. | 415 Sprague Ave. |
| Terteling, J. A., & Sons (HP) | 5111 Sound Ave. |
| Tobin, James, & Son (H) | West 1715 Pacific Ave. |
| Triangle Construction Co. (H) | W. 1220 Ide |
| True-House Construction Co. (B) | No. 121 Browne |
| Wheeler & England (HP) | Coeur d'Alene, Idaho |
| Young, Peter J. (B) | S. 11 Cedar St. |

Associate Members

| | |
|---|----------------------------------|
| Beall Pipe & Tank Corp. | West 615 Main Ave. |
| Brandt Bros. | W. 14 Main Ave. |
| Coeur d'Alene Hardware & Foundry | Wallace, Idaho |
| Commercial Importing Co. | 617 Western Ave., Seattle, Wash. |
| Consolidated Supply Co. | W. 1310 Ide Ave. |
| Construction Equipment Co. | 1118 Ide Ave. |
| Feenaughty Machinery Co. | N. 715 Division St. |
| W. P. Fuller & Co. | N. 229 Post St. |
| General Machinery Co. | E. 3501 Riverside |
| Gladding-McBain & Co. | 524 Old National Bldg. |
| Haweye Fuel Co. | N. 740 Division St. |
| Hofius-Ferris Equipment Co. | W. 728 Mallon |
| Marshall Wells Co. | S. 157 Howard |
| Jones & Dillingham Co. | W. 715 First Ave. |
| Jones & Mitchell | Hutton Bldg. |
| Long Lake Lumber Co. | N. 348 Wall St. |
| W. S. McCrea & Co. | 212 Symons Bldg. |
| J. E. McGovern Co. | 550 Peyton Bldg. |
| Nott-Atwater Co. | S. 157 Monroe St. |
| Oriental Importing Tea & Coffee Co. | W. 917 First |
| Spokane Concrete Pipe Co. | N. 2627 Dakota |
| Spokane Culvert & Tank Co. | N. End Division Street Bridge |
| Spokane Paper & Stationery Co. | S. 152 Jefferson |
| Standard Oil Co. of Calif. | Old National Bldg. |
| Union Oil Co. | 611 Chronicle Bldg. |
| Washington Brick, Lime & Sewer Pipe Co. | S. 151 Washington St. |
| Washington Machinery & Supply Co. | W. 9 Cataldo |

MOUNTAIN PACIFIC CHAPTER

(Strictly a Public Works Chapter, practically every member carrying on highway, public works and railroad construction)
Washington Hotel—Seattle, Wash.

| | |
|-----------------------------------|---|
| John W. Rumsey, President | Lee Johnson, Secretary, Treasurer |
| John M. Clifton, Vice-President | James D. Brown, Manager |
| Allen & Coven | Olympia, Wash. |
| Barnard Curtiss Co. | Ellensburg, Wash. |
| Clifton, Applegate & Toole | Hutton Bldg., Spokane, Ma. 4415 |
| Columbia Power & Investment Co. | Stevenson, Wash. |
| Coyle Construction Co. | 901 Westlake N., Seattle, Car. 5741 |
| N. A. Degerstrom | 444 Peyton Bldg., Spokane |
| Dorsey & Wilder, Inc. | 2006 State St., Bellingham, Wash., 1310 |
| Fuel Oil Service | Olympia, Wash. |
| Goodfellow Bros. | Wenatchee, Wash. |
| Grays Harbor Const. | Hoquiam, Wash., Hoq. 303 |
| Hargrave Construction Co. | W. 418, 20th Ave., Spokane |
| Hendricks & Co. | Chehalis, Wash. |
| F. R. Hewitt | 420 W. 22nd, Spokane, Riv. 7554 |
| Johnson, Homer C. | Perkins Hotel, Portland |
| Joslin & McAllister | Spokane, Wash. |
| Lee H. Johnson | 920 N. Tacoma Ave., Tacoma, Ma. 6241 |
| Lidral, Wiley | Securities Bldg., Seattle |
| Lyon & Price | 503 W. 14th, Spokane, Riv. 5319-R |
| Norris Bros. | Burlington, Wash. |
| Chas. A. Powers | S. 1703 Grand, Spokane, Riv. 3640 |
| Puget Sound Bridge & Dredging Co. | Seattle, El. 7300 |
| Puget Sound Construction Co. | Colman Bldg., Seattle, El. 9133 |
| Fred C. Redmon | 206 S. 4th Ave., Yakima, Ma. 8751 |
| Rumsey & Co. | Lumber Exchange Bldg., Seattle, Ma. 8751 |
| Standard Asphalt Co. | Chronicle Bldg., Spokane, Wash., Ma. 1689 |
| von der Hellen & Pierson | Enumclaw, Wash. |
| Winston Bros. | 4580 Colorado Ave., Seattle, Glen. 2268 |

PACIFIC

SKILL - INTEGRITY



RESPONSIBILITY

25¢
per Copy

CONSTRUCTOR

CONSOLIDATED WITH

Building and Engineering News

IN THIS ISSUE



GETTING DOWN TO EARTH (Part II)

By Charles H. Lee, Consulting Engineer

WHAT CAUSES UNEMPLOYMENT?

By O. W. Degen, C. E., Q. M. Dept., Fort Mason

SOME PHASES OF THE 1932 INCOME TAX LAW

By Frank T. Andrews, Certified Public Accountant

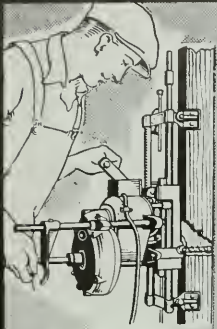
"PERAMBULATING CONTRACTORS"

UNIT BID SUMMARY

CONSTRUCTION NEWS



WAPPAT *Electric* TOOLS



Are Built to Last Longer

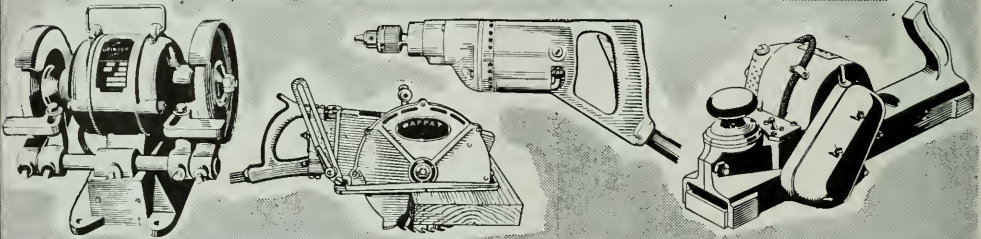
Cuts production costs . . . Speeds up the job . . . Makes for greater efficiency . . .
A size and type for every purpose.

Ask for a Demonstration

M. N. THACKABERRY

228 First Street, San Francisco
KEarny 4467

308 E. Third St., Los Angeles
TOOLS RENTED MUtual 7508



COLTON CEMENT



Uniform Quality : Service : Satisfaction

Manufactured by

CALIFORNIA PORTLAND CEMENT COMPANY

1228 PACIFIC MUTUAL BUILDING

Mills at Colton, California

TR. 1271

Los Angeles



DOuglas 0948

“TITAN”

The Air Hose
With the
Red Cover

A responsible hose that resists extreme external wear . . . An oil-proof rubber tube that remains intact after hours of exposure to lubricating oils.

A fabric construction that carries a safety factor of five-to-one in pressure resistance.

Hercules Equipment & Rubber Co.
11 MISSION STREET SAN FRANCISCO

PACIFIC CONSTRUCTOR

With which is Consolidated Building and Engineering News

Official Publication of the Associated General Contractors of America
for the Eleven Pacific Coast States

SAM B. EUBANKS, *Editor*

S. P. McCASLAND, *Assoc. Editor, Am. Soc. C. E.*

VOL. 15

SAN FRANCISCO, CALIF., DECEMBER 1, 1932

No. 22

Editorial Comment

A. G. C. PETITION FOR AMENDMENT TO ST. LAWRENCE WATERWAY TREATY

Amendment of the St. Lawrence Waterway treaty so as to provide a tangible agreement for definite and equitable distribution of the work between the nationals of the United States and Canada and to provide guarantees that the projects will be properly completed on time and within the limits of estimated costs, has been urged upon the Senate Foreign Relations Committee, now studying the question of the treaty's ratification, by Edward J. Harding, managing director of the Associated General Contractors of America, in a letter to Senator William E. Borah, chairman of the committee.

Pointing out that under the terms of the treaty the United States would be obligated to furnish more than 81 per cent of the capital necessary to complete the remainder of the great waterway project, while its nationals would receive approximately only 50 per cent of the remaining work, the Associated General Contractors strongly recommended that geographical location of sites be abandoned as the basis of allocating the work between the nationals of the two countries.

Harding's letter specifically calls the committee's attention to article III, section (b) of the treaty, which provides that the engineers, labor and material employed on the project shall be of the nationality of the territory wherein the particular part of the work is being done. He declared that under this section approximately 50 per cent of the remaining work would be assigned to the Canadians and that this section requires considerable clarification and definite provision for the efficient and economical handling of the project.

The worst feature of the indefinite language of the treaty, Harding said, lies in the lack of any provision for controlling or predetermining specific guaranteed costs for any part of the work, whether in Canada or American territories. Although the estimates upon which the whole project and treaty have been based were founded upon probable contract prices securable in competition, the treaty mentions nothing concerning the taking of bids from contractors, methods of inviting or regulating competition nor the use of the contract system, Harding pointed out.

"We strongly recommend that Article III be strengthened by amending it so as to definitely specify that all work shall be advertised and let by contract to the lowest responsible bidders," Harding's letter read. "By so doing

the Governments will be assured of the minimum of cost, quality construction and completion within a known period. It is particularly important that the treaty be clear and concise on these points since it will be the foundation for subsequent legislative and executive action."

The contractors feel that geographical location of sites should not be the determining factor in the distribution of the work, pointing out that to date Canada has spent or contracted for \$211,726,000 of construction on the strictly Canadian portions of the waterway, employing Canadian labor and material, and will be obliged to spend only \$59,250,000 additional under the treaty to complete its 50 per cent share of the \$543,429,000 cost of the entire project. On the other hand, the United States must lay out \$257,992,000 to fulfill its part. Under the provisions of the treaty, therefore, when the project is finally completed, the United States will have contributed approximately 50 per cent of its cost and its nationals will have had less than 36 per cent of the work.

GAS TAX DIVERSIONS

Gasoline tax diversions from highway construction and maintenance, which it appears will be proposed in 44 state legislatures the coming winter, cost motorists much more than the amount actually diverted, according to an official of the American Road Builders' Association.

Such diversions, to provide revenue for governmental functions unrelated to highway transport, can only result in grave injustices to those who own more than 25,000,000 motor vehicles in the United States, it is declared.

Attention is called to the fact that gasoline tax diversion means that in many instances highway construction and maintenance programs suffer a serious degree of contraction, while motorists pay a far greater operating outlay necessitated by inferior roads.

Figures reveal a striking increase in gasoline consumption, and other operating costs on other than highways kept at high stage of repair, and in some instances double the amount of fuel required.

This added cost of operation is but one of many factors entering into the situation, and before diversion of funds is made, careful study is due the subject in all its angles.

Certainly gas tax diversions should not be made which will result in slowing up of highway development programs.

Getting Down to Earth

By CHARLES H. LEE, *Consulting Engineer*

Member, American Society Civil Engineers; Director, Pacific Hydrologic Laboratory, San Francisco

This is the second and concluding portion of an article in which Mr. Lee discusses the structural properties of soils in connection with the most economical methods of handling earthwork. Mr. Lee has long been recognized as an authority on this type of engineering, and under his direction much of the early pioneering was done. In this portion of his article he deals with the practical application of the general principles which were set forth in the issue of November 15th.

PART II

PRACTICAL APPLICATIONS

THERE are numerous ways in which earth testing can be of practical assistance to contractors, particularly on work in new territory, of unusual depth or magnitude, or involving wet or submerged materials. In many instances a few pertinent tests are sufficient. In others, more complete testing may be desirable. In any event, the interpretation of the tests can best be made only with full knowledge of field conditions and judgment based on past experience in the application of test data. The following applications are suggestive.

Forecasting Effect of Weather Conditions

The effect upon the soil of rain, melting snow, frost and other abnormal weather conditions is of greatest importance in carrying on construction work. Soils which ordinarily are not adhesive and will support heavily loaded trucks and equipment, may become so sticky and soft when wet that movement is almost impossible. Caving of open trenches and pits as the result of absorption of rain water and resulting loss of cohesion is also a common experience. Although not so common, there has been an instance of the overturning of tall structures on restricted footing, such as power line towers, which were erected in dry weather when the earth was tough and hard, but which, when wet with winter rains, lost its cohesion. The swelling of soils when wet may also be the cause of trouble. Forecasting the action of earth under differing weather conditions is easily done by inspection and laboratory tests, making it possible to appraise or avoid the hazard.

Necessity for Sheeting and Bracing

This question frequently arises in connection with the opening of temporary trenches or foundation pits. The material may appear to stand perfectly when first exposed and so give undue confidence. A change in moisture content, however, as the rainy season comes on, or the effect of vibration from passage of trucks or use of jack hammers, or a surcharge load, may alter conditions during the progress of work so that disastrous caving may occur, resulting in delay and possible loss of life. On the other hand, shoring is often more elaborate than necessary. Tests of material from preliminary borings and pits or from the excavated trench will usually reveal the extent to which precautionary measures are necessary.

Drainage of Excavations

It frequently occurs that deep sewer and foundation excavations penetrate below the water-table and that difficulties are encountered in dewatering operations or in securing a stable foundation because of quick sand. Tests of undisturbed cores will reveal information regarding the permeability of the formation and the amount of water

which must be removed in order to afford continuous drainage. Much can also be learned from a few preliminary borings to subgrade regarding the texture of the material and the possibility of fluid pressure. Such advance information can be used to great advantage both in making cost estimates and in planning for execution of the work.

Sub-Aqueous Work

The choice or design of equipment for sub-aqueous excavation necessitates knowledge of the materials to be removed so that it is customary to undertake more or less preliminary exploration on such work. The taking of undisturbed samples would therefore not add greatly to the cost and would permit the making of tests of great value both to the contractor and the engineer responsible for design of permanent structures. For simple dredging operations knowledge of porosity, weight and relative cohesion of the materials to be excavated is useful. The same information, together with internal frictional resistance, is very important in the driving of sheet piling, whether for protection of submerged foundation excavations or as part of permanent structures such as walls, quays and piers.

In sinking caissons for deep foundations there are several questions for the answer of which laboratory tests may be an aid. Among these can be mentioned the determination of depth below cutting edge to which excavation may be carried, the area of bottom exposure safe against blowing, the resistance of the material to displacement under the cutting edge, frictional resistance against the sides of the caisson, and the tendency of the material to change its physical properties when in contact with water. These problems are all involved at the principal foundation piers of the proposed San Francisco Bay bridge.

Landslides

Occasion frequently arises to determine the stability of natural slopes where a slide might cause delay or damage to existing property. It also is sometimes necessary to ascertain whether slides which have already occurred have reached a condition of stability. Information obtained from borings and laboratory tests are invaluable for such purpose, particularly where used in conjunction with the results of a geological survey. From them can be determined the relative porosity and permeability of various strata, and the strata which are most likely to collect water. The texture of the material composing such formations and the probability of movement when saturated are also capable of determination.

Estimating Swell and Shrinkage

Earth as it occurs naturally is usually more or less porous due to penetration of roots and animal life, the continued action of front heave or dry weather cracking, the carrying away of soluble portions by percolating water, etc. Loosening and breaking up greatly increases this porosity and causes material to swell in volume. Consolidation takes place subsequently, and the final volume may be less than the original. Such shrinkage is caused either by vibration, the action of hoofs or wheels, or the weight of superimposed material. Because the process of shrinkage requires time, it is customary for trench backfill and embankments required to withstand water pres-

sure, to specify methods for immediate consolidation by inundation with water, tamping or rolling.

The cubic yard measurement of earth excavation may be specified in one of three ways: in the original undisturbed state before removal from cut, bank or trench, in transit as by truck or scow, or in final position as embankment or trench backfill. In estimating the cost, it is frequently necessary to determine the volume of material at a different stage in the operations than that at which measurement is specified in the contract. For example, it may be desired to ascertain the volume to be handled in overhaul, the spoil from cut, the volume of waste to be removed from trench excavation in improved streets, the volume in bank or borrow pit required for finished embankment, the number of scow loads or volume of fill represented by a sub-aqueous dredger cut of specified dimensions, etc.

The swell of most material excavated in the dry results from the coherence of small particles, particularly those of colloidal sizes. This prevents breaking down into the ultimate size as in the case of fine gravel and sand, lumps composed of small particles in the form of crumbs and clods being produced instead. These are irregular in form and when the material is first loosened they are poorly arranged and do not fit together. During the subsequent operations these voids tend to close up by closer fitting of lumps, breaking down of sharp edges, plastic flow, etc. The ease with which this occurs depends upon the degree of coherence, the moisture content and other factors.

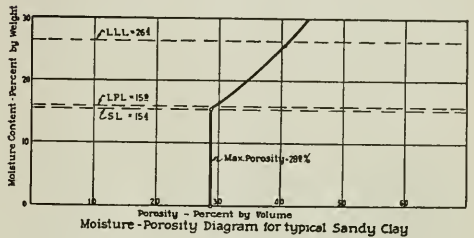
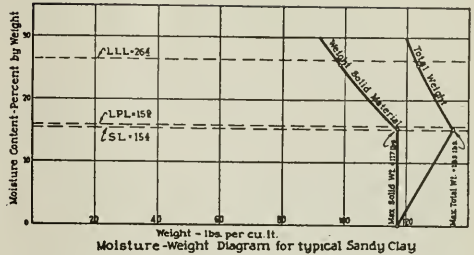
The usual method of determining the volume of earth at any desired stage of handling is by personal judgment based on field inspection, or more often simply by guess. In contrast with this, it is possible to determine the desired volume with a certain degree of accuracy by a few field observations and laboratory tests. The latter often disclose characteristics of earth materials which are impossible of detection by inspection or touch. The cost of such tests is a small percentage of the total cost of making estimates for large or even moderate sized earthwork jobs.

Planning Construction Operations

The profit on earthwork is often made or lost by wise planning of operations and choice of equipment. Knowledge gained from field sampling and laboratory test is of greatest value for this purpose. From it can be determined the effect of moisture change on a given material. For example, would a little sprinkling with water soften up a tough, hard earth and obviate the use of powder or heavier excavating equipment without rendering subsequent handling difficult; would such pretreatment facilitate consolidation in fill or embankment; will a given moist earth, which has ample stability for trenching, rapidly shrink and crack when opened up and give trouble by spalling off of dry material from the trench walls unless backfilling follows closely behind excavation; which of the various types of excavating machinery is best adopted to handling a given earth, etc. Not alone will tests furnish definite answers to questions which may arise, but they will often disclose unexpected characteristics, advance knowledge of which will materially influence the method of carrying on work.

Compaction of Earth

Specifications frequently require that earth placed in embankment or backfill be compacted. The purpose may be to increase the unit weight and density, as in the case



NOTE: Based on data obtained during air drying of material from soft plastic state (See shrinkage diagram).
 LLL—Lower Liquid Limit. SL—Shrinkage Limit.
 LPL—Lower Plastic Limit.

of levees and dams where stability and impermeability against water pressure are required, or to increase the cohesion and density where bearing capacity for traffic or light structures as well as an impervious surface is desired as in the case of unpaved roads, dredger fills, etc.

The soil mechanics of compaction differs, depending upon the moisture content. For dry or very stiff clayey materials it consists of closing the larger voids and expelling the air by artificial application of pressure upon the surfaces by means of tamping, hoof or wheel traffic, or rolling. Usually water is added in small amount to reduce cohesion and so facilitate the breaking down and joining together of lumps into a solid coherent mass.

For super-saturated material, such as plastic clay, consolidation consists of draining or squeezing out the excess water. The ultimate density is attained at the shrinkage limit where the individual particles are in contact and the voids filled with water. This condition is readily attainable by thorough tamping or rolling for a well graded material consisting of gravel, sand, silt and clay, but for fine textured materials cannot be accomplished by any practical construction operation. The degree of pressure required is indicated by the capillary pressure exerted upon the surface of a drying soil. This force is the surface tension of the water film covering the surface of the material. For larger capillary pore widths such as 0.1 millimeters it exerts a pressure of 60 pounds per square foot, while for smallest openings such as 0.0001 millimeters it increases to over 60,000 pounds per square foot. The maximum pressure employed in rolling seldom exceeds 14,000 pounds per square foot.

Much useful information can be obtained from laboratory tests of materials which are to be consolidated. Among the data may be mentioned the percentage of water to give greatest density without making the material too sticky or soft to work, the aggregate unit weight of solid material and water at maximum density, etc. The accompanying moisture-weight and moisture-porosity diagrams indicate the possible range in values of weight and porosity

for a typical sandy clay suitable for earth dam construction.

Subsidence of Fills or Buildings

Among the difficult problems with which contractors have to deal is subsidence due to inadequate supporting power of earth. Familiar examples are the subsidence of fills constructed on peat marshes or high earth dams on plastic clay formation, and settlement of buildings resulting from adjacent excavation. Subsidence may result from any one of three characteristics of earth under load: first, stability or the resistance to lateral flow; second, compressibility or the vertical compression with decrease in air or moisture content; third, elasticity or contraction and expansion without change of moisture content. All of these properties are capable of quantitative investigation and simple laboratory tests will usually disclose the potential possibilities in advance.

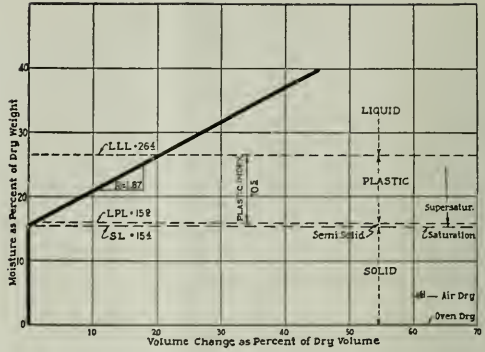
Selection of Earth for Special Uses

It frequently becomes necessary to make selection of earth materials for special construction uses. In this connection laboratory tests are of special value. For certain uses more or less standard specifications are available containing definite requirements based on laboratory test. Among such uses are included sand and gravel in concrete and bituminous construction, sand for building construction, filters, glass manufacture and locomotive engines, gravel for ballast, etc. In selecting earth materials for hydraulic structures such as dams and levees, economic considerations limit the choice to the vicinity of the site and ideal material is seldom available. For such a situation laboratory tests to determine the properties of available materials are of greatest value. A satisfactory material must be capable of being made impermeable in the wet portion, but must have permeability in the portion away from the water. It must also have the stability under all possible moisture conditions. This property results from the possession of cohesion, internal friction, and maximum weight. It must not have the property of extreme swelling and shrinking with moisture change. All these properties can be determined quantitatively by laboratory test.

Classification of Earth

Earth has been traditionally classified as gravel, sand or clay, soil or hardpan, wet or dry, etc. Such classifications obviously do not furnish any guide as to behavior of the material in use, which to the contractor is of the greatest importance. The recent development of soil mechanics and earth testing methods is pointing the way to a new earth classification based upon physical properties rather than particle size, etc. Among the items in this classification may be listed the following:

1. Supporting capacity. This depends upon shear resistance, which in turn is made up of internal frictional resistance indicated by the angle of repose and cohesion indicated by the plastic index. For granular materials in which cohesion is zero, the degree of confinement must also be considered.



SHRINKAGE DIAGRAM OF TYPICAL SANDY CLAY

LLL—Lower Liquid Limit. SL—Shrinkage Limit.
LPL—Lower Plastic Limit. R—Shrinkage Ratio.

2. Compressibility. This depends upon porosity, which is determined by the arrangement of particles in the case of granular materials, the degree of separation into distinct crumbs and clods in the case of fine-textured materials, and the degree of supersaturation, if any.

3. Capillarity. This depends upon the pore size and determines the extent to which a material will swell when wet.

4. Permeability. This depends upon the percentage of fine-textured material, especially of colloidal size.

5. Elasticity. This depends upon the shape of the particles, whether rigid and bulky like sand grains or flexible and flaky like mica.

The engineering profession is beginning to make practical application of the new science of soil mechanics, and with the present development of earth testing methods there is much practical benefit to be obtained by the construction industry.

The Johns Manville Co. has introduced a new lubricating material for the surface of the bronze plates of expansion joints. The material is nothing more than the ordinary sheet packing known as "surface sheets No. 60," which are in common use as gaskets and steam packing.

The sheet, however, has sufficient graphite to form an excellent lubricant for the bronze plates, which have heretofore been used with no lubrication whatever. This has resulted in heavy wear and ultimate destruction of the plate, although extreme care was taken in polishing the surface. By using the J-M sheets it is possible to eliminate polishing, and it is hoped that after some experiment the bronze may be discarded and the packing used directly between concrete surfaces.

Contractors Machinery Exchange

Rentals a Specialty

1135 - 57th Avenue

OAKLAND, CALIF.

FRUITVALE 0715

What Causes Unemployment?

By O. W. DEGEN, C. E., Q. M. Dept., Fort Mason, California

WE hear a great deal about the depression and the unemployment problem facing nearly all nations on earth, but no real solution has been found to overcome it. The cause of unemployment is best illustrated by machine occupations. The first instance of any perceptible reduction of workers due to machines was the invention of the steam engine and of mechanical looms in England in the last century, which threw thousands out of work with consequent unemployment and strikes. Since that time, machine process of production has made enormous strides, particularly in the last twenty years, so that today entire occupations have been changed or destroyed and have degraded the operators to a mere mechanical process, where the machine does all the work and the worker is only a feeder.

Let us take the shoemaking industry for instance, where 100 machines now do the work of 25,000 professional shoemakers. In the great factories the machine does nearly everything; the cutting, stepping, sewing of uppers, etc. The only real shoemaker left is the laster. All the rest is done by hands tending machines that have no knowledge of making shoes. The shoe is completely finished, shined and drops into a collecting basket in an incredibly short time.

The tailor is in the same boat. The master of the needle is fighting his last battle. Only alteration of ready-made suits, cleaning and patching is left for him to do. If we inspect a large eastern clothing factory we are astounded to find only a few professional tailors; all the rest are machine hands, with the different electrically driven machines performing all the work required in an incredibly short time.

The cigar maker is also practically eliminated by machines operated by women and children. A real cigar maker is a rarity—he no longer competes.

The saddler is today nearly driven out of his profession by the automobile. So is the wagon maker, except in countries where roads are poor and the cost of automobiles is high.

The blacksmith of today is in the same fix wherever the automobile reigns supreme. The automobile industry has swallowed up the great army of metal workers, and mechanical progress continues with 200 men now doing chassis work which formerly required 2000. Mass production is a cardinal factor in the cause of depression and unemployment and is driving us all into collectivism.

The great improvement in the bake-ovens, the dough-mixing and kneading machines, the automatic belt sieves has practically driven the professional baker out of existence. In these large bakeries no human hand touches a bread before it is baked. Machine operated by a few hands do the work of hundreds of former professional bakers; therefore, the small bakery owner cannot compete. He is hardly able to make a living any more.

The carpenter has lost, in the last fifteen years, an enormous amount of work, through the standardization of materials, electric saws, planers, boring machines, lathes, etc., and consequently increased the production enormously at the expense of the individual. The same is true of the cabinet maker. The constant improvement of

machinery in the woodworking trade is bound to eliminate the professional carpenter and cabinet maker still more.

The trade of bricklayer and plasterer has not been interfered with to any great extent by machinery but indirectly cement blocks and hollow tile have done a great deal of harm to the mason. Reduced labor is also caused by the mortar mixing machines and hoisting machinery.

The concrete mason with his small mixing machine and a few laborers is now being practically eliminated by the ready-mixed concrete plants where practically all labor is accomplished by automatically handled machinery.

The hand painter will soon be eliminated by the latest paint spray machines.

The introduction of machinery in road building has practically done away with the common laborer. The same is true in grading and excavation jobs, where the steam shovel, the caterpillar tractors, drag line scrapers and graders have nearly eliminated all hand labor, all in the short span of a few years.

The sewer and water supply contractor employs a ditching machine operated by one or two men, which can do the work of hundreds of laborers. Is it any wonder that the common laborer is in a very precarious position today? A steady position for him can no longer be found.

In the handling of pig iron one man with the latest machinery will do the work of 125.

In the great lumber yards machinery has replaced man power. Where formerly large numbers of men were employed, today it is quiet and death-like with hardly a man in sight. These phantom trucks, endless belts and conveyors do all the work, while traveling cranes pick up the enormous loads and place them where desired.

In the coal mines the electric drill and saw in combination with the improved transportation facilities replace thousands of old time miners.

When we pause a moment and take a look into the automatic machinery of the glass works, we find that one electric glassblower replaces forty hand blowers. One automatic machine will turn out 24,000 electric lamps in the same time as one mechanic formerly made 40 pieces.

One automatic machine can now make 32,000 razor blades in the same time that 500 were made formerly.

One cigarette machine can now make 2,500 cigarettes per minute, where only a year ago it would make about 500.

One of the latest machines invented and put in operation in the automobile industry makes 10,000 automobile chassis per day, and it requires only 208 men to finish them.

What do we find in agriculture? Only a sacrifice of labor by the universal use of tractors, gang plows and automatic sowing of all seeds. Along come the great harvesting machines which, in one operation, complete the harvesting process. The proceeds of the harvest are hauled to markets by large auto trucks. Also we find the daily farmer with his milking machines, butter making machines, automatic sterilizers, etc., dispensing with large numbers of farm laborers. The small farmer cannot compete with the larger farms, which are operated by the

most approved machinery, and he goes to the wall, one of the terrible conditions in the farming industry today.

A similar phantom is descending on the business offices; the automatic book-keeping machine dispenses with the book-keeper and clerk, and the automatic typewriter and dictaphone does away with the office girls.

The army of telephone operators is being displaced by the new dial phones.

We are rapidly drawing to a time when the machine will replace all man-power, when this octopus will rule our economic system, and when it will become at once our master, our dictator and our enslaver. Therefore, it resolves itself into a new formula: The greater the efficiency of the machine, the less labor is employed and the less profit will, in the end, be made in our capitalistic system for the masses. Few realize today in what a precarious condition we find ourselves. We are rapidly coming to the point when all profits are being eliminated. Take the building industry; you see the handwriting on the wall. General contracts are taken at or below cost; still the general contractor, to save himself, will chisel his subbids down to work out a small margin of profit for himself, leaving the sub-contractor to hold the bag and eventually join the brigade of the unemployed. And what about the brains of this machine age! the great army of inventors, technicians, engineers, architects and chemists? Their own handiwork, automatic machinery and mass production is driving them fast into the ranks of the unemployed. What is the solution?

NORTHERN CONVENTION SET FOR SAN FRANCISCO, DECEMBER 22

The fourteenth annual convention of the Northern California Chapter, Associated General Contractors, will be held at the Palace Hotel, in San Francisco, December 22, President Clyde W. Wood announces.

Members will select officers and directors for the coming year at this meeting.

The program of the day's session will include a number of special reports to be submitted by special committees of the organization and will also include the addresses of a number of prominent speakers, who will discuss topics of general interest to contractors and the construction industry. Among the speakers will be H. J. Kaiser, national president of the Associated General Contractors, who participated actively in the sponsorship of the emergency construction relief bill adopted by the last session of Congress and commonly referred to as the Wagner bill.

Members of the organization will give consideration to the effect that the emergency Federal appropriations have had in the way of unemployment relief, its effect on the construction business in general, and will also discuss many matters of policy affecting the construction of such projects as the San Francisco-Oakland Bay Bridge and the Golden Gate Bridge.

After the business session in the Sharon room of the hotel, the members will meet for dinner and the evening program.

Reservations for the convention should be made with Floyd O. Booe, secretary-manager, at 206 Sansome Street, San Francisco.

LOS ANGELES CHAMBER EFFECTS COOPERATIVE PLAN FOR EXCHANGE

An effective plan of cooperation for the betterment of all classifications of the construction industries has been put into effect by the Los Angeles Chamber of Commerce and the Los Angeles Builders' Exchange. In conjunction with the Construction Industries Department of the Los Angeles Chamber of Commerce, the Los Angeles Builders' Exchange has located its offices on the mezzanine floor in the Los Angeles Chamber of Commerce, which has been equipped to offer all the facilities which the Los Angeles Builders' Exchange has given to its members in the past.

Facilities have been provided for contractors and sub-contractors to study and make estimates of various building projects, plans of which will be kept on file at all times. Suitable quarters have been provided for building material representatives to meet architects and contractors, and the committee rooms on the ninth floor of the Chamber of Commerce Building will be used for all meetings of the Los Angeles Builders' Exchange committees.

This cooperative plan is not a merger between the Construction Industries Department and the Los Angeles Builders' Exchange; each will retain their individual identity, and one will supplement the work of the other without duplication.

The Construction Industries Department will continue to carry out its original program to promote the modernization, remodeling and repairing of commercial, mercantile and other types of buildings and residences; to be a source of information of where to buy local building material and equipment; to study remedial legislation for the betterment of the construction industries and continue to promote higher ethical practices among architects, contractors, sub-contractors and building material firms. John C. Austin is chairman of the construction industries committee. L. F. Danforth, Deputy Registrar of Contractors, is president of the Los Angeles Builders' Exchange, and Colonel Louis R. Ball is executive secretary.

ELECTRIC HANDSAW—A new light weight portable electric hand saw is announced by the Porter-Cable-Hutchinson Corp., Syracuse, N. Y. The two new models weigh 18 lb. and 23 lbs., respectively, and are readily portable. The saws are powered by 1-hp. and 1/4-hp. motors, controlled by trigger switch from a pistol grip.

Move More Dirt Faster with LE TOURNEAU Equipment

A complete line of grading machinery — designed by a contractor — developed on actual construction jobs — built to stand continuous use under the worst conditions.

ENGINEER'S CONSULTATION FREE

R. G. LE TOURNEAU, INC.

Wilson Way at Roosevelt

Stockton, Calif.

Some Phases of the 1932 Federal Income Tax Law

FRANK T. ANDREWS, *Certified Public Accountant; Associate Member, Associated General Contractors*

The following is the second of a series of eight articles outlining income tax regulations of interest to every contractor.

One of the most confusing and most generally misunderstood of the provisions of the income tax regulations is the method accorded contractors in reporting annual income from long-term contracts.

A long-term contract means building installation, or construction contracts covering a period in excess of one year. Contractors having long-term contracts are given the privilege of reporting their income from this source in any of three ways: (1) Gross income may be reported upon the basis of percentage of completion in each year, or (2) it may be reported entirely in the year in which the contract is finally completed, or (3) gross income may be reported in accordance with any other method of accounting regularly employed by the contractor where the method clearly and consistently reflects the income.

Under the first method stated, if it is found upon the completion of the contract that the income reported for the prior year or years had not been clearly reflected, the Commissioner of Internal Revenue may permit or require amended returns to be filed regardless of the ordinary statute of limitations.

It must be understood that once a contractor has elected to report his income from a certain long-term contract pursuant to one of the bases stated, he cannot later change that basis upon discovering that some other method may have saved him a considerable tax. It is always best for the contractor to consider well before deciding the basis of reporting, for as soon as the return is filed the basis cannot be changed.

In the matter of long-term contracts, each contract may be reported upon a separate basis. A contractor having two long-term contracts starting the same year may elect to report one upon the basis of percentage of completion and the other in some later year when the contract is finally completed.

Strangely enough, there has been considerable misunderstanding as to the meaning of "percentage of completion." It means that the percentage of work completed during the year, as shown by an engineer's certificate, is taken as the percentage to be applied against the total gross income to be derived from the contract. From this applied percentage the gross income to be reported in the current year is determined. There should be deducted from the determined gross income for the year all expenditures made during the year on account of the contract, account being taken of depreciation, opening and closing inventories and accrued expenses. The net result is the profit attributable to the contract on the basis of percentage of completion.

It is obvious that there is no connection between cash received on the contract or retained percentages and the percentage of work completed. Many contractors have erred in accepting as the percentage of work completed, the percentage that the cash received during the year bears to the total contract price. This erroneous computation is the cause of endless trouble both to the contractor and to the Internal Revenue Bureau.

If a contractor elects to report the entire profit from a job in the year the work is completed, all costs must be

accumulated and deferred until completion of the contract. If a contractor reporting on a completed contract basis keeps his accounts in an ordinary accrual method and upon completion of the contract receives part of the payment called for, the balance being represented by an account receivable, the full amount of the contract price must be reported as income for the year in which the contract was completed.


Income from long-term contracts taken on the basis of cost plus a fixed fee or plus a percentage, and cost plus a fixed fee with a guarantee that the total price was not to exceed a certain sum, is properly accruable during the period of construction in the same ratio that the work completed in each year bears to the whole.

Under ordinary taxing conditions, and in normal times, the basis of reporting income by a corporation is not very material, since the rate of taxation to corporations is usually a fixed percentage of net income. Individuals and partnerships, however, should try to arrange profits so that they may be reported more or less normally each year.

Although contracting companies may use either of the two special methods referred to, the method of reporting profits when contracts are fully completed is the most conservative, particularly for corporations. The argument against this method is that it results in great fluctuations of income from year to year, which is a serious objection in so far as individuals and partnerships are concerned. Taking up profits on the basis of percentage of work completed is, under present tax conditions, the better method. From the accountant's viewpoint, this method is open to several technical objections. The first is that many contractors do not keep segregated costs on each separate job; the cost and stage of completion of any one contract, therefore, can only be estimated. The second objection to "percentage of completion" reporting is that the second half of the contract may be the part which will destroy the profits. However, in such cases the Commissioner permits the taxpayer to amend his returns for prior years and make a claim for refund of the excess tax paid. Contractors also have the right to file income tax returns upon the basis of actual cash received and disbursed, provided that his books are kept on this basis and provided that this method properly reflects his taxable income.

A contractor engaged primarily for his engineering or architectural services is not entitled to report his income on the completed contract basis, even though he is partly paid in advance of services rendered under contracts extending over more than one year.

[Mr. Andrews will gladly answer your income tax questions during the time these articles are appearing in the PACIFIC CONSTRUCTOR. Address your communications c/o F. T. Andrews & Co., Certified Public Accountants, Russ Building, San Francisco.]

| | | | |
|---|--|--|-------------------------------------|
|  | | Super Concrete Emulsions | |
| Limited | | | |
| —for Better Concrete | | 3710 S. ALAMEDA ST., Los Angeles | |
| 46th Ave. and Clement St. Oakland, Calif. | | District Offices 308 Stock Ex. Bldg., Portland, Ore. | 216 Walker Bldg., Seattle, Wash. |

“Perambulating Contractors” Here Today-Gone Tomorrow

AN editorial in the September 15 issue of PACIFIC CONSTRUCTOR draws some interesting comment from a subscriber in the Pacific Northwest. The editorial commented upon the suggestion of a San Francisco architectural publication urging regulation in the letting of building contracts on the part of the Federal Government. The suggestion offered is published herewith:

“Recent Pacific Coast Federal building awards to Eastern contractors have raised the question: Why not regulate these awards according to locality? In other words, permit only contractors within a certain radius of the city where the building is to be built to figure the plans. A California building could be bid on only by contractors in this state, Oregon, Washington and Nevada. Why award contracts for Pacific Coast buildings to some obscure firm doing business in the Middle West or New England states? It's getting to be too common a thing—this letting work to Eastern concerns, as attested by the recent contracts on the Sacramento post office building, the Merced post office building and the Reno Federal building. In Long View, Washington, a contract for a new post office building there has just been awarded to a St. Louis firm. Meanwhile there are several hundred Pacific Coast contracting firms with men idle and equipment becoming obsolete.”

Our editorial comment on the above declared the suggestion “undoubtedly a fair proposal in the minds of the local construction interests but unfair to each and every member of the industry outside this district. Such a regulation, we are confident, would be held unconstitutional.”

Editor Pacific Constructor,
San Francisco, Calif.

Just noticed the reference in your editorial in the issue of September 15 to an article in the Architect and Engineer, which hinted at the desirability of confining government work to local architects and contractors; also your four line comment on same. To this comment I fully subscribe—it is gospel truth, except that I would not apply it to “each and every member” of the industry, especially in the construction end, limited to the erection of government buildings.

It is quite true that in places this rain of government money out of the Treasury Department is falling on the just, but the unjust are soaking up not a little of it. The righteous local building contractor is still firm in the faith that he shall inherit the earth, but the outsider, maybe not so righteous, is everywhere walking off with sizeable chunks of it, cashing in now on his patrimony. There possibly are many, but just now I recall only one building under construction by a local man: the post office in Chicago. To have these jobs go to outsiders is the rule, not the exception. Why is this?

I am reminded of a trip across the country a long time ago—coming West. In Dakota, on a hot afternoon, the train stopped, with a saloon not far from the platform. Asking the conductor if there was time, he said sure, but hurry. Another man joined me, and we each had a nice glass of beer—two of them, in fact, and just made the train. When we were seated, the other man smacked his lips, and said: “If I did that in my home town back in Ohio I would be read out of my church, and there would be a run on my bank.”

This man did something in Dakota that he would not do in Ohio. Away from the restraint of local conventions, he cut loose. And that is the earmark of many of these perambulating contractors. They wander into a town with an all-cash contract in their pockets—and do they make this money talk! They have no local traditions to uphold;

they care not whether they make friends or foes, for tomorrow they are gone, never to return. With conditions as they are, they are in position to exact a tribute from all who join in the construction of that building; manufacturer, jobber, subcontractor, dealer, labor. And do they put on the screws!

There is a typical job coming up in Billings, Montana, for which \$136,000 is available, consisting of alterations to present Federal building and an addition. Only this week I received a request from a St. Louis contractor for bids from local subs on this work, with the assurance that such bids would receive proper consideration. Here is a jump from Missouri to Montana for a job of no considerable size, and the net for sub bids thrown way out here to the Coast.

We will assume that this man would treat such sub bids with “proper consideration,” but maybe others would not. Others may reason that since they cannot possibly get all the sub bids out before the letting, there must be bids lower than those received. So they cut the lowest bids received by 15, 20 or 25 per cent, feeling confident that the lower bids will come to them if they land the contract, and also feeling reasonably certain that another crop of sub bids will be available after the general contract is let. In fields so afflicted with over-capacity as the sub trades, that is now easy to foresee; and with all cash in sight, the sub will sign any sort of contract, no matter what back charges are listed in the fine print. And what these boys can do with the “or equals” in the specifications is a caution; those two words have cost the manufacturers and jobbers and dealers a mint of money.

We had one of those Wise Men of the East drop in on us—beat us about \$80,000. We have no information that these wanderers are traveling around for their health, so we may assume this concern would want at least as much out of the job as any local. That meant an extended peeling process, \$80,000 or more. Effort was made to cut the cement quotations; when this failed, the cement was bought in Southern California and brought up here by boat. Sand and gravel could not be bought at his upset price, so he got hold of an abandoned pit and made it himself. Some fell for the racket to “keep the business here.” Plumbing was let in Chicago, plastering in San Francisco. When local sub bids were down to the lowest notch, some forty questions were handed the bidders, asking what deductions would be made under certain conditions—that was the final wringer, and when they got through that they were dry—and don't say maybe.

This sort of performance is making the ubiquitous contractor unpopular. He is a stranger in a strange land, out after the money, and how he gouges to get it. He is bound by no local customs, local conditions mean nothing to him. The stimulation of local business, at least one of the objects of the Federal program, concerns him not at all. It used to be that contractors put a profit onto a job; he takes his profit out of the job by taking advantage of present human misery and his transient existence.

These criticisms do not apply to work other than public buildings, such other work being from its very nature scattered and open to the widest competition. There are goats as well as sheep in the game, not properly segregated under “each and every member” of the industry.

A SUBSCRIBER IN THE PACIFIC NORTHWEST.

CO-OPERATIVE CONSTRUCTION CREDIT

CONSTRUCTION INDUSTRIES' CREDIT BUREAU

(A non-profit, membership owned and operated association affiliated with the National Association of Credit Men)

F. H. Eichler, Chairman

333 MONTGOMERY STREET, SAN FRANCISCO

A. J. McGarry, Mgr.

EVERY one selling to the construction industry must contend with a variety of influences which affect the ability of a particular buyer to pay and govern the amount you can safely sell. You sell either directly or indirectly to the contractor, and his financial soundness and business ability are naturally your first consideration.

But the contractor is only one-third of the problem! Granted your contractor is Ace-High, still that is not sufficient; there are other factors beyond his control which affect the balance of your business machine. In the long run he is not a profitable customer for you unless he makes a profit, and his ability as a buyer to pay you therefore depends upon (1) certain characteristics of the owner or speculative builder, and (2) the financial setup of the whole job.

Who holds title to the property to be built on? Have you had a property search to confirm ownership and encumbrances? How have the owner's past jobs turned out? Have actions been filed against him? If the owner is building for sale, what is his record for successful promotion of building jobs? Does the promoter know the building business? Is he putting any of his own money into the deal? These points have definite bearing on whether the job is to turn out profitably—and you can't afford to gamble that the contractor or any other individual is going to check them up for you.

You can play hide-and-seek in the technicalities of construction financing almost indefinitely, trying to find out whether the various firms and individuals concerned are responsible. Yet you must of course know definitely that every detail is satisfactorily taken care of before you can be certain of the even flow of funds to cover every phase of the job. How about bonds? Is the job fully covered by both labor and material bonds and lien and completion bonds? Are the mortgage or loan company and the surety company of high standing and fully able according to past records to carry out their functions satisfactorily? Do they co-operate in getting bills paid? Has joint control been required by the financing agency? Joint control often indicates the lender's doubt as to the borrower's competence.

Satisfactory answers to these questions mean the difference between good and bad credit. They are every one a potential source of trouble or a guarantee that you make money on the job without worry.

The solution is clearly to have some form of effective control of credit for the whole group of construction industries, some source of securing all the pertinent information on every job you sell—up-to-the-minute data on contractor, owner or promoter, and financial setup. Such control enables you to use your own judgment as a business executive with greatest effect, unhampered by lack of accurate information, and thereby to measure unerringly the profit-value of every single sale—in other words, to balance your sales to your buyer's ability to pay.

The Construction Industries Credit Bureau has been organized to compile, record and disseminate among its members, information on the credit standing, responsibility and paying habits of corporations, firms and individuals engaged in manufacturing, financial, distributing or contracting enterprises connected with construction.

It is a non-profit organization maintained by its members and operating under their direction.

To carry on its work, the Construction Industries Credit Bureau maintains three regular services and has experienced advisors for assisting its members with special problems. The regular services are: (1) Ledger Interchange Reports, (2) Construction Reports, and (3) The Monthly Credit Report.

The Ledger Interchange Report is compiled at the request of any member, at any time, and as often as desired. It contains a record of the experience of every other Bureau member who has dealt with a particular account or prospective account upon which the report is requested. Through the Bureau's affiliation with the Credit Managers' Association of Northern and Central California and the National Association of Credit Men, reports may be secured not only concerning the account's relationships within the construction industry locally, but with any other line of business, and in any other locality where the account may have business dealings.

The Ledger Interchange Report gives the following information:

1. Lines of business in which debtor has obtained or is seeking credit.
2. Highest credit extended by members.
3. Length of time sold by each creditor.
4. Total amount now owing.
5. Total amount now past due.
6. First and/or unfilled orders.
7. Terms of sale.
8. Manner of payment.
9. Credit or trade abuses.
10. Other pertinent information.

Every member who contributes information which is incorporated in the report receives a copy of the report without charge. A slight charge is made to the member who requests it, to cover stenographic and other expenses.

This accurate measure of other creditors' experience with a particular account is made possible by the Bureau regulation which requires every member to file with the Bureau the names and addresses (no amounts) of every active account, and to keep this card file up to date. Each member is given a number which he alone knows. It conceals the identity of members contributing information to the reports.

The Construction Report is the only report of its kind which is made on construction projects when requested by an organization equipped to secure all vital data of interest to sellers and prospective sellers on the job. It contains the following information:

1. Who owns property?
2. Legal description.
3. Financing.
4. Real estate transfers, liens, etc.
5. Real estate appraisals.
6. Estimated cost of construction.
7. Contract awards.
8. Terms of payment.
9. Other details concerning the owner, architect, builder, bonds and insurance.

The Monthly Credit Report is a record of the accounts overdue to members of the Bureau on a specified date

each month, with the name and address of the debtor and the amount owing and unpaid. These Credit Reports serve as an automatic check on the standing of a particular debtor, since they show the condition of his accounts payable, and enable all Bureau members to whom he is indebted to determine jointly if they wish, whatever action may be desirable or advisable for their own interests and those of the debtor. The Monthly Credit Period Reports are valuable in maintaining prompt payment, since it has become a custom of Bureau members to check with the Bureau to ascertain if the prospective purchaser is meeting his obligations promptly. It has proven highly effective also in detecting irresponsible debtors, chronic defaulters, and credit crooks.

The Bureau maintains a legal department to assist members when the services of an attorney are necessary in connection with credit or collection matters or to file liens, etc.

The Collection Department is available to members, and helps you to avoid excessive overhead when collection expense is necessary.

Membership in the Construction Industries Credit Bureau automatically includes membership in the Credit Managers' Association of Northern and Central California and in the National Association of Credit Men, with all the privileges and facilities which such membership carries.

CHAPTER DIRECTORS HOLD MEETING AT BOULDER CITY

Directors of the Northern California Chapter, Associated General Contractors, held their November meeting at Boulder City. The trip from San Francisco was made in an airplane piloted by Major John A. Macready, of the Shell Oil Company.

At the dam site the party was entertained by officials of the Six Companies and was taken to the several points of interest.

Those making the trip included C. W. Wood, president; George Pollock, Adolph Teichert, R. D. Watson, A. J. Crosby, Edward Ball and Floyd O. Booe, secretary-manager.

K. K. Bechtel, of the Six Companies; Walker Young, resident engineer, and Frank Crowe, general construction superintendent, were hosts to the visitors at Boulder City.

CONTRACTOR'S CHARACTER IMPORTANT

There is a growing tendency in the award of construction contracts to give consideration to more than a mere bid figure, says an editorial in Engineering News-Record. Qualifications, character and experience of the contractor are appraised as well as his unit prices. In this light, contractors can at least make a favorable first impression by submitting bids correctly tabulated and complying with the bidding rules set forth in the specifications. Among 32 bids received recently for a sewer project in New York state, 14 were seriously in error in extension of unit prices, mistakes as high as \$100,000 occurring on a \$300,000 bid. Analysis of many bids received for federal work shows an astounding number of cases where simple bidding rules had not been followed. Well-known firms of size and repute as well as obscure smaller contractors are at fault in this respect. First impressions count in contracting as well as in any other business. Obviously an engineer's or public official's first impression of a contractor, as gained through an analysis of his bid, cannot be high if the proposal is full of errors in extension or if required signatures are missing. Reliable contractors should be able to turn in a correct bid.

THE NEW ERA OF ROAD BUILDING

Ohio recently completed 1800 miles of dustless, mudless farm-to-market roads at an average cost of but \$2000 a mile. Commenting on this, State Highway Director Merrell said, "The relationship of flattened public pocketbooks to the ever-increasing need for new roads opens up a new era of road construction."

Like all other "commodities," roads have gone through constant evolution in this country. At the beginning of the automobile age, there were few highways that didn't tax the resources of even the horse and buggy. Then came the beginnings of the super-highways, costing untold thousands of dollars a mile. "Political" roads were built—splendid, high-priced arteries, traversing country which had no need for them. Millions of dollars of tax money were wasted in this way.

Now, as Mr. Merrell said, we have come to a new era. We have learned that the cost of a road must be measured by the return it gives us—that it is as wasteful to build a \$20,000-a-mile road where a \$2,000-a-mile road would serve as to build a low-cost road where traffic demands an artery that can withstand the constant passage of the heaviest vehicles. Science has given us materials and processes making possible the construction of first-class, weatherproof rural roads for very small sums.

States which are building low-cost roads, connecting farms and small towns with the outside world, are laying a foundation for the future. They are setting the stage for more profitable farming, and for accelerated community development.

Cypress Lawn Memorial Park

COLMA, SAN MATEO CO., CALIFORNIA

Executive Office—995 Market St., San Francisco



VIEW OF NEW MEMORIAL COLUMBARIUM
(Largest and most beautiful Columbarium ever erected)

WE HAVE FACILITIES FOR:

Earth Interment Cremation
Mausoleum Entombment Columbarium Inurnment

Cypress Lawn is adequately protected by a
PERPETUAL CARE FUND.

"VISIT CYPRESS LAWN MEMORIAL PARK"

UNIT BID SUMMARY

Compiled from the Daily News Service of Pacific Constructor

OFFICERS' QUARTERS—FORT MASON

SAN FRANCISCO.—Wm. Spivock, Hobart Bldg., at \$67,760 submitted low bid to Constructing Quartermaster, Fort Mason, to construct seven sets of two-story and basement officers' quarters at Fort Mason for the United States Government. Buildings will be hollow tile construction, Mission stucco exterior, with three baths to each set; garage, hot water heating system, etc. Plans were prepared by the Constructing Quartermaster, Ft. Mason. Following is a complete list of the bids:

- (1) work complete;
- (2) if one field officers' quarters is added;
- (3) if one company officers's quarters is omitted;

- (4) if all framing lumber, rough boarding and furring strips is not termite treated, deduct;
- (5) if colored Keenes cement plaster, textured finish is used in lieu of plaster specified, add;
- (6) if sub-soil drain around footings is omitted, deduct;
- (7) if all window and door screens as specified are omitted, deduct;
- (8) if all window and door shades are omitted, deduct;
- (9) if curtain rods are omitted, deduct
- (10) if tile is used, add;
- (11) if lime stone work is omitted and sill tile substituted, deduct;
- (12) if lighting fixtures are omitted, deduct;
- (13) if gas fired boilers and equipment is installed in lieu of oil-

- fired boilers and equipment, deduct or add to;
- (14) If gas fired boilers and equipment is installed in lieu of oil-fired boilers and equipment, deduct from or add to.

The bidders follow:

| | |
|--------------------------------|----------|
| (A) William Spivock | \$67,760 |
| (B) Meyer Brothers | 68,267 |
| (C) Frank J. Reilly | \$72,841 |
| (D) Lager & Val Franz | \$74,823 |
| (E) H. L. Peterson | \$76,955 |
| (F) Wm. Martin | \$79,700 |
| (G) F. C. Amoroso & Sons | \$79,830 |
| (H) G. W. Williams & Co. | \$79,969 |
| (I) Reilly & Grace | \$81,970 |
| (J) H. H. Larsen Company | \$82,373 |
| (K) Schuler & Macdonald | \$82,970 |

The unit prices follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) |
|------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| (1) | \$67,760 | \$68,267 | \$72,841 | \$74,823 | \$76,955 | \$79,700 | \$79,830 | \$79,969 | \$81,970 | \$82,373 | \$82,970 |
| (2) | 10,200 | 10,155 | 10,964 | 11,170 | 11,654 | 11,742 | 12,450 | 12,107 | 11,954 | 12,250 | 12,697 |
| (3) | 9,900 | 9,892 | 9,800 | 10,608 | 10,554 | 11,332 | 10,400 | 11,340 | 11,400 | 11,500 | 11,500 |
| (4) | 400 | 267 | 320 | 375 | 255 | 250 | 336 | 375 | 340 | 350 | 1,325 |
| (5) | 100 | 60 | 100 | 50 | 150 | 100 | 100 | 70 | 45 | 100 | 200 |
| (6) | 100 | 47 | 70 | 90 | 90 | 165 | 40 | 143 | 90 | 30 | 945 |
| (7) | 120 | 132 | 120 | 115 | 12 | 125 | 103 | 170 | 118 | 100 | 1,620 |
| (8) | 50 | 56 | 55 | 54 | 50 | 56 | 58 | 60 | 53 | 50 | 1,120 |
| (9) | 15 | 13 | 15 | 12 | 25 | 26 | 13 | 23 | 25 | 25 | 560 |
| (10) | 26 | 22 | 265 | 200 | 48 | 165 | 50 | 28 | 32 | 45 | 205 |
| (11) | 125 | 130 | 75 | 89 | 75 | 125 | 100 | 95 | 80 | 60 | 450 |
| (12) | 100 | 118 | 115 | 75 | 112 | 75 | 23 | 124 | 113 | 100 | 530 |
| (13) | 100 | 110 | 100 | 107 | 198 | 227 | 90 | 85 | 221 | 90 | 75 |
| (14) | 160 | 110 | 100 | 107 | 198 | 227 | 90 | 85 | 221 | 90 | 74 |

FT. WINFIELD SCOTT—NON-COMMISSIONED OFFICERS' QTRS.

SAN FRANCISCO—William Spivock Hobart Bldg., at \$94,870 submitted low bid to Constructing Quartermaster, Fort Mason, to construct 18 non-commissioned officers' quarters at Fort Scott for the United States Government. Buildings will be of hollow tile construction with stucco exterior, hot water heating system, etc. Plans were prepared by the Constructing Quartermaster, Fort Mason. Following is a complete list of the bids:

- (1) William Spivock
 \$94,870 |
- (2) F. J. Reilly
 \$95,841 |
- (3) Meyer Brothers
 \$96,963 |
- (4) Lager & Van Franz
 \$101,492 |
- (5) F. C. Amoroso & Son
 \$102,837 |
- (6) H. H. Larsen Co.
 \$105,873 |
- (7) G. W. Williams Co., Burlingame
 \$108,985 |

- (8) H. L. Peterson
 \$112,888 |
 - (9) Schuler & McDonald, Oakland
 \$114,489 |
- Quantities and unit prices follow:
- (A) 18 sets of N.C.O. quarters with garages, etc.;
 - (B) if one or two double sets with garages are added or omitted;
 - (C) if garages are omitted in basements, deduct;
 - (D) if colored Keenes cement plaster is used in lieu of plaster as specified, add;
 - (E) if tile wainscoting above base is omitted in both rooms, deduct;
 - (F) if oak flooring is used in lieu of pine or fir, for second floor except kitchens, add;
 - (G) if alternate gas-fired heating system is installed in lieu of oil burners, deduct;

- (H) if sub-soil drain around footings is omitted, deduct;
- (I) if all window and door screens are omitted, deduct;
- (J) excavation, gravel or clay, per cu. yd.;
- (K) excavation, rock, per cu. yd.;
- (L) concrete, type A, including forms, per cu. yd.;
- (M) concrete, type B do.;
- (N) reinforcing steel, per ton;
- (O) brick in walls, per M.;
- (P) 6-in. sub-soil drain (Farm tile) per lin. ft.;
- (Q) 6-in. vit. clay pipe, per lin. ft.;
- (R) hollow tile, 12-in. thick wall, per sq. ft.;
- (S) hollow tile, 8-in. do.;
- (T) if lighting fixtures are omitted, deduct.

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
|-----------|-------------|-------------|-------------|--------------|--------------|--------------|--------------|--------------|--------------|
| (A) | \$94,870.00 | \$95,841.00 | \$96,963.00 | \$101,492.00 | \$102,837.00 | \$105,873.00 | \$108,985.00 | \$112,888.00 | \$114,489.00 |
| (B) | 10,700.00 | 10,900.00 | 10,780.00 | 11,277.00 | 11,432.00 | 11,875.00 | 12,100.00 | 12,915.00 | 12,721.00 |
| (C) | 450.00 | 500.00 | 426.00 | 400.00 | 350.00 | 350.00 | 575.00 | 250.00 | 771.00 |
| (D) | 90.00 | 300.00 | 50.00 | 90.00 | 60.00 | 120.00 | 110.00 | 100.00 | 207.00 |
| (E) | 50.00 | 25.00 | 40.00 | 37.00 | 40.00 | 25.00 | 30.00 | 30.00 | 66.50 |
| (F) | 40.00 | 125.00 | 15.00 | 55.00 | 74.00 | 75.00 | 55.00 | 75.00 | 55.00 |
| (G) | 200.00 | 100.00 | 300.00 | 220.00 | 215.00 | 150.00 | 238.00 | 282.00 | 225.00 |
| (H) | 70.00 | 50.00 | 80.00 | 70.00 | 40.00 | 25.00 | 106.00 | 98.00 | 150.00 |
| (I) | 120.00 | 100.00 | 130.00 | 192.00 | 100.00 | 90.00 | 125.00 | 40.00 | 175.00 |
| (J) | 2.00 | 1.50 | .40 | .60 | .70 | .85 | .50 | 1.50 | .50 |
| (K) | 4.00 | 2.50 | .80 | 2.00 | 2.00 | 2.50 | 2.50 | 3.00 | 3.00 |
| (L) | 16.00 | 13.00 | 10.00 | 11.00 | 10.00 | 12.50 | 9.50 | 10.50 | 10.00 |
| (M) | 17.00 | 13.00 | 11.00 | 14.00 | 12.00 | 15.00 | 9.75 | 12.50 | 10.00 |
| (N) | 80.00 | 80.00 | 80.00 | 80.00 | 80.00 | 80.00 | 65.00 | 100.00 | 60.00 |
| (O) | 40.00 | 40.00 | 32.00 | 40.00 | 35.00 | 40.00 | 38.00 | 40.00 | 31.00 |
| (P) | .90 | .65 | .60 | .65 | .40 | .65 | .60 | 1.00 | .60 |
| (Q) | .90 | .65 | .60 | .70 | .60 | .70 | .52 | 1.00 | .50 |
| (R) | .44 | .50 | .45 | .50 | .46 | .55 | .49 | .49 | .50 |
| (S) | .30 | .40 | .30 | .40 | .28 | .35 | .31 | .32 | .33 |
| (T) | 65.00 | 50.00 | 74.00 | 4.00 | 6.00 | 65.00 | 71.00 | 50.00 | 67.00 |

CAST IRON PIPE—BURBANK

BURBANK, Los Angeles Co., Cal.—Ricks for furnishing cast iron pipe for the Public Service Department, L. O. B. city warehouse, opened by City Manager, Nov. 15, following:

(1) 2360 ft. 6-in. C. I. Pipe, Class 150, minimum wall thickness .37 in.;

- (1a) additional for cement-mortar lining;
- (2) 1000 ft. 6-in. C. I. Pipe, Class 250, minimum wall thickness .43 in.; and (2a)
- (3) 2300 ft. 8-in. C. I. Pipe, Class 200, minimum wall thickness .46 in.; and (3a)

- (4) 4000 ft. 10 in. C. I. Pipe, Class 150, minimum wall thickness .47in.; and (4a)
- (5) 5693 ft. 10-in. C. I. Pipe, Class 200, minimum wall thickness .52 in.; and (5a)

The bids were:

| | (1) | (1a) | (2) | (2a) | (3) | (3a) | (4) | (4a) | (5) | (5a) |
|-------------------------------|---------|----------|---------|----------|---------|---------|----------|---------|----------|---------|
| Utilities Supply Co..... | \$.507 | \$.6533 | \$.567 | \$.6533 | \$.537 | \$.076 | \$ 1.022 | \$.104 | \$ 1.156 | \$.104 |
| Coast Eng'g. & Eq. Co..... | .513 | .09 | .57 | .10 | .827 | .14 | 1.065 | .19 | 1.20 | .21 |
| Johns-Manville Co.*..... | 1382.80 | ..... | \$79.00 | ..... | 2719.62 | ..... | 5926.09 | ..... | \$877.12 | ..... |
| Nat'l. C. I. Pipe Co..... | .505 | .655 | .525 | .655 | .82 | .075 | 1.02 | .16 | 1.14 | .10 |
| American C. I. Pipe Co..... | .435 | .655 | .565 | .655 | .82 | .075 | 1.035 | .10 | 1.125 | .10 |
| Inc States C. I. Pipe Co..... | .54 | .652 | .6025 | .6525 | .88 | .096 | 1.096 | .104 | 1.207 | .103 |
| U. S. Pipe & Fdy. Co..... | .515 | .655 | .575 | .655 | .845 | .075 | 1.107 | .10 | 1.18 | .10 |

*Bidding on Transit pressure pipe with Simplex couplings—lump sum bids.

MT. SHASTA—MT. LASSEN HIWY.—SISKIYOU COUNTY

SISKIYOU COUNTY, Cal.—Isbell Const. Co., Carson City, Nevada, at \$58,429 submitted low bid to and recommended for award by U. S. Bureau of Public Roads, San Francisco, for placing 12.45 miles crushed gravel base course on Section C of Route 77, the Mount Shasta - Mt. Lassen National Forest Highway, Shasta National Forest, involving:

(1) 12.423 miles fire grade subgrade & shoulders;

- (2) 16,000 tons crushed gravel base course;
- (3) 1,900 tons suppl. crushed gravel;
- (4) 1,900 M. gals. watering;
- (5) 42,000 tons subgrade reinf.;
- (6) 56,000 gals. apply. Govt. furnished fuel oil.

Complete bids follow:
 (A) Isbell Const. Co., Carson City, Nevada, \$58,429.
 (B) A. Teichert & Son, Sacramento, \$64,410.
 (C) A. Young, Yreka, \$75,400.

- (D) Hemstreet & Bell, Marysville, \$75,575.
- (E) E. B. Bishop, Sacramento, \$78,645.
- (F) Dunn & Baker, Klamath Falls, Oregon, \$83,255.
- (G) A. Mitchell, Sacramento, \$87,028.
- (H) Highway Builders, Ltd., San Anselmo, and Hein Bros. Basalt Rock Co., Petaluma, \$88,840.
- (I) Homer G. Johnson, Portland, \$93,539.
- (J) Engineer's estimate, \$85,684.

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) |
|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| (1)..... | \$200.00 | \$250.00 | \$200.00 | \$250.00 | \$350.00 | \$250.00 | \$280.00 | \$225.00 | \$200.00 | \$200.00 |
| (2)..... | 1.25 | 1.20 | 1.25 | 1.20 | 1.40 | 1.60 | 1.50 | 1.51 | 1.50 | 2.05 |
| (3)..... | 1.25 | 1.10 | 1.18 | 1.20 | 1.40 | 1.20 | 1.40 | 1.55 | 1.45 | 1.90 |
| (4)..... | 1.50 | 1.75 | 1.50 | 2.00 | 2.00 | 2.00 | 1.75 | 1.50 | 2.00 | 2.00 |
| (5)..... | .70 | .85 | 1.10 | 1.10 | 1.08 | 1.10 | 1.24 | 1.20 | 1.40 | 1.00 |
| (6)..... | .02 | .015 | .025 | .015 | .02 | .03 | .0225 | .015 | .10 | .015 |

ALBANY STORM SEWER—BERKELEY

ALBANY, Alameda Co., Cal.—Martin Murphy, 1321 Milvia St., Berkeley, at \$8,741.20 submitted low bid to the city council to connect a 24-inch sanitary drain to the existing 78-in. new storm sewer, outlet to be between Fleming Point and Pt. Isabel, involving:

- (1a) 2740 lin. ft. 24-in. vit. pipe sewer with concrete cradle in place;
- (1b) 2740 lin. ft. 24-in. monolithic concrete sewer with vit. liners on

- upper two-thirds of circumference, in place;
- (1c) 2740 lin. ft. 24-in. conc. pipe, do;
- (2) 5 manholes;
- (3) 17 cu. yds. Class A concrete for reinforced structures;
- (4) 37 cu. yds. Class A concrete for unreinforced structures;
- (5) 8 cu. yds. Class B concrete;
- (6) 1800 lbs. reinf. steel;
- (7) 12 pipes, 30-ft. long;
- (8) 360 lin. ft. drive piles;

(9) 50 cu. yds. foundation rock.

- Complete bids follow:
 (A) Martin Murphy, Berkeley, \$8,741.20.
 (B) W. J. Tobin, Oakland, \$10,676.00.
 (C) R. E. McNair, Oakland, \$11,601.70.
 (D) Lee J. Immel, Berkeley, \$11,677.00.
 (E) L. P. Page, Richmond, \$17,361.00.
 (F) Frederickson & Watson, Oakland, \$17,555.50.

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | |
|-----------|--------|-------|-------|----------|---------|---------|-------|--------|---------|--------|--------|
| (1a)..... | \$2.48 | ..... | ..... | \$ 40.00 | \$38.00 | \$16.00 | 12.00 | \$.06 | \$ 5.00 | \$.40 | \$2.00 |
| (1b)..... | 3.30 | ..... | 4.66 | 64.00 | 20.00 | 20.00 | 10.00 | .09 | 6.00 | .80 | 1.00 |
| (1c)..... | 3.70 | ..... | ..... | 60.00 | 18.00 | 8.50 | 7.25 | .05 | 5.40 | .64 | 2.00 |
| (2)..... | 3.45 | ..... | ..... | 70.00 | 20.00 | 20.00 | 14.00 | .07 | 8.00 | 1.00 | 2.00 |
| (3)..... | 9.45 | ..... | ..... | 65.00 | 30.00 | 27.50 | 18.00 | .07 | 8.25 | .40 | 1.25 |
| (4)..... | 5.60 | 7.85 | 7.00 | 100.00 | 20.00 | 15.00 | 18.00 | .06 | 14.00 | .65 | 3.25 |

CONC. BLOCK WORK, SIERRA MADRE DAM—L. A. CO.

LOS ANGELES, Calif.—Carl Hallin, 909 N Alvarado St., Los Angeles, submitted low bid to county supervisors Nov. 23, at \$426 for the construction of concrete block and appurtenant work at the right abutment of Sierra Madre Dam, involving:

- (1) 260 cu. yds. excavation;
- (2) 120 cu. yds. placing backfill;
- (3) 400 cu. yds. placing concrete;
- (4) 600 lin. ft. drilling grout holes;

- (5) revisions to spillway;
 - (6) 125 lin. ft. drilling dowel holes;
 - (7) 2300 lbs. placing misc. metal ware.
- Complete bids were:
 (A) Carl Hallin.....\$426.00
 (B) Contracting Eng., Inc.....4456.00
 (C) R. H. Liggett.....4484.50
 (D) T. G. Lewis.....4562.00
 (E) Booth & Tomei.....6117.50

Unit bids follow:

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
|----------|--------|--------|--------|--------|-----------|--------|--------|
| (A)..... | \$2.20 | \$1.00 | \$4.55 | \$.45 | \$1500.00 | \$.60 | \$.03 |
| (B)..... | 2.10 | 1.50 | 5.80 | .50 | 928.00 | .49 | .04 |
| (C)..... | 3.60 | .50 | 5.10 | .60 | 1030.00 | .05 | .04 |
| (D)..... | 2.25 | .40 | 7.15 | .50 | 900.00 | .80 | .03 |
| (E)..... | 4.00 | .50 | 9.00 | .50 | 1000.00 | .50 | .05 |

WASHINGTON STATE.—Until Dec. 13, 10 A. M., bids will be received by Samuel J. Humes, State Highway Department, for highway construction as follows

Grade and surface two miles of State Road No. 8, Lyle to Snowden Road, E. C. H. Proj. No. E-171-D, in Klickitat County, involving 140,450 cu. yds. excavation, 6,020 cu. yds. crushed stone, 1,160 lin. ft. pipe culverts and other items.

Grade 11.6 miles State Road No. 22, Williams to Onion Creek, Stevens Co., involving 66 acres clearing, 298,220 cu. yds. excav., 2,200 lin. ft. pipe culverts, and other items.

Specifications obtainable from above office on deposit of \$2.00, returnable. Certified check 5% payable to State Treasurer required with bid.

SAN JACINTO TUNNEL — METROPOLITAN WATER DISTRICT

LOS ANGELES, Cal.—As previously reported, Metropolitan Engineering Corp., 1002 Union Bank Bldg., Los Angeles (C. R. Ross, president; W. F. Hanrahan, treasurer and secretary, with stockholders as follows: Johnston P. Fort-r, Chas. R. Ross, George Pollock, T. E. Connolly, Wm. F. Hanrahan and Alfred B. Swinerton, submitted the low bid to the Metropolitan Water District, 306 W. 3rd St., Los Angeles, Nov. 29, at \$7,333,315 (bidding on Schedule No. 1, the tunnel complete) for the construction of the San Jacinto Tunnel and appurtenant works of the Colorado River Aqueduct. The work is located in the vicinity of the towns of Cabazon, Banning, Deamont and San Jacinto, in Riverside County. The entire work consists of excavating and lining approximately 12.7 miles of water supply tunnel of about 16-ft. internal diameter, together with the construction of necessary adits or shafts and appurtenant works. The work has been divided into two portions, the East Portion and West Portion, San Jacinto Tunnel, and involves three schedules as shown below. The total bids on Schedule No. 1 were as follows:

- (A) Metropolitan Engineering Corp., \$7,333,315.
- (J) Wenzel & Henoch Construction Co., -1524 N. 27th St., Milwaukee, Wis., \$7,239,100.
- (C) Metropolitan Construction Co., 418 So. Pecan St., Los Angeles (including Bechtel-Kaiser-Warren Co., Dravo Constr. Co., Missouri Valley Bridge & Iron Co., Raymond Concrete Pile Co., Utah Constr. Co., Winston Eros. Co.), \$8,305,225. (For Schedules 2 and 3 complete, deduct \$97,000)
- (I) Silas Mason Co., 707 Spring Arcade Bldg., Los Angeles, \$8,845,925.
- (E) Shea-MacDonald & Kahn, Arcade Bldg., Los Angeles (including Charles Shea, president; H. W. Morrison, vice-president; Felix Kahn, treasurer; Gilbert Shea and Martin Boss, general superintendent), \$8,551,890.
- (F) West Slope Construction Co., 608 Security Bldg., Los Angeles (including Foley Bros. of New Jersey; Foley Bros., Inc., Delaware; Bates & Rogers Construction Co.; J. C. Maguire of Butte, Mont., and The Lawler Corp., Butte, Mont.), \$9,773,090.
- (G) Resoff Subway Construction Co., Inc., 235 Madison Ave., New York, \$10,291,300.
- (H) Atkinson Construction Co., 813 Edwards & Wildy Bldg., Los Angeles, \$12,625,850.

The items included in Schedule No. 1 are as follows:

- (1) 215 lin. ft. excav. of East Portal adit;
- (2) 1500 lin. ft. excav. of Cabazon adit;
- (3) 2600 lin. ft. excav. Potrero adit;
- (4) 153 lin. ft. excav. West Portal adit;
- (5) 750,000 cu. yds. excav. in tunnel;
- (6) 200 cu. yds. excav. for tunnel enlargement;
- (7) 200 cu. yds. concrete in Cabazon adit;
- (8) 300 cu. yds. concrete in Potrero adit;
- (9) 195,000 cu. yds. concrete in tunnel
- (10) 2550 M. ft. B. M. permanent timbers in tunnel;
- (11) 500,000 lbs. steel support in tunnel;
- (12) 250 cu. yds. Gunite coating of tunnel rock;
- (13) 200 connections for grouting;
- (14) 850 cu. yds. mixing and placing grout;
- (15) 500,000 lbs. placing reinforcing steel;
- (16) 270,000 cu. yds. overhaul of concrete aggregates;
- (17) 1500 ton miles hauling steel;
- (18) 150,000 ton miles hauling sacked cement;
- (19) 150,000 ton miles hauling bulk cement. (Alternative to Item 18).

The unit bids on Schedule No. 1 follow:
SCHEDULE NO. 1

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) |
|-----------|---------|---------|----------|----------|---------|----------|---------|----------|
| (1)..... | \$ 1.00 | \$25.00 | \$ 77.00 | \$ 23.00 | \$48.00 | \$235.00 | \$ 1.00 | \$300.00 |
| (2)..... | 125.00 | 45.00 | 127.00 | 150.00 | 70.00 | 235.00 | 90.00 | 150.00 |
| (3)..... | 125.00 | 65.00 | 127.00 | 150.00 | 80.00 | 290.00 | 90.00 | 200.00 |
| (4)..... | 125.00 | 45.00 | 127.00 | 150.00 | 45.00 | 235.00 | 1.00 | 300.00 |
| (5)..... | 8.10 | 7.00 | 8.00 | 9.10 | 8.50 | 8.85 | 11.00 | 14.00 |
| (6)..... | 15.00 | 12.00 | 12.00 | 15.00 | 14.00 | 50.00 | 5.00 | 14.00 |
| (7)..... | 20.00 | 14.00 | 20.00 | 6.00 | 18.00 | 35.00 | 10.00 | 15.00 |
| (8)..... | 25.00 | 15.00 | 20.00 | 6.00 | 18.00 | 35.00 | 10.00 | 15.00 |
| (9)..... | 3.10 | 3.05 | 8.00 | 6.00 | 7.00 | 7.00 | 7.50 | 10.00 |
| (10)..... | 20.00 | 53.00 | 75.00 | 00.00 | 72.00 | 180.00 | 30.00 | 75.00 |
| (11)..... | .01 | .03 | .04 | .02 | .05 | .11 | .0125 | .04 |
| (12)..... | 25.00 | 27.00 | 26.00 | 25.00 | 16.50 | 28.00 | 19.00 | 25.00 |
| (13)..... | 15.00 | 6.00 | 8.00 | 15.00 | 3.00 | 9.00 | 2.00 | 8.00 |
| (14)..... | 50.00 | 15.00 | 20.00 | 25.00 | 22.00 | 28.00 | 21.00 | 40.00 |
| (15)..... | .02 | .01 | .02 | .01 | .04 | .03 | .02 | .04 |
| (16)..... | .05 | .02 | .10 | .05 | .15 | .12 | .20 | .15 |
| (17)..... | .15 | .40 | .15 | .20 | .25 | 1.00 | .30 | .30 |
| (18)..... | .01 | .05 | .15 | .05 | .15 | .10 | .15 | .20 |
| (19)..... | .01 | .05 | .15 | .05 | .12 | .10 | .20 | .30 |

Schedule No. 2—Construction of the East Portion of the San Jacinto Tunnel.

- The bids were:
- (A2) Metropolitan Engineering Corp., \$3,471,090.
- (B2) West Const. Co., 615 Richfield Bldg., Los Angeles (including A. R. Mann, president, J. W. Stewart

- vice-president, C. V. Cummings, vice-president, J. J. O'Brien treasurer, and Wm. Small, chief engineer) \$3,680,165 (will accept contract for one schedule only—not both).
- (C2) Metropolitan Const. Co., items 1-E, to 18-E, \$3,688,680.
- (D2) Frazier - Davis Const. Co., 1319

Macklind Ave., St. Louis, Mo., \$4,078,150 (will accept contract for one schedule only—not both).

The items on Schedule No. 2 are as follows:

- (1-E) 215 lin. ft. excav. of East Portal adit;
- (2-E) 1500 lin. ft. do Cabazon adit;
- (3) does not apply to East portion;
- (4) does not apply to East portion;
- (5-E) 340,000 cu. yds. excav. in tunnel
- (6-E) 100 cu. yds. excav. for tunnel enlargement;
- (7-E) 200 cu. yds. concrete in Cabazon adit;
- (8) does not apply to East portion;
- (9-E) 83,000 cu. yds. conc. in tunnel;
- (10-E) 750 M. ft. b.m. permanent timbers in tunnel;
- (11-E) 200,000 lbs. steel support in tunnel;
- (12-E) 100 cu. yds. gunite coating of tunnel rock;
- (13-E) 75 connections for grouting;
- (14-E) 150 cu. yds. mixing and placing grout;
- (15-E) 100,000 lbs. place reinf. steel;
- (16-E) 70,000 cu. yd. miles overhaul of concrete aggregates;
- (17-E) 500 ton miles hauling steel;
- (18-E) 50,000 ton miles hauling sacked cement;
- (19-E) 50,000 do bulk cement. (Alternative to Item 18-E).

The unit bids on Sched. No. 2 follow:

| | (A2) | (B2) | (C2) | (D2) |
|--------|---------|---------|----------|----------|
| (1-E) | \$ 1.00 | \$30.00 | \$ 77.00 | \$ 50.00 |
| (2-E) | 125.00 | 40.00 | 127.00 | 150.00 |
| (5-E) | 8.50 | 8.50 | 7.90 | 9.50 |
| (6-E) | 15.00 | 12.00 | 12.00 | 9.00 |
| (7-E) | 25.00 | 13.50 | 20.00 | 15.00 |
| (9-E) | 4.00 | 7.00 | 8.00 | 5.50 |
| (10-E) | 20.00 | 70.00 | 75.00 | 100.00 |
| (11-E) | .01 | .03 | .04 | .08 |
| (12-E) | 25.00 | 25.00 | 20.00 | 16.00 |
| (13-E) | 15.00 | 3.00 | 8.00 | 40.00 |
| (14-E) | 50.00 | 55.00 | 20.00 | 30.00 |
| (15-E) | .02 | .02 | .02 | .03 |
| (16-E) | .05 | .06 | .10 | .12 |
| (17-E) | .50 | .38 | .15 | 1.00 |
| (18-E) | .01 | .55 | .15 | .25 |
| (19-E) | .01 | .32 | .15 | .20 |

This tunnel will traverse the San Jacinto Mountains, the west portal being approximately three miles due north of the town of San Jacinto, while the east portal will be at a point about two miles south of Cabazon and on the state highway between Banning and Whitewater. The total length of the tunnel will be 67,408 ft. in length, with a length of 40,000 ft. between the adits at Cabazon and Potrero, the latter approximately 3 1/2 mi. east of the west portal. The Cabazon adit will be 1500 ft. in length and the Potrero Adit 2600 ft. The contractor will have the option to build a shaft in lieu of the adit at the Potrero location. The shaft will be approximately 750 ft. in depth. The west portal elevation will be 1500 ft. with a drop in tunnel grade of triple naught 65. The tunnel will have a diameter of 16 ft. with a horseshoe section with concrete lining using steel forms. The floor will be of concrete but will not be laid in the form.

The untimbered section of the tunnel will involve about 10.76 yards of excavation per lin. ft. and 2.8 cu. yds. concrete per lin. ft. The timbered section will involve 12.95 cu. yds. excavation and 3.39 cu. yds. concrete per lin. ft.

The approximate total quantities for the complete tunnel are as follows: 750,000 cu. yds. excavation, all rock; 195,000 cu. yds. concrete lining, pneumatically placed behind steel sheet piling forms;

2,250,000 B ft. timber (supplied by contractor); 500,000 lbs. steel support (place only);

500,000 lbs. reinforcing steel (placing only).

The work will require about 1 1/4 barrels of cement to the cubic yard.

Each of the west and east portions will be approximately one-half of the complete tunnel, but there will be about 2500 ft. of no man's land in between the center termini.

The time for the completion will be 69 months.

Schedule No. 3—Construction of the West Portion of the San Jacinto Tunnel.

The bids were:
(A3) Metropolitan Engineering Corp., \$4,338,900.

(B3) West Const. Co., \$4,528,625.

(C3) Metropolitan Const. Co.—Item 3-w to 18-w incl., \$4,503,945.

(D3) Frazier-Davis Const. Co., \$5,438,175 (will accept contract on one schedule only—not both).

The items on Schedule No. 3 are as follows:

(1) does not apply to West portion;
(2) does not apply to West portion;

(3-W) 2600 lin. ft. excavation Potrero adit;

(4-W) 185 lin. ft. excavation of West Port adit;

(5-W) 410,000 cu. yds. excavation in tunnel;

(6-W) 100 cu. yds. excav. for tunnel enlargement;

(7) does not apply to West portion;

(8-W) 300 cu. yds. concrete in Potrero adit;

(9-W) 107,000 cu. yds. concrete in tunnel;

(10-W) 1500 M. ft. b.m. permanent timbers in tunnel;

(11-W) 300,000 lbs. steel support in tunnel;

(12-W) 150 cu. yds. gunite coating of tunnel rock;

(13-W) 125 connections for grouting;

(14-W) 200 cu. yds. mixing and placing grout;

(15-W) 400,000 lbs. place reinf. steel;

(16-W) 200,000 cu. yds. ml. overhaul of concrete aggregates;

(17-W) 1000 ton miles hauling steel;

(18-W) 100,000 ton miles haul sacked cement;

(19-W) 100,000 ton miles haul bulk cement.

(Alternative to Item 18-W).

Unit bids on Schedule No. 3 follow:

| | (A3) | (B3) | (C3) | (D3) |
|--------|----------|---------|----------|----------|
| (3-W) | \$125.00 | \$53.00 | \$127.00 | \$150.00 |
| (4-W) | 125.00 | 80.00 | 127.00 | 150.00 |
| (5-W) | 8.50 | 8.50 | 8.25 | 10.15 |
| (6-W) | 15.00 | 12.00 | 12.00 | 10.00 |
| (8-W) | 25.00 | 13.50 | 20.00 | 15.00 |
| (9-W) | 4.00 | 6.70 | 8.20 | 5.65 |
| (10-W) | 20.00 | 70.00 | 80.00 | 100.00 |
| (11-W) | .01 | .03 | .04 | .08 |
| (12-W) | 25.00 | 25.00 | 20.00 | 15.00 |
| (13-W) | 15.00 | 3.00 | 8.00 | 37.00 |
| (14-W) | 50.00 | 58.00 | 20.00 | 30.00 |
| (15-W) | .02 | .02 | .02 | .03 |
| (16-W) | .05 | .06 | .10 | .12 |
| (17-W) | .15 | .15 | .15 | 1.00 |
| (18-W) | .01 | .19 | .15 | .25 |
| (19-W) | .01 | .16 | .15 | .20 |

The contractor shall construct and maintain his own camps and shall provide not less than 500 cu. ft. of space for each occupant and window space at least equal to one-eighth of the net floor space. The rates charged for meals shall not exceed \$1.15 per employee per day for meals and 25c per employee per day for lodging. Emergency hospitals are to be furnished by the contractor, same to be located at the entrance to each portal adit and shaft.

The contractor shall furnish his own water supply at each camp and may drill wells on District's land adjacent thereto, providing p u m p l n g plants, pipe lines, valves, hydrants, etc. Sanitary works and sewage disposal tanks shall be furnished by the contractor

in accordance with directions of the District.

The District will furnish and the contractor pay for power at the rate of 1c per kw.-hr. provided the average power factor of the contractor's load is 95 per cent or better; less than that, an additional charge of .04 of a mill per kw.-hr. will be made for each 1 per cent by which the average power factor falls below 95 per cent.

The District will furnish cement in all finished work, reinforcing steel, all metal gates, gate frames, manhole frames and covers, and other similar metal work, and all permanent steel

tunnel supports. Cement and permanent metal work for any shafts constructed shall be furnished by the contractor. All other materials furnished by the contractor shall be hauled by him.

All machinery and materials used by the contractor shall be manufactured in the United States or territories thereof.

Forms for the adit and shaft lining may be of metal, of metal-lined timber or of smooth planed boards. Forms for the interior surface of the main tunnel, except the invert, shall be made of metal.

GEN. GRANT-SEQUOIA PARK—3.37 MI GRADE.—GOVT.

TULARE COUNTY, Calif.—Yglesias Bros., Box 25, end of 32nd St., San Diego, at \$164,874 submitted low bid to U. S. Bureau of Public Roads, San Francisco, for 3.37 miles grading Section B of the General Grant-Sequoia Park Road, involving:

- (1) 29 acres clearing;
- (2) 134,000 cu. yds. unclass. excav.;
- (3) 885 cu. yds. unclass. excavation, struc.;
- (4) 150,000 sta. yds. overhaul;
- (5) 3.37 miles finish earth graded rd.;
- (6) 2 cu. yds. concrete;
- (7) 150 lbs. reinf. steel;
- (8) 140 cu. yds. masonry;
- (9) 1438 lin. ft. 18-in. corr. metal pipe;
- (10) 730 lin. ft. 24-in. do;
- (11) 260 lin. ft. 30-in. do;
- (12) 100 lin. ft. 36-in. do;

- (13) 530 cu. yds. hand laid rock embankment;
- (14) 550 lin. ft. stone guard rail;
- (15) miscellaneous clearing, \$1000;
- (16) obliterating old road, etc., \$2000.

Complete bids follow:
(A) Yglesias Bros., San Diego, \$164,874.
(B) MacDonald & Kahn, San Francisco, \$166,705.
(C) Bodenhamer Const. Co., Oakland, \$169,875.
(D) J. E. Haddock, Pasadena, \$182,563.
(E) L. E. Dixon, Los Angeles, \$185,316.
(F) Western Motor Transfer, Inc., Santa Barbara, \$191,629.
(G) Floyd Shofner, Los Angeles, \$198,106.
(H) Engineer's estimate, \$161,488.

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) |
|-----------|-----------|----------|----------|----------|----------|----------|----------|----------|
| (1)..... | \$ 700.00 | \$400.00 | \$500.00 | \$550.00 | \$600.00 | \$700.00 | \$990.00 | \$400.00 |
| (2)..... | .30 | .97 | .97 | 1.08 | 1.10 | 1.10 | 1.05 | 95.00 |
| (3)..... | 2.00 | 2.04 | 1.75 | 2.50 | 2.00 | 2.00 | 2.50 | 2.00 |
| (4)..... | .03 | .04 | .04 | .03 | .02 | .03 | .03 | .03 |
| (5)..... | 400.00 | 300.00 | 500.00 | 300.00 | 400.00 | 500.00 | 800.00 | 300.00 |
| (6)..... | 50.00 | 40.00 | 35.00 | 40.00 | 50.00 | 50.00 | 50.00 | 40.00 |
| (7)..... | .10 | .05 | .10 | .10 | .10 | .10 | .08 | .07 |
| (8)..... | 20.00 | 20.00 | 25.00 | 20.00 | 20.00 | 22.00 | 25.00 | 20.00 |
| (9)..... | 2.00 | 1.75 | 1.90 | 1.50 | 1.50 | 1.60 | 2.00 | 1.75 |
| (10)..... | 2.50 | 2.50 | 2.50 | 2.15 | 2.20 | 2.30 | 3.00 | 2.50 |
| (11)..... | 4.00 | 3.50 | 3.50 | 3.55 | 3.25 | 4.00 | 4.25 | 5.00 |
| (12)..... | 5.00 | 4.00 | 4.25 | 4.15 | 4.00 | 4.80 | 6.00 | 6.30 |
| (13)..... | 5.00 | 4.00 | 5.00 | 4.00 | 5.00 | 6.00 | 6.00 | 4.00 |
| (15)..... | 1000.00 | 1000.00 | 1000.00 | 10.00 | .50 | 1.00 | 4.00 | 1.00 |
| (16)..... | 2000.00 | 2000.00 | 2000.00 | 2000.00 | 1000.00 | 1000.00 | 1000.00 | 1000.00 |
| (14)..... | 2.00 | 4.00 | 1.00 | 00.00 | 2000.00 | 2000.00 | 2000.00 | 2000.00 |

IMPROVE MARENGO ST.—LOS ANGELES

LOS ANGELES, Cal.—A. D. Chalmers, 2925 Knox Ave., submitted low bid to board of public works Nov. 16 at \$3466.99, for grading, paving and otherwise improving the streets in the Marengo St. and Zonal Ave. Imp. District, under Cash Contract, involving:
(1) grading (251 cu. yds. excav. and 415 cu. yds. fill);
(2) 510 sq. ft. 8-in. concrete paving;
(3) 50 sq. ft. 6-in. conc. paving;
(4) 190 sq. ft. concrete paving of variable thickness (average thickness 6-in.);
(5) 23,691 sq. ft. rock and oil surf.;
(6) 692 ft. unplastered light curb;
(7) 51 ft. Truscen curb bar or equal;
(8) 43 sq. ft. 4-in. walk (driveway);

- (9) 3815 sq. ft. 3-in. walk;
- (10) 919 sq. ft. 6-in. conc. gutter;
- (11) storm drain and appurtenances, complete.

The bids were:
(A) Alex D. Chalmers.....\$3466.99
(B) Granch & Granch.....4124.22
(C) John Topich.....4226.35
(D) Griffith Company.....4298.32
(E) Bob Bosko.....4422.37
(F) P. J. Akmadzich.....4470.12
(G) J. A. Thompson.....4721.40
(H) P. V. Yarac.....4745.50
(I) F. W. Teschke.....4875.54
(J) Associated Constructors.....4914.59
(K) E. F. Greenfield Co.....4959.01
(L) Engineer's estimate.....4430.60

Unit bids follow:

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) |
|----------|----------|-------|-------|-------|-------|-------|------|------|------|-------|-----------|
| (A)..... | \$440.00 | \$20 | \$175 | \$175 | \$04 | \$365 | \$40 | \$13 | \$13 | \$175 | \$1000.00 |
| (B)..... | 195.70 | .22 | .18 | .18 | .06 | .40 | .30 | .12 | .11 | .20 | 1450.95 |
| (C)..... | 1000.00 | .13 | .12 | .12 | .06 | .28 | .25 | .10 | .09 | .17 | 1000.00 |
| (D)..... | 800.00 | .21 | .18 | .18 | .05 | .45 | .18 | .12 | .10 | .17 | 1300.00 |
| (E)..... | 325.00 | .29 | .19 | .19 | .0825 | .36 | .40 | .16 | .11 | .195 | 1150.00 |
| (F)..... | 300.00 | .29 | .18 | .18 | .08 | .50 | .25 | .13 | .10 | .20 | 1200.00 |
| (G)..... | 500.00 | .25 | .23 | .23 | .07 | .50 | .25 | .21 | .10 | .20 | 1200.00 |
| (H)..... | 575.00 | .20 | .20 | .20 | .085 | .40 | .50 | .12 | .10 | .20 | 1134.00 |
| (I)..... | 856.00 | .23 | .18 | .19 | .06 | .40 | .20 | .17 | .13 | .18 | 1450.00 |
| (J)..... | 476.00 | .27 | .21 | .20 | .086 | .43 | .25 | .175 | .12 | .18 | 1274.00 |
| (K)..... | 1350.00 | .2275 | .20 | .20 | .06 | .34 | .20 | .24 | .098 | .16 | 1246.81 |
| (L)..... | 650.00 | .20 | .18 | .18 | .065 | .40 | .20 | .16 | .12 | .20 | 1160.00 |

9.53 MI. GRADE AND GRAVEL—LYON CO., NEVADA

LYON COUNTY, Nevada.—As previously reported, I s bell Const. Co., Carson City, Nevada, awarded contract by State Highway Commission, Carson City, at \$62,346.09 for 9.53 miles grading and gravel surface bet. 9.5 miles east of Yerington and Yerington, involving:

- (1) 13,800 cu. yds. rdwy. excav.;
- (2) 800 cu. yds. struc. excav.;
- (3) 101,178 cu. yds. select borrow.;
- (4) 12,239 sta. yds. overhaul.;
- (5) 9.53 miles subgrade.;
- (6) 18 demolish culvert inlets and outlets.;
- (7) 14 cu. yds. demolish concrete.;
- (8) 7,000 lbs. reinf. steel.;
- (9) 30,100 cu. yds. crushed gravel or crushed rock in place.;
- (10) furnish water equipment.;
- (11) 2,064 M. gals. apply water.;
- (12) 71 cu. yds. Class A concrete.;
- (13) 38 cu. yds. Class B concrete.;
- (14) 80 lin. ft. 15-in. corr. metal pipe.;
- (15) 583 lin. ft. 18-in. do.;
- (16) 714 lin. ft. 24-in. do.;
- (17) 82 lin. ft. 36-in. do.;

- (18) 70 lin. ft. remove pipe culverts.;
- (19) 148 lin. ft. remove and reset pipe culverts.;
- (20) 24 corr. metal pipe extensions.;
- (21) 920 lin. ft. standard timber guard rail.;
- (22) 49 monuments.;
- (23) 9.53 miles finish roadway.;
- (24) 63 acres clearing.;
- (25) 24,249 lin. ft. remove fence.;
- (26) 25,804 lin. ft. construct fence.;
- (27) 3 lateral headgates.;
- (28) 1,135 lin. ft. remove and reset fence.

Complete bids follow:
 (A) Isbell Const. Co., Carson City, \$62,346.09.
 (B) Dodge Bros., Inc., Fallon, \$63,797.09.
 (C) Nevada Rock & Sand Co., Reno, \$65,968.58.
 (D) Fredrickson & Watson Co., Oakland, \$72,576.08.
 (E) George French, Jr., Stockton, \$72,764.07.
 (F) Engineer's estimate, \$77,844.13.
 Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) |
|-----------|---------|---------|---------|--------|--------|---------|
| (1)..... | .24 | .17 | .21 | .25 | .25 | .25 |
| (2)..... | 1.10 | 1.00 | 1.00 | 1.20 | 1.00 | 1.00 |
| (3)..... | .25 | .27 | .27 | .30 | .30 | .35 |
| (4)..... | .02 | .02 | .04 | .02 | .02 | .02 |
| (5)..... | 50.00 | 50.00 | 50.00 | 150.00 | 50.00 | 50.00 |
| (6)..... | 3.30 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 |
| (7)..... | 5.50 | 2.00 | 5.00 | 3.00 | 5.00 | 3.00 |
| (8)..... | .05 | .05 | .07 | .05 | .06 | .06 |
| (9)..... | .60 | .62 | .60 | .65 | .70 | .65 |
| (10)..... | 1500.00 | 1000.00 | 2000.00 | 400.00 | 175.00 | 1000.00 |
| (11)..... | .25 | .50 | .50 | 1.50 | 1.00 | 1.50 |
| (12)..... | 26.25 | 22.50 | 25.00 | 22.00 | 33.00 | 29.00 |
| (13)..... | 26.25 | 22.50 | 25.00 | 22.00 | 32.00 | 25.00 |
| (14)..... | 1.30 | 1.00 | 1.50 | 1.00 | 1.70 | 1.25 |
| (15)..... | 1.40 | 1.25 | 1.75 | 1.25 | 2.25 | 1.50 |
| (16)..... | 1.90 | 1.75 | 2.25 | 1.75 | 2.75 | 1.75 |
| (17)..... | 3.50 | 3.25 | 4.00 | 2.00 | 5.00 | 3.75 |
| (18)..... | .50 | .50 | .75 | .50 | 1.00 | .50 |
| (19)..... | .75 | .75 | 1.50 | .75 | 1.50 | 1.00 |
| (20)..... | 7.00 | 7.50 | 6.00 | 17.50 | 30.00 | 20.00 |
| (21)..... | .75 | .65 | .75 | 1.00 | 1.00 | 1.00 |
| (22)..... | 3.00 | 2.50 | 3.00 | 2.50 | 3.00 | 3.00 |
| (23)..... | 100.00 | 100.00 | 100.00 | 275.00 | 50.00 | 50.00 |
| (24)..... | 5.00 | 10.00 | 5.00 | 10.00 | 10.00 | 5.00 |
| (25)..... | .02 | .02 | .025 | .015 | .01 | .05 |
| (26)..... | .12 | .13 | .12 | .10 | .10 | .15 |
| (27)..... | 25.00 | 10.00 | 25.00 | 15.00 | 15.00 | 10.00 |
| (28)..... | .04 | .10 | .10 | .05 | .05 | .10 |

BRIDGES

SAN FRANCISCO—Contracts signed by Wm. E. Filmer, President, Golden Gate Bridge District, and John A. Roebling's Sons Co., 646 Polson St., San Francisco, at \$5,855,000 for cable, suspenders and accessories for the Golden Gate Bridge; also with Barrett & Hilt, 918 Harrison St., San Francisco, at \$1,859,854 for anchorages.

SAN FRANCISCO—Bids are being received by the Purchasing Department, Southern Pacific Co., 65 Market St., San Francisco, to furnish approximately 27½ tons of structural steel for the Belt Line Railroad bridges across the San Joaquin River at Rough and Ready Island. Estimated cost of project, \$150,000.

WOODLAND, Yolo Co., Cal.—Until Dec. 30, bids will be received by Edw. von Geldern, engineer, Yolo-Sutter Counties Joint Highway District No. 12, to construct Knights Landing draw bridge across the Sacramento river. Bridge will be of the double-leaf bascule type with a 200-ft. opening. Each leaf is to be 111-ft. long; 24-ft. roadway, 3½-ft. sidewalk on each side of bridge. Under the agreement, the State will pay one-fourth of the cost of the bridge, Yolo County one-half and Sutter County the remaining one-fourth. Estimated cost, \$200,000.

KERN COUNTY, Cal.—J. E. Shepherd, 108 E. Miner St., Stockton, at \$2,120 awarded contract by State Highway Commission to construct bet. Union Ave., Bakersfield, and Oil Junction, two reinforced concrete slab bridges and five reinforced concrete box culverts and one reinforced concrete box culvert to be extended.

LOS ANGELES COUNTY, Cal.—Arutukovich Bros., Hynes, at \$71,564.55 awarded contract by State Highway Commission to construct a undergrade crossing under Culver Blvd. and the Pacific Electric Railway near Venice, consisting of two structures, each involving a plate girder span approximately 76-ft. long with concrete deck and two reinforced concrete girder approach spans approximately 55 feet long and grading and paving approaches with asphalt concrete.

IMP. MARENGO ST. DISTRICT—L. A.—BIDS OPENED

LOS ANGELES, Calif.—Booth and Tomei (Chas. Booth, 5922½ Estrella Ave., Los Angeles, and Perry Tomei, 4160 Madison Ave., Culver City) submitted low bid to the board of public works, Nov. 30, at \$3317, for grading, paving and otherwise improving the streets in the Marengo St. and Zonal Ave. Improvement District, under cash contract, involving:

- (1) grading (251 cu. yds. excav. and 415 cu. yds. fill).;
- (2) 510 sq. ft. 8-in. concrete paving.;
- (3) 50 sq. ft. 6-in. concrete paving.;
- (4) 190 sq. ft. concrete paving of variable thickness (average thickness 6-in.).;
- (5) 23,691 sq. ft. rock and oil surf.;

- (6) 692 ft. unplastered light curb.;
- (7) 51 ft. Truscon curb bar or equal.;
- (8) 43 sq. ft. 4-in. walk (driveway).;
- (9) 3815 sq. ft. 3-in. walk.;
- (10) 919 sq. ft. 6-in. concrete gutter.;
- (11) storm drain and appurtenances, complete.

The bids opened Nov. 16, were rejected Nov. 23. Alex D. Chalmers was the previous low bidder at \$3,466.99.

Complete bids follow:
 (A) Booth & Tomei.....\$3317.05
 (B) Alex D. Chalmers.....3996.58
 (C) P. J. Akmadzich.....4020.12
 (D) Grancich & Grancich.....4149.12
 (E) Bob Bosko.....4188.25
 (F) Engineer's estimate.....4430.60
 Unit bids follow:

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) |
|----------|-------|------|------|------|------|------|------|------|------|------|--------|
| (A)..... | \$450 | \$20 | \$18 | \$18 | \$06 | \$35 | \$30 | \$12 | \$10 | \$17 | \$1000 |
| (B)..... | 440 | 20 | 175 | 175 | 0625 | 35 | 40 | 13 | 12 | 175 | 1000 |
| (C)..... | 250 | 20 | 18 | 18 | 05 | 50 | 25 | 13 | 10 | 20 | 800 |
| (D)..... | 200 | 22 | 18 | 18 | 07 | 40 | 30 | 14 | 14 | 22 | 1100 |
| (E)..... | 925 | 19 | 18 | 18 | 0775 | 35 | 35 | 15 | 105 | 185 | 1050 |
| (F)..... | 650 | 20 | 18 | 18 | 065 | 40 | 20 | 16 | 12 | 20 | 1160 |

TACOMA, Wash.—Engineer Elbert H. Chandler will make surveys for the proposed Narrows Bridge across Puget Sound connecting Tacoma and the Olympic peninsula district. Bridge will have a central span of 1200 feet and will be approximately three-quarters of a mile long. Estimated cost, \$3,000,000. Project is contingent on approval of the War Department and the negotiation of a loan from the Reconstruction Finance Corporation.

WASHINGTON STATE.—Until Dec. 13, 10 A. M., bids will be received by Samuel J. Humes, State Highway Department, to construct six span concrete girder bridge 212-ft. long over the C. W. R. R. & N. Co. tracks and Nine Mile Creek at Reese and a 30-ft. concrete T-beam bridge over Vansycle Creek; also 10-ft. widening of existing 225-ft. 6-in. skewed 3 span concrete arch bridge over the Walla Walla river, all on State Road No. 3, between Touchet and Vansycle Canyon, E. C. H. Proj. No. E-169-E, Walla Walla County.
 Specifications obtainable from above office on deposit of \$2.00, returnable. Certified check 5% payable to State Treasurer required with bid.

SANDPOINT, Idaho.—George L. Arnett & Son awarded contract by the Bonner county commissioners, Sandpoint at \$27,140 to construct the new Standpoint bridge. The plans provide for the construction of 10,000 feet of timber pile trestle, the county to furnish the material and hardware. This work will include driving 2300 piling, 50 to 75 feet in length; framing of 2,060,000 F.B.M. lumber and the laying of 7100 sq. yds. of oiled gravel surfacing.

WASHINGTON STATE.—Until Dec. 20, 10 A. M., bids will be received by S. J. Humes, State Director of Highways, Olympia, to construct a reinforced concrete bridge 265 ft. long over Klickitat River just west of Lyle on State Road No. 8, E.C.H. Proj. No. E-174-E, Klickitat Co., consisting of one 160-ft. concrete arch span and 8 12-ft. concrete approach spans, all with 24-in. roadway nad two 4-foot sidewalks. Specifications obtainable from above office on deposit of \$2.00. Certified check 5% payable to State Treasurer required with bid.

KERN COUNTY, Cal.—Carl Ingalls, P. O. Box 1593, Bakersfield, at \$11,767.26 submitted low bid to District Engineer, State Highway Commission, Fresno, to construct a bridge across Walker Creek, about 13 miles east of Bakersfield, consisting of thirteen 19-ft. timber stringer spans on cressotated pile bents.

KERN COUNTY, Cal.—Carl Ingalls, P. O. Box 1593, Bakersfield, at \$10,822.02 submitted low bid to District Engineer, State Highway Commission, Fresno, to construct a bridge across Caliente Creek about 15 miles east of Bakersfield, consisting of eleven 19-ft. timber stringer spans on cressotated bents.

DREDGING, HARBOR WORKS & EXCAVATIONS

LOS ANGELES, Cal.—Standard Dredging Co., 325 Central Bldg., Los Angeles, at \$104,901 awarded contract by Department of Rivers and Harbors to dredge 479,000 cubic yards from the harbor at San Diego.

SACRAMENTO, Calif.—Daniel Contracting Co., 503 Market Street, San Francisco, at \$3345 awarded contract by U. S. Engineer Office, to furnish, deliver and place approximately 3000 tons of rip-rap stone on right bank of the Sacramento river between Glilde Landing and Riverview Station, about eight miles downstream from Sacramento.

LONG BEACH, Los Angeles Co., Cal.—The Monarch Refining Company granted permit by Harbor Department to construct a wharf and four tanks on the south side of Channel No. 2 east of the Proctor & Gamble plant. The company plans to expend approximately \$60,000 to establish a gasoline forwarding station. Plans call for a 144-ft. wharf, construction of dolphins, etc. Chas W. Fourn, Detwiler Bldg., Los Angeles, is president of the company.

OAKLAND, Cal.—Moore Dry Dock Co., Balfour Bldg., San Francisco, at approximately \$60,000 awarded contract to repair Union Oil Company tanker Cathwood, which was damaged when she grounded on Montuosa Island near the Pacific entrance to the Panama Canal on Oct. 12.

FOUR MILES CEM. CONC. PAVE.—VENTURA COUNTY

- VENTURA COUNTY, Calif.—Kovacevich & Price, Inc., 5400 Imperial Highway, South Gate, at \$96,469 submitted low bid Nov. 30 to the State Highway Commission, Sacramento, to grade and pave with Portland cement concrete and asphalt concrete about four miles between Santa Clara river and Ventura, involving:
 - (1) 214 sta. clear and grub right-of-way;
 - (2) 21,000 cu. yds. rdwy. excav. without class;
 - (3) 1,000,000 sta. yds. overhaul;
 - (4) 16,000 cu. yds. struc. excav.;
 - (5) 27,000 sq. yds. subgrade for pave.
 - (6) 6204 sq. yds. asph. paint binder;
 - (7) 3100 tons asph. concrete;
 - (8) 5,100 cu. yds. Class "A" cement conc. (pave.);
 - (9) 1325 cu. yds. Class "A" cement conc. (struc.);
 - (10) 339 cu. yds. Class "A" cem. conc. (curbs, gutters and sidewalks);
 - (11) 216,000 lbs. bar reinf. steel (pave. and struc.);
 - (12) 25,300 lbs. misc. iron and steel (struc.);
 - (13) 2250 lin. ft. 18-in. corr. metal pipe;
 - (14) 140 lin. gt. 24-in. do;

- (15) 30 lin. ft. 30-in. Co;
 - (16) 950 lin. ft. 30-in. stand. reinf. conc. pipe;
 - (17) 60 lin. ft. 48-in. do;
 - (18) 470 cu. yds. conc. remove from exist. pave. and struc. and disposal;
 - (19) 5.0 M ft. b. m. select Douglas fir timber;
 - (20) 2300 bulbs, heavy fuel oil;
 - (21) 62 culvert markers;
 - (22) 214 sta. finish rdwy;
 - (23) 68 monuments complete in place
- State will furnish corr. metal pipe. Complete bids follow:
- (A) Kovacevich & Price, South Gate, \$96,469.00.
 - (B) Griffith Co., Los Angeles, \$101,892.50.
 - (C) M. J. Bevanda, Stockton, \$103,099.00.
 - (D) United Concrete Pipe Co., Los Angeles, \$104,706.22.
 - (E) J. L. McClain, Los Angeles, \$105,489.50.
 - (F) E. H. Bashaw, North Hollywood, \$107,291.00.
 - (G) Sander Pearson, Santa Monica, \$113,587.50.

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) |
|-----------|---------|---------|---------|---------|---------|---------|---------|
| (1)..... | \$ 2.00 | \$ 5.00 | \$ 5.00 | \$ 4.23 | \$ 2.00 | \$ 8.00 | \$15.00 |
| (2)..... | .20 | .25 | .20 | .224 | .20 | .25 | .40 |
| (3)..... | .0025 | .002 | .003 | .0032 | .0035 | .004 | .003 |
| (4)..... | .50 | .50 | .80 | 1.065 | .60 | .80 | .50 |
| (5)..... | .06 | .06 | .10 | .10 | .08 | .07 | .07 |
| (6)..... | .02 | .02 | .02 | .02 | .02 | .03 | .03 |
| (7)..... | 3.50 | 3.60 | 3.50 | 3.69 | 3.60 | 3.60 | 3.71 |
| (8)..... | 6.80 | 6.55 | 6.30 | 6.59 | 6.75 | 5.90 | 6.60 |
| (9)..... | 12.00 | 13.00 | 13.00 | 10.74 | 14.00 | 13.00 | 14.00 |
| (10)..... | 9.00 | 11.00 | 13.00 | 12.00 | 12.50 | 11.50 | 11.00 |
| (11)..... | .0375 | .04 | .037 | .037 | .025 | .0425 | .04 |
| (12)..... | .04 | .04 | .04 | .05 | .05 | .045 | .075 |
| (13)..... | .20 | .40 | .20 | .15 | .25 | .40 | .45 |
| (14)..... | .30 | .45 | .25 | .30 | .25 | .60 | .51 |
| (15)..... | .40 | .50 | .30 | .30 | .40 | .80 | .66 |
| (16)..... | 3.00 | 5.25 | 3.00 | 4.00 | 5.50 | 5.04 | 5.50 |
| (17)..... | 6.00 | 7.50 | 7.00 | 6.50 | 8.50 | 7.50 | 10.00 |
| (18)..... | 1.50 | 1.50 | 1.40 | 1.00 | 1.50 | 1.50 | 2.00 |
| (19)..... | 40.00 | 70.00 | 50.00 | 30.00 | 35.00 | 80.00 | 50.00 |
| (20)..... | 1.60 | 1.50 | 1.70 | 1.50 | 1.70 | 2.25 | 1.75 |
| (21)..... | 1.50 | 2.00 | 2.00 | 2.00 | 2.50 | 2.50 | 2.50 |
| (22)..... | 2.00 | 2.00 | 5.00 | 3.00 | 1.00 | 3.00 | 5.00 |
| (23)..... | 1.50 | 2.00 | 2.00 | 3.00 | 2.50 | 2.50 | 2.50 |

13.18 MILES GRAD. & SURF.—LINCOLN COUNTY, NEV.

- LINCOLN COUNTY, Nev.—As previously reported, Utah Const. Co., Ogden, Utah, at \$118,510.36 awarded contract by State Highway Commission, Carson City, for 13.18 miles grading and gravel surface between Junction Alamo-Delamar Road and Caliente, involving:
 - (1) 183,300 cu. yds. rdwy. excav.;
 - (2) 1,500 cu. yds. struc. excav.;
 - (3) 48,462 cu. yds. sel. borrow excav. in place;
 - (4) 144,008 sta. yds. overhaul;
 - (5) 13,12 miles subgrade;
 - (6) 41,500 cu. yds. crushed gravel or crushed rock surf. in place;
 - (7) 1,300 cu. yds. do in stockpile;
 - (8) 66 cu. yds. Class A concrete;
 - (9) 131 cu. yds. Class B concrete;
 - (10) 48 lin. ft. 18-in. corr. metal pipe
 - (11) 2,164 lin. ft. 24-in. do;
 - (12) 364 lin. ft. 30-in. do;
 - (13) 184 lin. ft. 36-in. do;
 - (14) 848 lin. ft. 48-in. do;
 - (15) 150 cu. yds. rip-rap;
 - (16) 177 monuments;
 - (17) 2 furnish and install posts for F. L. markers;

- (18) 13.18 miles finish roadway;
 - (19) 5,200 lbs. reinf. steel;
 - (20) 2,281 lin. ft. construct fence;
 - (21) 674 lin. ft. remove and reconstruct fence;
 - (22) 30.3 MFEM redwood;
 - (23) 67.2 MFBM untreated Douglas fir;
 - (24) 633 sq. yds. asph. mat surface;
 - (25) 96 acres clearing.
- Complete bids follow:
- (A) Utah Const. Co., Ogden, \$118,510.36.
 - (B) W. W. Clyde, Springville, \$160,274.55.
 - (C) Morrison & Knudsen, Boise, \$175,677.12.
 - (D) Geo. French, Jr., Stockton, \$182,170.16.
 - (E) Isbell Const. Co., Carson City, \$188,533.81.
 - (F) Dodge Bros., Inc., Fallon, \$192,687.16.
 - (G) Mahoney-Cline Co., Las Vegas, \$205,813.21.
 - (H) Engineer's estimate, \$141,575.63.

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) |
|------|-------|-------|---------|--------|--------|--------|--------|--------|
| (1) | \$.29 | \$.43 | \$1.445 | \$.48 | \$.50 | \$.55 | \$.55 | \$.35 |
| (2) | .70 | .75 | 1.00 | 1.50 | 1.50 | 1.00 | 2.00 | 1.00 |
| (3) | .25 | .32 | .37 | .39 | .30 | .35 | .50 | .30 |
| (4) | .01 | .02 | .015 | .02 | .02 | .02 | .02 | .01 |
| (5) | 50.00 | 50.00 | 90.00 | 50.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| (6) | .53 | .74 | .77 | .84 | .90 | .75 | .90 | .65 |
| (7) | .53 | .70 | .70 | .80 | .90 | .50 | .60 | .65 |
| (8) | 18.00 | 22.00 | 24.00 | 25.00 | 28.00 | 25.00 | 30.00 | 28.00 |
| (9) | 22.00 | 22.00 | 24.00 | 24.00 | 30.00 | 25.00 | 30.00 | 25.00 |
| (10) | 1.25 | 1.30 | 1.60 | 1.30 | 1.50 | 1.50 | 1.50 | 1.25 |
| (11) | 1.90 | 1.90 | 2.50 | 2.00 | 2.00 | 2.00 | 2.00 | 1.75 |
| (12) | 2.30 | 2.40 | 3.25 | 2.50 | 2.75 | 2.50 | 3.00 | 2.50 |
| (13) | 3.50 | 3.50 | 4.50 | 3.60 | 4.00 | 3.75 | 4.00 | 3.50 |
| (14) | 5.75 | 6.20 | 6.50 | 6.50 | 6.25 | 6.75 | 6.00 | 6.00 |
| (15) | 2.00 | 2.00 | 3.00 | 3.00 | 4.00 | 2.00 | 3.00 | 3.00 |
| (16) | 2.50 | 3.00 | 3.00 | 2.50 | 3.00 | 3.00 | 3.00 | 3.00 |
| (17) | 5.00 | 5.00 | 14.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 |
| (18) | 50.00 | 60.00 | 150.00 | 100.00 | 100.00 | 100.00 | 100.00 | 50.00 |
| (19) | .06 | .06 | .09 | .06 | .06 | .07 | .07 | .06 |
| (20) | .07 | .15 | .06 | .15 | .15 | .15 | .15 | .15 |
| (21) | .04 | .12 | .05 | .08 | .10 | .10 | .10 | .10 |
| (22) | 92.00 | 95.00 | 90.00 | 90.00 | 110.00 | 82.00 | 100.00 | 110.00 |
| (23) | 55.00 | 60.00 | 85.00 | 80.00 | 70.00 | 52.50 | 80.00 | 80.00 |
| (24) | .75 | 2.00 | 1.50 | 1.00 | 1.50 | 1.00 | 1.50 | .80 |
| (25) | 15.00 | 15.00 | 45.00 | 30.00 | 50.00 | 100.00 | 30.00 | 100.00 |

GRADE-SURF.—ESMERALDA-NYE COUNTIES, NEVADA

ESMERALDA & NYE COUNTIES, Nevada.—As previously reported, J. N. Tedford, Fallon, Nev., at \$66,830.00 awarded contract by State Highway Commission for 9.77 miles grade and gravel surface bet. Miller's Cut-off Road and Tonopah, involving:

- (1) 95,800 cu. yds. rdwy. excav.
- (2) 1440 cu. yds. struc. excav.
- (3) 21,523 cu. yds. select borrow
- (4) 34,970 sta. yds. overhaul
- (5) 9.77 miles subgrade
- (6) 6 demolish inlets and outlets
- (7) 26,800 cu. yds. crushed gravel or crushed rock
- (8) 195 cu. yds. Class B concrete
- (9) 344 lin. ft. 18-in. corr. metal pipe
- (10) 2022 lin. ft. 24-in. do;
- (11) 228 lin. ft. 30-in. do;
- (12) 1006 lin. ft. 36-in. do;
- (13) 602 lin. ft. 48-in. do;

- (14) 242 lin. ft. remove pipe culverts;
- (15) 70 lin. ft. remove and reset pipe culverts;
- (16) 3700 lbs. reinf. steel in place;
- (17) 54 monuments;
- (18) 60 acres clearing;
- (19) 2 posts for F. A. markers;
- (20) 9.77 miles finish roadway.

Complete bids follow:

(A) J. N. Tedford, Fallon, Nev., \$66,830.00.

(B) Dodge Bros., Inc., Fallon, \$68,819.07.

(C) Nevada Rock & Sand Co., Reno, \$75,344.86.

(D) Mahoney-Cline Co., Las Vegas, \$76,293.05.

(E) Isbell Const. Co., Carson City, \$92,373.30.

(F) Engineer's estimate, \$70,996.10.

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) |
|------|-------|--------|--------|--------|--------|--------|
| (1) | \$.28 | \$.28 | \$.325 | \$.28 | \$.40 | \$.28 |
| (2) | 1.00 | .75 | 1.00 | 1.00 | 1.50 | 1.00 |
| (3) | .25 | .29 | .27 | .25 | .20 | .30 |
| (4) | .02 | .02 | .03 | .02 | .02 | .01 |
| (5) | 50.00 | 50.00 | 75.00 | 100.00 | 100.00 | 100.00 |
| (6) | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 |
| (7) | .50 | .52 | .52 | .75 | .75 | .65 |
| (8) | 25.00 | 23.50 | 35.00 | 30.00 | 35.00 | 22.00 |
| (9) | 1.25 | 1.50 | 1.50 | 1.40 | 1.50 | 1.25 |
| (10) | 1.75 | 2.00 | 2.10 | 2.90 | 2.25 | 1.75 |
| (11) | 2.50 | 2.50 | 2.80 | 2.50 | 2.75 | 2.50 |
| (12) | 3.50 | 3.75 | 4.20 | 3.75 | 4.00 | 3.50 |
| (13) | 6.50 | 6.50 | 7.00 | 6.25 | 6.50 | 6.00 |
| (14) | 1.00 | .50 | .75 | .50 | .50 | .50 |
| (15) | 1.50 | .75 | 1.50 | 1.00 | 1.00 | 1.00 |
| (16) | .08 | .07 | .07 | .07 | .06 | .06 |
| (17) | 2.50 | 3.00 | 2.50 | 3.90 | 3.00 | 3.00 |
| (18) | 10.00 | 5.00 | 10.00 | 5.00 | 25.00 | 5.00 |
| (19) | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 |
| (20) | 75.00 | 100.00 | 150.00 | 100.00 | 150.00 | 100.00 |

REINFORCING BARS—LOS ANGELES COUNTY

LOS ANGELES, Cal.—Los Angeles Iron & Steel Co., 1522 Santa Fe Ave., submitted low bid to county supervisors Nov. 28 at \$6059.15, for furnishing 184,050 lbs. of reinforcing bars for use in the construction of protection works in the Big Tujunga Wash. The items are:

- (1) 122,000 lbs. A schedule No. 2 D14;
- (2) 6,900 lbs. B do;
- (3) 47,500 lbs. C do;
- (4) 2,500 lbs. D do;
- (5) 2,400 lbs. E do;
- (6) 2,750 lbs. F do.

Total bids were:

- (A) Los Angeles Iron & Steel Co., Total (1) \$6089.60; total (2)* \$6059.15.
- (B) Blue Diamond Corp., (1) \$6257.70; (2) \$6226.41.
- (C) Badt-Falk & Co., (1) \$6441.75; (2) \$6441.75.
- (D) Concrete Eng. Co., (1) \$6618.92; (2) \$6585.82.
- (E) Soule Steel Co., (1) \$7549.32; (2) \$7511.57.

*Total (2) shows amount less discount.

Unit bids follow:

| | (1) | (2) | (3) | (4) | (5) | (6) |
|-----|---------|---------|---------|---------|---------|--------|
| (A) | \$.0335 | \$.0315 | \$.0325 | \$.0335 | \$.0325 | \$.029 |
| (B) | .034 | .034 | .034 | .034 | .034 | .034 |
| (C) | .035 | .036 | .035 | .035 | .035 | .035 |
| (D) | .036 | .036 | .036 | .036 | .036 | .0335 |
| (E) | .04145 | .0352 | .04145 | .04145 | .04145 | .0282 |

DOUGLAS COUNTY, Ore.—Kern & Kibbe, 390 E Salmon St., Portland, at \$274,550 awarded contract by U. S. Engineer Office, to construct 2500 ft. of rubble mound jetty on the south side of the Umpqua river in Douglas county, about 1 1/2 miles south of the river's mouth. The work includes the construction of a receiving wharf, approach tramway and a jetty tramway.

STOCKTON, San Joaquin Co., Cal.—Hydraulic Dredging Co., Ltd., 1217 Central Bank Bldg., Oakland, at \$25,677.30 awarded contract by U. S. Engineer Office, Sacramento, for dredging approximately 251,000 cu. yds. of material from the San Joaquin River 26-ft. channel, in a reach approx. 13,1700 ft. long, extending from approximately Sta. 100+00, near the mouth of Stockton Channel, downstream to approximately Sta. 237+00, near the mouth of the Calaveras river

SACRAMENTO, Cal.—Until Dec. 13, 3 P. M., under Circular Proposal No. 33-144, Specifications No. 4947, bids will be received by U. S. Engineer Office, California Fruit Bldg., Sacramento, to furnish and operate clamshell dredges with necessary auxiliary plant and doing dredging, at hourly rates, in the Sacramento and San Joaquin rivers, as follows:

- (1) 1200 hours Class A dredges;
 - (2) 300 hours Class B dredges;
 - (3) 2500 hours Class C dredge.
- Specifications obtainable from above office or on file in the office of the Daily Pacific Builder and may be inspected by those interested.

LOS ANGELES, Cal.—Puget Scund Bridge & Dredging Co., Seattle, Wash., at \$466,410 awarded contract by U. S. Engineer Office, Washington, D. C., to construct rubble mound breakwater enrockment in Los Angeles-Long Beach Harbor.

LOS ANGELES, Cal.—Contracts for construction of levees and revetments on the Los Angeles River, between Stewart and Gray Road, and Rio Hondo awarded by the county supervisors Nov. 18, follow:

- Proposal No. 1—Levees and revetments to Oberg Bros., 406 S Main St., Los Angeles, at \$11,330.
 - Proposal No. 2—Laying of railroad track to Karl B. Kumpke, Ltd., Long Beach, at \$11,625.
- The work included in the two proposals are:

PROPOSAL NO. 1

Construction of levees, excavation of training channel and construction of pipe and wire revetment of Los Angeles river bet. Stewart and Gray Road and Rio Hondo, involving:

- (1) 35,000 cu. yds. fill for construction of earth levees;
- (2) 44,000 cu. yds. excav. for training channel;
- (3) 1900 lin. ft. construction of pipe and wire revetment.

PROPOSAL NO. 2

Laying of railroad track and furnishing and placing of rock riprap on Los Angeles River bet. Stewart and Gray Road and Rio Hondo, involving:

- (1) 3400 lin. ft. laying railroad track complete;
- (2) 10,500 tons (2000 lbs.) furnish and place rock riprap complete, district to pay the transportation charges.

The bids were opened Nov. 14.

- (3) 5900 blocks, manufacture and placing of 32 in. precast conc. blocks.

E. C. Eaton, 302 N Broadway, county flood control engineer.

The bids were opened Nov. 14.

COLUSA, Cal.—Lord & Bishop, Native Sons Bldg., Sacramento at \$230 (\$7 per hour) awarded contract by U. S. Engineer Office, Sacramento, to furnish and operate a dragline for 40 hours for shaping the banks and removing logs, etc., from the banks of the Sacramento river near Moulton Weir, about ten miles upstream from Colusa (one bid submitted).

SEATTLE, Wash.—Bids will be called shortly by city council for the \$1,200,000 Railroad Avenue seawall and fill. Specifications are being prepared by City Engineer M. O. Syllaasen.

GRIMES, Colusa Co., Calif.—Until Dec. 6, 3 P. M., under Order No. 5049, bids will be received by U. S. Engineer Office, California Fruit Bldg., Sacramento, to furnish and operate a dragline for 225 hours for shaping the banks, removing logs, etc., from the left bank of the Sacramento river at Girdner Bend, about one-half mile upstream from the town of Grimes. Dragline must be of approximately the following least dimensions: 50-ft. length of boom, 3/4-cu. yd. capacity of bucket, 90-hp. engine.

LOS ANGELES, Calif.—Los Angeles Cement Gun Co., 623 Union League Bldg., Los Angeles, awarded contract by county supervisors Nov. 18, at \$19,684, for the guniting of levee slope and the manufacture and placing of precast concrete blocks on Big Tujunga Wash from San Fernando Road, 6906 ft. northerly, involving: (1) 225,000 sq. ft. placing granite facing slab; (2) 95,000 blocks, manufacturing and placing of large precast concrete blocks;

IRRIGATION PROJECTS

ONTARIO, Ore.—T. E. Connolly, 461 Market St., San Francisco, at \$66,505.80 submitted low bid to the U. S. Bureau of Reclamation, Ontario, Ore., to construct tunnel No. 1 controlling works, Cwythe Project, Oregon-Idaho. Work is located near Nyssa and Adrian, Ore., on the Oregon Short Line Railroad, and involves:

- (1) 3,000 cu. yds. all classes excav.;
- (2) 3,128 cu. yds. concrete;
- (3) 500 lin. ft. drill grout and weep holes;
- (4) 363,000 lbs. reinf. bars (hoists);
- (5) 791,000 lbs. gates, gate hoists and misc. metal work, placing.

Complete bids follow:
T. E. Connolly, S. F. \$66,505.80
Morrison-Knudsen Co., Boise \$9,921.00
General Const. Co., Seattle..... 97,874.00

JUAREZ, Chihuahua, Mexico.—Mexico will spend 800,000 pesos on irrigation improvements in the Juarez valley, according to an announcement by Gov. Rodrigo Quevedo of Chihuahua City. The Governor stated that the principal object of his visit to Juarez is to aid farmers and workers. He is interested in the improvement of Juarez schools, the establishment of an agricultural bank capitalized at 600,000 pesos, and completion of the Juarez-Chihuahua City highway.

MACHINERY AND EQUIPMENT

CAVITE, P. I.—Harnischfeger Corp., 2025 Santa Fe Ave., Los Angeles, awarded contract by Bureau of Yards and Docks at \$595 for a 10-ton overhead electric traveling bridge crane for the Navy Yard, Cavite, P. I., Specification No. 7077. The bid includes spare parts, \$950. The bids were opened November 23.

12.62 MILES GRADING—WHITE PINE COUNTY, NEV.

WHITE PINE COUNTY, Nev.—As previously reported, Mahoney - Clines Co., Las Vegas, Nev., at \$12,654.92 awarded contract by State Highway Commission for 12.62 mi. grading and structures between West Foot Antelope Summit and Ilipah, involving:

- (1) 162,100 cu. yds. rdwy. excav.;
- (2) 1400 cu. yds. struc. excav.;
- (3) 53,814 cu. yds. select borrow;
- (4) 209,329 sta. yds. overhaul;
- (5) 65 demolish inlets and outlets;
- (6) 720 cu. yds. class A concrete;
- (7) 132 cu. vis. class B concrete;
- (8) 194 lin. ft. 15-in. corr. metal pipe
- (9) 1044 in. ft. 18-in. do;
- (10) 1028 lin. ft. 24-in. do;
- (11) 132 lin. ft. 30-in. do;
- (12) 656 lin. ft. 36-in. do;
- (13) 260 lin. ft. 48-in. do;
- (14) 264 lin. ft. remove pipe culverts;
- (15) 150 lin. ft. remove and reset do;
- (16) 320 cu. yds. cement rubble masonry;

- (17) 133 cu. yds. rip rap;
- (18) 4104 lin. ft. stand. timber guard rail;
- (19) 154 mounments;
- (20) 12.62 mi. finish roadway;
- (21) 32,500 lbs. reinf. steel;
- (22) 92 acres clearing;
- (23) 2574 lin. ft. remove fence;
- (24) 2574 lin. ft. construct fence.

Complete bids follow:
(A) Mahoney-Clines Co., Las Vegas, 12,654.92.
(B) Nevada Rock & Sand Co., Reno, 3114,818.20.
(C) Utah Constr. Co., Ogden, Utah, 1921,632.88.
(D) Itell Const. Co., Carson City, 1929,454.55.
(E) Morrison - Knudsen Co., Boise, Idaho, 1143,829.18.
(F) Geo. French Jr., Stockton, 1553-240.84.
(G) Engineer's Estimate, \$123,200.33.

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) |
|------|--------|--------|-------|--------|--------|--------|--------|
| (1) | .33 | .38 | .43 | .48 | .52 | .55 | .49 |
| (2) | 1.00 | 1.00 | 1.00 | 1.50 | 1.00 | 1.50 | 1.00 |
| (3) | .30 | .25 | .20 | .30 | .36 | .35 | .35 |
| (4) | .015 | .02 | .02 | .005 | .015 | .015 | .02 |
| (5) | 5.00 | 5.00 | 5.00 | 5.90 | 5.09 | 5.00 | 5.00 |
| (6) | 25.00 | 25.00 | 23.00 | 33.90 | 26.00 | 27.00 | 25.00 |
| (7) | 25.00 | 25.00 | 23.00 | 35.00 | 25.00 | 25.00 | 25.00 |
| (8) | 1.20 | 1.25 | 1.10 | 1.50 | 1.70 | 1.25 | 1.25 |
| (9) | 1.40 | 1.50 | 1.25 | 1.75 | 1.60 | 1.50 | 1.50 |
| (10) | 2.00 | 2.00 | 1.90 | 2.25 | 2.40 | 2.25 | 2.00 |
| (11) | 2.50 | 2.50 | 2.30 | 3.00 | 3.00 | 3.00 | 2.50 |
| (12) | 3.50 | 3.50 | 3.75 | 4.00 | 4.50 | 4.50 | 2.50 |
| (13) | 6.00 | 6.00 | 6.90 | .50 | 7.00 | 7.90 | 6.00 |
| (14) | .50 | .75 | .60 | 1.00 | .50 | .75 | .50 |
| (15) | 1.00 | 1.50 | 1.00 | 1.25 | .50 | 1.25 | 1.00 |
| (16) | 6.00 | 12.00 | 12.00 | 12.00 | 12.00 | 20.00 | 10.00 |
| (17) | 2.00 | 5.00 | 2.50 | 3.00 | 3.00 | 3.00 | 3.00 |
| (18) | .70 | .69 | .50 | .85 | .50 | 1.50 | .90 |
| (19) | 2.00 | 2.50 | 2.50 | 3.00 | 3.00 | 3.00 | 3.00 |
| (20) | 100.00 | 100.00 | 60.00 | 150.00 | 150.00 | 100.00 | 100.00 |
| (21) | .07 | .06 | .07 | .06 | .08 | .06 | .07 |
| (22) | 10.00 | 30.00 | 12.00 | 50.00 | 25.00 | 15.00 | 12.00 |
| (23) | .05 | .10 | .02 | .05 | .05 | .05 | .05 |
| (24) | .12 | .20 | .08 | .15 | .05 | .15 | .15 |

RAILROADS

MEXICO CITY, Mexico.—Plans for a short line railroad that would link the peninsula state of Yucatan with the rest of Mexico, have been submitted to the National Railways of Mexico by ex-president General Plutarco Elias Calles, now councillor of the National Railways. The plan calls for construction of this railroad from a point opposite Puerto Mexico, Vera Cruz state, along the right bank of the Coatzacoalcos River to Campeche City, capital of Campeche, where it would connect with the United Railways of Yucatan. The projected railroad would be 800 kilometers long (kilometer about 3/4 of a mile), and the cost of construction, according to figures compiled by the ministry of communications and public works, would be 65,012,282.56 pesos (approximately \$21,670,090 U. S.) this cost divided as follows:

- Engineering, 1,500,000 pesos.
- Rights of way and land, legal expenses, etc., 16,331,050 pesos.
- Bridges and culverts, 9,000,000 pesos.
- Rails, sleepers, right of way accessories, etc., 20,683,458 pesos.
- Fences, crossings, signals, telephone Stations, shops, roundhouses, ware-houses and telegraph lines, etc., 400,000 pesos.
- houses, electric plants, etc., 2,512,500 pesos.
- Materials, tools, administration, etc. 10,835,244.56 pesos.
- Locomotives, 1,750,000 pesos.
- Passenger cars, 500,000 pesos.
- Freight cars, 1,500,000 pesos.

BIDS OPENED

RIVERSIDE COUNTY, Cal.—L. G. Kipp, 2516 7th Ave., Sacramento, at \$27,865 submitted low bid and recommended for award of contract by U. S. Bureau of Public Roads, San Francisco, for placing 17.4 miles subgrade reinforcement on Section B of Route 70, the Idyllwild-Desert National Forest Highway, San Bernardino National Forest, involving:

- (1) 17.4 miles ne grade subgrade and shoulders;
- (2) 1,800 M. gals. watering;
- (3) 33,500 cu. yds. selected material for subgrade reinf.

Complete bids follow:

| | |
|---------------------------------------|----------|
| (A) L. G. Kipp, Sacramento..... | \$27,865 |
| (B) C. H. Hadden, Vista..... | 29,685 |
| (C) R. E. Hazzard, San Diego..... | 31,887 |
| (D) Geo. French Jr., Stockton..... | 33,590 |
| (E) H. E. Cox & Son, Pasadena 39,970 | |
| (F) Geo. Herz, San Bernardino 40,454 | |
| (G) Hall Johnson Co., Alhambra 43,865 | |
| (H) E. B. Bishop, Sacramento..... | 43,920 |
| (I) Southwest Pav. Co., L. A..... | 53,313 |
| (J) Frank C. Cuffe, San Rafael 59,260 | |
| (K) Engineer's estimate..... | 55,075 |

Unit bids follow:

| | (1) | (2) | (3) |
|-----|----------|--------|--------|
| (A) | \$400.00 | \$1.75 | \$.53 |
| (B) | 400.00 | 2.75 | .53 |
| (C) | 250.00 | 1.25 | .725 |
| (D) | 350.00 | 1.50 | .70 |
| (E) | 550.00 | 2.00 | .80 |
| (F) | 560.00 | 1.80 | .82 |
| (G) | 275.00 | 3.10 | 1.00 |
| (H) | 200.00 | 2.00 | 1.10 |
| (I) | 412.00 | 3.00 | 1.27 |
| (J) | 400.00 | 3.00 | 1.40 |
| (K) | 550.00 | 2.50 | 1.25 |

ENGINEERING NEWS

RESERVOIRS AND DAMS

LOS ANGELES, Cal.—E. C. Eaton, County Flood Control Engineer, 202 N Broadway, has completed specifications for furnishing 184,050 lbs. of reinforcing bars for use in the construction of Big Tunjuna Wash. Bids will be advertised within the next 10 days and will be received on items as follows:

- (1) 122,000 lbs. A schedule No. 2 D14;
- (2) 6,900 lbs. B schedule No. 2 D14;
- (3) 47,500 lbs. C schedule No. 2 D14;
- (4) 2,500 lbs. D schedule No. 2 D14;
- (5) 2,400 lbs. E schedule No. 2 D14;
- (6) 2,750 lbs. F schedule No. 2 D14.

SAN DIEGO, Cal.—Validity of \$2,600,000 El Capitan Dam bonds has been upheld by the Fourth Appellate District Court as the result of a test suit brought by the City of San Diego against City Treasurer Jack Millan to compel him to purchase from the city treasury \$90,000 of the bonds. The decision will nullify the suit of H. G. Norton and George Daley, who attacked the validity of the issue.

TUCSON, Arizona.—City council has voted to approve the plan to borrow \$10,000 from the Reconstruction Finance Corporation with which to construct a 5,000,000-gallon reservoir at municipal water works. The plan, worked out by City Manager Butler, the southside pumping plant of the had been explained and considered at a previous meeting. City Water Superintendent Phil J. Martin, Jr., had reported that a reservoir on Sentinel Peak would cost \$265,000, while a reservoir near the air port, which site was recommended by engineers last year, would cost approximately \$365,000, either of which would necessitate a bond issue. The proposed \$10,000 loan would be expended for labor, the sum being supplemented by \$15,000, which it is expected to save from departmental funds, for materials and superintendence.

LOS ANGELES, Calif.—G. A. Giesbich, 12 Virgil Walk, Long Beach, awarded contract by county supervisors Nov. 21, at \$12,795.50, for the construction of Unit No. 4, San Gabriel River Outlet at Alamitos Bay. The bids were opened Nov. 14.

PIPE LINES, WELLS, ETC.

VANCOUVER, B. C.—Plans and specifications for a 60-in. water main to be constructed from the north portal of the First Narrows pressure tunnel to the 60-in. Capilano main at Marine Drive, are being prepared by the Greater Vancouver Water District. Estimated cost, \$128,000. Bids will probably be called about Jan. 1.

SEWERS AND SEWAGE DISPOSAL PLANTS

LOS ANGELES, Cal.—The Dorr Co., Inc., 108 W 6th St., awarded contract by board of public works, Nov. 14, at \$28,175 f.o.b. cars on siding at Los Angeles Harbor, for furnishing machinery and equipment for the proposed Terminal Island Sewage Treatment Plant at Los Angeles Harbor. The bids were opened Sept. 14.

BREMERTON, Wash.—Rumsey and Co., Lumber Exchange Bldg., Seattle, at \$44,255 submitted low bid to Public Works Officer, Puget Sound Navy Yard, Bremerton, under Spec. No. 7055 to construct a brick drainage culvert with steel liner plate, approximately 380 feet long, 6 feet inside diameter, approximately 60 feet below grade, connecting dry dock No. 1 with the pump well of dry dock No. 2.

Complete bids follow:

| | |
|---------------------------------------|----------|
| Rumsey & Co..... | \$44,255 |
| Parker, Schram Co..... | 54,545 |
| Henley & Meenan..... | 54,726 |
| Backlund, Johnson & Lund..... | 59,490 |
| Stoner & Kinney..... | 58,900 |
| Chris Yonlick..... | 69,390 |
| Eltan & Livergreen..... | 68,400 |
| Butler Const. Co..... | 70,900 |
| Puget Sound Const. Co..... | 71,000 |
| Ray McCoy..... | 71,642 |
| Lawlow Woodward Co..... | 72,700 |
| Coyle Const. Co..... | 74,782 |
| General Const. Co..... | 77,000 |
| Queen City Const. Co..... | 77,000 |
| MacRae Bros..... | 91,761 |
| Puget Sound Bridge & Dredging Co..... | 116,500 |

SAN BRUNO, San Mateo Co., Cal.—Until Dec. 7, 8 P. M., bids will be received by Emil A. Bohm, city clerk, to furnish cast iron pipe and vitrified clay pipe for the San Bruno-Lomita Park Outfall Sewer Project. Quantities will be published in an early issue. Certified check 10% required with bid. R. Classen, city engineer.

MISCELLANEOUS CONSTRUCTION

LOS ANGELES, Cal.—The four low bids for the construction of the San Jacinto tunnel, submitted to the Metropolitan Water District, Nov. 29, were ordered held for further consideration by the Board of Directors at its meeting Dec. 2; all other bids were rejected and the bid checks of the latter returned to the bidders. The next meeting of the Board will be Wednesday, Dec. 7 and it is probable that some definite action may be taken at that time. The four low bids, as previously noted, were:

Metropolitan Engineering Corp., 1633 Union Bank Bldg., Los Angeles, \$7,331,815.

Wenzel & Hnech Const. Co., 1524 N. 27th, Milwaukee, Wis., \$7,340,100.

Metropolitan Const. Co., 418 South Peccan St., Los Angeles, \$8,335,225.

Shea-McDonald & Kahn, Arcade Bldg., Los Angeles, \$8,539,390.

CAPITAL CITY TITLE COMPANY

J. C. PALEN,
Manager

914 Seventh Street
Sacramento :: California

WATERWORKS

SAN RAFAEL, Marin Co., Cal.—Until Dec. 16, 11 A. M., bids will be received by Constructing Quartermaster, Hamilton Field (Marin Meadows Bombing Base) to construct a 250,000 gallon capacity steel standpipe with concrete foundations, and connect the same to existing distribution system at Hamilton Field. Specifications obtainable from above office on deposit of \$10, check payable to Treasurer of the United States.

OAKLAND, Cal.—Until Dec. 2, 5:30 p. m., bids will be received by John H. Kimball, secretary, East Bay Municipal Utility District, 612 16th St., Oakland, to furnish:

- (1) 1100 ft. 30-in. dia., ¼-in. thick sheet steel pipe.

Specification No. LS-94, obtainable from above office.

CAMBRIA, San Luis Obispo County, Cal.—County supervisors declare San Luis Obispo County Waterworks District No. 3 formed, and set Dec. 10 as date of election to vote on \$18,000 bonds to finance district waterworks system.

SEATTLE, Wash.—Board of Public Works to ask for bids, to be opened Dec. 14, (previously reported Dec. 4), to construct the first unit of the water project north of the city limits. Work includes pipe laying; alternate figures will be asked on steel, concrete, cast iron and wood stave pipe. Pipe line will extend from North 85th St. and Greenwood Ave. to the Firlands sanitarium and will involve over eight miles of pipe as follows: 4 miles of 24-in., 3.5 miles 30-in., .5 mile 20-in. and 2000 ft. 36-in.

This contract is the first of three involved in the project—the other two will call for construction of a pumping plant in the vicinity of North 145th St. and erection of a steel storage tank with a capacity of 500,000-gals.

WHITTIER, Los Angeles Co., Cal.—An election will be held Jan. 5 to vote on a \$100,000 bond issue to provide improvements and betterments to the Whittier water system over a three to four year period. The amount of the issue was determined by the ability of the water department to repay out of revenue this amount within a ten year period. The interest rate has been fixed at not to exceed 6 per cent. Approximately one-half of the proceeds of the issue will be expended for labor. The proposed improvements include a concrete roof for the Greenleaf Ave. Reservoir and the laying of about 20,000 ft. of water mains, pipe for which has already been purchased. M. R. Bowen, City Engineer and Water Superintendent.

NUEVO LAREDO, Mexico.—Plans completed for one-half mile of water tunnel; authorized by Secretary of Agriculture. Estimated cost \$100,000. It is proposed to divert the Rio del Pilon in Nuevo Laredo and carry tunnel into new territory in the region of Montemorelos. Work will be done by the National Irrigation Commission and the J. C. White Const. Co., New York.

EUREKA, Humboldt Co., Cal.—C. C. Kennedy, Call Bldg., San Francisco, appointed engineer by city of Eureka in investigating for extension of municipal water system, for which bonds for about \$750,000 will be issued shortly. The Mad River will probably be the source of water supply; a portion of the money secured through the bond issue to be spent for a filtration plant.

STREETS AND HIGHWAYS

OKLAND, Cal.—Until Dec. 1, from 8 to 9 P. M. (previously reported Nov. 25), bids will be received by W. W. Chappell, city clerk, to improve portions of 22nd St. bet. Broadway and Telegraph Av. Estimated cost, \$3,003.09. Project involves:
 (1) 9875 sq. ft. grading;
 (2) 213 lin. ft. conc. curb with guard;
 (3) 216 sq. ft. concrete gutter;
 (4) 7844 sq. ft. pavement, asph. conc. surface course, 2-in. thick, laid on Port. cement concrete foundation 6-in. thick;
 (5) 1674 sq. ft. cement sidewalk;
 (6) 1 duplex lighting stand, with appurtenances.

Specifications obtainable at office of City Engineer Walter N. Frickstad.

ORMSBY COUNTY, Nev.—Larson Bros., P. O. Box 274, Galt, at \$72,011 awarded contract by U. S. Bureau of Public Roads for 4.99 miles grading Section A, Route 1, Lake Tahoe National Forest Highway, Tahoe National Forest.

MONO COUNTY, Calif.—Southwest Paving Co., Inc., 712 Lankershim Bldg., Los Angeles, at \$51,591.30 awarded contract by State Highway Commission to grade and surface with bituminous treated crushed gravel or stone, 4.3 miles bet. Whiskey Creek and Convict Creek.

SAN DIEGO, Cal.—Shannahan Bros., Inc., 1181 Eastern Ave., Los Angeles, submitted low bid to Public Works Officer, 11th Naval District, San Diego, Nov. 29, at \$22,590, for the work, complete, for the reconstruction of quay wall and crane track at the Eleventh Naval District, San Diego, California. Naval Operating Base—Destroyer Base, Specifications No. 7090. The work consists of about 795 linear feet of timber quay wall deck and about 1155 linear feet of concrete crane track and includes excavation; wood piles; concrete girders, beams and conduit; steel beams and miscellaneous steel and iron work; timber framing and deck plunk; air and water piping; and electrical work.

The Public Works Officer recommends that the award be made to the low bidder.

The complete bids were: Shannahan Bros., Inc.—(1) work complete, \$52,590, (2) deduction for omission from south end of track of an 8-ft. section of crane track, \$45,500. B. O. Larsen, San Diego—(1) \$43,910 (2) \$30.

Chas. and F. W. Steffen, San Diego—(1) \$54,282, (2) \$202.80. M. H. Golden, San Diego—(1) \$58,037 (2) \$290.

Contracting Engineers, Inc., Los Angeles—(1) \$58,800, (2) \$350.

Miracle Constr. Co., San Diego—(1) \$58,851.56, (2) \$250.

V. B. Dennis Constr. Co., San Diego—(1) \$58,900, (2) \$250.

R. H. Travers, Los Angeles—(1) \$60,295, (2) \$236.

Floyd Shofner, Los Angeles—(1) \$60,951, (2) \$285.

Fred F. Greenfield Co., Los Angeles—(1) \$61,655, (2) \$209.

Lynch-Cannon Engineering Co., Los Angeles—(1) \$62,500, (2) \$255.

Wm. Simpson Constr. Co., Los Angeles—(1) \$62,975, (2) \$200.

W. B. Pierce Constr. Co.—(1) \$65,849, (2) \$100.

Walter Trejtko, San Diego—(1) \$66,500, (2) \$125.

J. A. Hunt, East San Diego—(1) \$68,402.10, (2) \$427.50.

MARIN COUNTY, Cal.—Peninsula Paving Co., Standard Oil Bldg., San Francisco, at \$147,234.05 awarded contract by State Highway Commission to grade and pave with asphalt concrete 1.30 miles between Waldo and Sausalito.

RIVERSIDE COUNTY, Cal.—L. G. Kipp, 2516 7th Ave., Sacramento, at \$27,865 awarded contract by U. S. Bureau of Public Roads for placing 17.4 miles subgrade reinforcement on Section B of Route 70, the Idyllwild-Desert National Forest Highway, San Bernardino National Forest.

LYON COUNTY, Nev.—Isbell Construction Co., Carson City, Nevada, awarded contract by State Highway Commission, Carson City, at \$24,346.09 for 9.53 miles grading and gravel surfacing bet. 9.5 miles east of Yerington and Yerington, involving:
 (1) 13,800 cu. yds. roadway excav.;
 (2) 800 cu. yds. struc. excav.;
 (3) 101,178 cu. yds. select borrow;
 (4) 12,229 sta. yds. overhaul;
 (5) 9.53 miles subgrade;
 (6) 18 demolish culvert inlets and outlets;

(7) 14 cu. yds. demolish concrete;
 (8) 7,000 lbs. reinf. steel;
 (9) 30,000 cu. yds. crushed gravel or crushed rock in place;

(10) furnish water equipment;
 (11) 2,064 M. gals. apply water;
 (12) 71 cu. yds. Class A concrete;
 (13) 38 cu. yds. Class B concrete;
 (14) 80 lin. ft. 15-in. corr. metal pipe;
 (15) 583 lin. ft. 18-in. do;
 (16) 714 lin. ft. 24-in. do;
 (17) 82 lin. ft. 36-in. do;
 (18) 70 lin. ft. remove pipe culverts;
 (19) 148 lin. ft. remove and reset pipe culverts;

(20) 24 corr. metal pipe extensions;
 (21) 920 lin. ft. standard timber guard rail;

(22) 49 monuments;
 (23) 9.53 miles finish roadway;
 (24) 69 acres clearing;

(25) 2,324 lin. ft. remove fence;
 (26) 25,804 lin. ft. construct fence;
 (27) 2 lateral headgates;

(28) 1,135 lin. ft. remove and reset fence;
 (29) remove and reset telephone pole, \$100.

Three low bidders follow:
 Isbell Const. Co., Carson City, \$62,346.09.

Dodge Bros., Fallon, \$63,797.09.

Nevada Rock & Sand Co., Reno, \$65,968.58.

ALAMEDA, Alameda Co., Calif.—J. Catucci, 1212 18th Ave., Oakland, at \$9,436.50 submitted low bid to Constructing Quartermaster, Benton Field Alameda, to replace rock underfill for roads and paved area at Benton Field, involving approximately 13,500 cubic yards. Complete list of bids follows:

| | |
|---------------------------------|-------------|
| J. Catucci, Oakland..... | \$ 9,436.50 |
| Heafey-Moore Co., Oakland..... | 9,855.00 |
| U-Drive Dump Truck Co..... | 9,922.50 |
| J. J. Immel, Berkeley..... | 9,900.00 |
| Ariss-Knapp Co., Oakland..... | 9,929.00 |
| Hutchinson Co., Oakland..... | 10,665.00 |
| Healy-Thibbitts Co., S. F..... | 14,580.00 |
| Peninsula Paving Co., S. F..... | 25,000.00 |

(4) 25 ft. concrete curb, reset;
 (5) 25 ft. granite curb, reset.

PROF. 11—Remove existing wearing surface to a depth of 1-inch by heating, and replace, involving:

(1) 48,000 sq. ft. remove and replace wearing surf. by heating, 2-in. deep;

(2) 12,000 sq. ft. asph. conc. wearing surface, 2-in. deep;

(3) 200 tons asph. concrete binder;

(4) 25 ft. concrete curb, reset;

(5) 25 ft. granite curb, reset.

Complete bids follow:
 (A) Easton & Smith.....\$4632.00 \$4113.00
 (F) Bur. St. Repair..... 4792.00 3889.50
 (C) Fry Imp. Co..... 5623.50 4451.50

SHASTA CO., Cal.—E. C. Coats, 6th and Y sts., Sacramento, at \$56,760 (corrugated metal pipe alternate) submitted low bid to and recommended for award by U. S. Bureau of Public Roads, San Francisco, for 4.501 miles grading Section A of Route 75, the Manzanita Lake National Forest Highway, involving:

(1) 26 acres clearing;
 (2) 71,000 cu. yds. unclass. excav.;

(3) 300 cu. yds. unclass. excavation, struc.;

(4) 25,000 sta. yds. overhaul;
 (5) 4,501 miles finish earth graded rd.

(6) 41 cu. yds. Class A concrete;

(7) 12 cu. yds. Class B concrete;

(8) 3,500 lbs. reinf. steel;

(9) 698 lin. ft. 18-in. reinf. conc. pipe;

(10) 66 lin. ft. 24-in. do;

(11) 138 lin. ft. 30-in. do;

(12) 698 lin. ft. 18-in. corr. metal pipe

(13) 66 lin. ft. 24-in. do;

(14) 138 lin. ft. 30-in. do;

(15) 30 lin. ft. drainage tunnel, unlined

(16) 30 lin. ft. do, lined;

(17) 35 right of way monuments.

Complete bids follow:
 (Total A includes alt. items 12, 13, and 14; total B includes alt. items 9, 10 and 11).

(A) E. C. Coats, Sacramento, (A) \$56,760 (A) \$58,382.

(B) Willard, Biasotti & Lovatti, Stockton, (A) \$67,588; (B) \$72,562.

(C) Hemstreet & Bell, Marysville, (A) \$79,718; (B) \$82,093.

(D) Engineer's estimate, (A) \$69,319; (B) \$69,319.

Unit prices follow:

| | (A) | (B) | (C) | (D) |
|-----------|----------|----------|----------|----------|
| (1)..... | \$230.00 | \$200.00 | \$500.00 | \$300.00 |
| (2)..... | .63 | .75 | .80 | .75 |
| (3)..... | 2.00 | 1.50 | 2.50 | 2.00 |
| (4)..... | .02 | .02 | .07 | .03 |
| (5)..... | 250.00 | 300.00 | 250.00 | 300.00 |
| (6)..... | 25.00 | 45.00 | 35.00 | 35.00 |
| (7)..... | 24.00 | 45.00 | 35.00 | 32.00 |
| (8)..... | .06 | .06 | .07 | .08 |
| (9)..... | 3.00 | 5.00 | 3.75 | 2.10 |
| (10)..... | 4.00 | 6.00 | 5.50 | 3.00 |
| (11)..... | 7.00 | 8.00 | 9.00 | 4.00 |
| (12)..... | 1.50 | 1.97 | 1.60 | 2.10 |
| (13)..... | 2.50 | 2.35 | 3.00 | 3.00 |
| (14)..... | 3.50 | 2.79 | 4.00 | 4.00 |
| (15)..... | 15.00 | 25.00 | 25.00 | 7.00 |
| (16)..... | 35.00 | 49.00 | 50.00 | 30.00 |
| (17)..... | 3.00 | 3.00 | 3.00 | 4.00 |

GLENDALE, Los Angeles Co., Cal.—Griffith Co., 502 L. A. Railway Bldg., Los Angeles, submitted low bid to city council, Nov. 29, at \$8574.95, for re-surfacing Chevy Chase Drive, from Acoria Ave. to Sinclair St., under cash contract, involving asphaltic concrete (open specifications) surfacing over the full length stated above and for the entire width of that part of Chevy Chase in which a storm drain is being installed. The county supervisors have allocated to this work the sum of \$16,500. J. C. Ahlers is the city engineer. The items are:

- (1) 402,100 sq. ft. 1½-in. asphalt concrete wearing surface, including bringing sewer manholes to grade;
- (2) 21,710 sq. ft. asphalt concrete wearing surface (variable thickness), including bringing sewer manholes to grade;
- (3) 30 tons asphalt concrete base material.

The bids follow:

- (A) Griffith Company.
 - (B) Southwest Paving Company.
 - (C) Chas. U. Heuser.
 - (D) Oswald Brothers.
 - (E) Geo. R. Curtis Paving Co.
 - (F) P. J. Akmadziech.
- | | (1) | (2) | (3) | Total |
|----------|--------|---------|---------|-------------|
| (A)..... | \$.02 | \$.015 | \$ 1.91 | \$ 8,574.95 |
| (B)..... | .02 | .016 | 2.69 | 6,630.66 |
| (C)..... | .021 | .015 | 2.75 | 9,002.25 |
| (D)..... | .021 | .021 | 2.50 | 9,185.61 |
| (E)..... | .0235 | .0293 | 2.40 | 9,190.33 |
| (F)..... | .025 | .025 | 2.20 | 10,911.25 |
- 28

SANTA ROSA, Sonoma Co., Calif.—Until Dec. 13, 12 M., to be opened at 1:30 P. M., bids will be received by Geo. P. Sanborn, county clerk, to construct Duncan Mills to Jenner Highway, Section B, 5th Supervisor District, involving:

- (1) 25,000 cu. yds. rdwy. excav.;
- (2) 16.5 MFB redwood lumber;
- (3) 840 lin. ft. redwood piles;
- (4) 450 lbs. structural steel;
- (5) 18 cu. yds. Class A concrete;
- (6) 854 lbs. reinf. steel.

Specifications obtainable from above office and from County Engineer E. A. Peugh. 28

MADERA CO., Cal.—Hemstreet and Bell, 501 11th St., Marysville, at \$61,805 (corrugated metal pipe alternate) awarded contract by U. S. Bureau of Public Roads for grading 3.841 miles Section D of Route 47, the Oakhurst National Forest Highway, Sierra National Forest. 28

LOS ANGELES COUNTY, Calif.—Griffith Co., 502 Los Angeles Railway Bldg., Los Angeles, at \$138,846 submitted low bid to State Highway Commission, Sacramento, to grade and pave with asphalt concrete 4 miles between Tujunga and La Canada, involving:

- (1) 212 sta. clear and grub, right-of-way;
- (2) 112,000 cu. yds. rdwy. excav. without class.;
- (3) 1,370,000 sta. yds. overhaul;
- (4) 6300 cu. yds. struc. excav.;
- (5) 46,000 sq. yds. subgrade for pave.
- (6) 27,300 sq. yds. asph. paint binder;
- (7) 27,800 tons asphalt concrete;
- (8) 2240 bbls. fuel oil (shoulders and gutters);
- (9) 1300 cu. yds. Class "A" cem. conc. (struc.);
- (10) 155 cu. yds. Class "A" cem. conc. (curbs and sidewalk);
- (11) 111,000 lbs. bar reinf. steel (struc)
- (12) 10,000 lbs. misc. iron and steel (struc.);
- (13) 220 lin. ft. 12-in. corr. metal pipe
- (14) 150 lin. ft. 18-in. do;
- (15) 260 lin. ft. 24-in. do;

- (16) 80 lin. ft. 30-in. do;
- (17) 60 lin. ft. 42-in. do;
- (18) 56 lin. ft. 48-in. do;
- (19) 1450 cu. yds. conc. remove from exist. pave. and dispose of;
- (20) 3300 M. gals. water (embank.);
- (21) 120 lin. ft. lam. timber guard rail rail and wheel guards;
- (22) 1 exist. bridge removed;
- (23) 70 culvert markers;
- (25) 2 1/2 sta. finish roadway;
- (26) 41 move and reset monuments.

State will furnish corr. metal pipe Complete bids follow:

- (A) Griffith Co., Los Angeles, \$138,846.00.
- (B) Oswald Bros., Los Angeles, \$139,184.00.
- (C) Southwest Paving Co., Los Angeles, \$147,903.00.
- (D) Geo. R. Curtis Paving Co., Los Angeles, \$151,570.65.
- (E) Southern California Roads Co., Los Angeles, \$177,193.50.
- (F) Hall Johnson Co., Alhambra, \$178,713.50.

PORTLAND, Ore.—Columbia Contract Co., 294 E Salmon St., at \$16,301 submitted low bid to city purchasing agent to furnish 1500 tons of asphalt and rock and screenings for the Municipal Paving Plant. Star Sand Co. second low at \$16,835; City Motor Trucking Co. only other bidder at \$17,070.

SAN FRANCISCO.—E. J. Treacy, 309 Cal Bldg., San Francisco, at \$2,941 submitted low bid to S. J. Hester, Secretary, Dept. of Public Works, to improve El Camino Del Mar between 32nd Ave. and Lincoln Park, involving:

- (1) 1,050 cu. yds. excav. (lump sum);
- (2) 9,000 sq. ft. asph. conc. pave.;
- (3) 3,000 sq. ft. 2-in. asph. concrete wearing surface;
- (4) 220 ft. armored concrete curb;
- (5) 1,200 sq. ft. 1-course conc. sidewalk;
- (6) 2 storm water inlets, reset;
- (7) 20 ft. concrete gutter;
- (8) 2,500 sq. ft. planting ice plants;
- (9) 150 Veronica shrubs, plant.

- Complete bids follow:
- E. J. Treacy\$2941.00
 - Eaton & Smith 2118.20
 - Fay Imp. Co. 3473.00
 - MacDonald & Kahn 3492.70
 - Pacific Pavements 3715.40

SAN FRANCISCO.—E. J. Treacy, 309 Cal Bldg., submitted low bid to S. J. Hester, Secretary, Department of Public Works, to widen the northeast one-half of Ocean Ave. between Aptos and Lakewood Avenues, and to improve the sidewalks at the north-west and southwest frontages of the Aptos Playground, involving:

- (1) 800 ft. armored conc. curb, reset;
- (2) 400 ft. armored conc. curb;
- (3) 8 brick catchbasins, reset;
- (4) 6,300 sq. ft. asph. conc. pave.;
- (5) 7,600 sq. ft. 1-course conc. sidewalk;
- (6) 2,300 sq. ft. asph. conc. wearing surface;
- (7) 3,500 sq. ft. asph. conc. conform pavement;
- (8) 1 electrolier, reset and rubble wall to be constructed.

- Complete bids follow:
- (A) E. J. Treacy, S. F.\$3,271.75
 - (B) M. J. Lynch, S. F. 3,287.00
 - (C) Pacific Pavements, S. F. 3,492.00
 - (D) Fay Imp. Co., S. F. 3,657.00
 - (E) Union Paving Co., S. F. 3,753.00
 - (F) C. L. Harney, S. F. 3,829.00
 - (G) Eaton & Smith, S. F. 3,859.00

EL DORADO COUNTY, Cal.—M. J. Bevanda, Elks Bldg., Stockton, at \$36,213.30 awarded contract by the State Highway Commission to grade and

surface 0.4 miles with crusher run base and bituminous treated crushed gravel or stone surfacing (road mixed).

VENTURA COUNTY, Calif.—J. L. McClain, 3452 W Slauson Ave., Los Angeles, at \$119,852 awarded contract by State Highway Commission to pave with cement concrete 10.3 miles bet. Hueneke Road and Little Sycamore Creek.

LONG BEACH, Calif.—Sully - Miller Contracting Co., 1500 W 7th St., Long Beach, awarded contract by city council Nov. 14 at about \$15,680 for improving Pico Ave. bet. Anaheim and Willow Sts., involving about 5000 tons decomposed granite at \$1.20 ton, and about 4400 tons "Layold" asphaltic concrete at \$2.20 ton. 8

MOUNTAIN VIEW, Santa Clara Co., Cal.—City council enjoined from taking any action on hearing on Resolution to extend Moffett Blvd. from the northeastern city limits to the Bayshore Highway, which hearing was to have been Nov. 30 at 7:30 P. M. Council votes to hold hearing Dec. 14 at 7:30 P. M. Bay Hays, city clerk. C. C. Kennedy, Cal Bldg., San Francisco, city engineer.

ELKO COUNTY, Nevada.—As previously reported, Utah Const. Co., Ogden, at \$32,939.02 awarded contract by State Highway Department, Carson City, for 7.98 miles highway construction between Contract and eight miles north, Route 13, Section C5, involving:

- (1) 59,000 cu. yds. rdwy. excav.;
- (2) 800 cu. yds. struc. excav.;
- (3) 15,557 cu. yds. sel. borrow excav.;
- (4) 60,286 yd. sta. overhaul;
- (5) 2 demolish wooden culverts;
- (6) 2,220 lbs. reinf. steel;
- (7) 107 cu. yds. Class B concrete;
- (8) 1,058 lin. ft. 18-in. corr. metal pipe;
- (9) 932 lin. ft. 24-in. do;
- (10) 324 lin. ft. 36-in. do;
- (11) 64 lin. ft. 48-in. do;
- (12) 52 monuments;
- (13) 2 posts for F. A. markers;
- (14) 7.93 miles finish roadway;
- (15) 46 acres clearing;
- (16) 2,035 lin. ft. remove fence;
- (17) 8,290 lin. ft. construct fence.

Complete bids follow:

- (A) Utah Const. Co., Ogden, \$32,939.02
- (B) Dodge Bros., Inc., Fallon, Nev., \$34,614.67.
- (C) Engineer's estimate, \$36,482.77.

- Unit bids follow:
- | | (A) | (B) | (C) |
|-----------|--------|--------|--------|
| (1)..... | \$.28 | \$.31 | \$.32 |
| (2)..... | 1.00 | 1.00 | 1.00 |
| (3)..... | .30 | .30 | .30 |
| (4)..... | .02 | .02 | .02 |
| (5)..... | 20.00 | 10.00 | 5.00 |
| (6)..... | .10 | .05 | .06 |
| (7)..... | 25.00 | 25.00 | 28.00 |
| (8)..... | 1.40 | 1.10 | 1.25 |
| (9)..... | 2.00 | 1.75 | 1.75 |
| (10)..... | 3.50 | 3.25 | 3.75 |
| (11)..... | 6.00 | 6.00 | 6.00 |
| (12)..... | 3.00 | 3.00 | 3.00 |
| (13)..... | 5.00 | 5.00 | 5.00 |
| (14)..... | 50.00 | 100.00 | 150.00 |
| (15)..... | 10.00 | 10.00 | 5.00 |
| (16)..... | .02 | .03 | .05 |
| (17)..... | .07 | .10 | .15 |

SAN GABRIEL, Los Angeles Co., Cal.—Hall-Johnson Co., 905 Westminister St., Alhambra, awarded contract by city council Nov. 15 at \$16,853.74 (using asphaltic concrete) for the improvement of Broadway in the city of San Gabriel, under cash contract. Southern California Roads Co., 2335 E 25th St., Los Angeles, submitted the low bid using Warrenite-bitulithic, at \$24,626.01.

ARIZONA STATE—R. E. Hazard Contracting Co., 2528 Ketter Blvd., San Diego, awarded contract by State Highway Commission, Phoenix, Ariz., at \$75,028.97, for highway construction on the Prescott-Phoenix Highway, E-72-B, A.F.E. 8953. The work, extends from Congress Junction northeast approximately nine (9) miles, including the Yarnell fill grade, consists of grading and draining, changes in alignment, placing subgrade stabilizer, oil processing by the plant mix method with cutback asphalt, and is to be completed on or before March 31, 1933.

- ROADWAY (Federal Aid Work)
- (1) 14,144 cu. yds. roadway excav. (unclass.);
 - (2) 75 cu. yds. drainage excav. (unclass.);
 - (3) 137 cu. yds. structural excav. (unclass.);
 - (4) 2240 cu. yds. borrow excavation, (unclass.);
 - (5) 8068 sta. yds. earthwork overhaul
 - (6) 9565 cu. yds. subgrade stabilizer;
 - (7) 16,028 cu. yd. subgrade stabilizer, haul;
 - (8) 21 cu. yd. class A concr. (incl. cement);
 - (9) 16 cu. yds. class B concr. (incl. cement);
 - (10) 233 lbs. reinf. steel;
 - (11) 238 lin. ft. 24-in. C.M.P.;
 - (12) 78 lin. ft. reset 24-in. C.M.P.;
 - (13) 30 lin. ft. reset 30-in. C.M.P.;
 - (14) 15 each C M. catchbasins;
 - (15) 25 cu. yds. plain rip-rap;
 - (16) 3 each cattle guard;
 - (17) 274 lin. ft. cable road guard;
 - (18) 745 lin. ft. standard line fence;
 - (19) 535 M. gal. water applied to roadway;
 - (20) 15,097 tons plant mixed oil treated surf. (incl. haul);
 - (21) 648.9 tons cut-back asph. cement for plant mix.
 - (22) 8,966 ml. spreading, compacting and finishing;
 - (23) 699 cu. yds. screenings for seal coat;
 - (24) 54.6 tons cut-back asph. cement for seal coat.
 - (25) 2703 cu. yds. shoulder material;
 - (26) 5640 cu. yd. ml. shoulder material, haul.

- STRUCTURES OVER 20 FT. CLEAR SPAN (Federal Aid Work)
- (25) 138 cu. yds. structural excavation (unclass.);
 - (26) 53 cu. yds. class A concr. (incl. cement);
 - (27) 11 cu. yds. class B concr. (incl. cement);
 - (28) 4959 lbs. reinf. steel;
 - (29) 8 cu. yds. removal of old concrete
 - (30) 3 tons plant mixed oil treated surf. (incl. haul);
 - (31) 0.3 tons cut-back asph. cement for plant mix;
 - (32) 0.046 ml. spreading, compacting and finishing;
 - (33) 4 cu. yds. screenings for seal coat
 - (34) 0.3 tons cut-back asph. cement for seal coat;

NON-FEDERAL AID WORK

- (35) 270 cu. yds. speciml mineral aggregate for stockpiling;
- T. S. O'Connell, State Highway Engineer.

The total bids were:

- (A) R. E. Hazard Constr. Co., San Diego, \$78,028.97.
- (B) Arizona Sand & Rock Co., Phoenix, Ariz., \$82,215.82.
- (C) Ralph Pleasant, Phoenix, \$87,498.47.
- (D) Heafey-Moore Co. and J. A. Casson, Oakland, \$88,594.01.

The unit bids follow:

| | (A) | (B) | (C) | (D) |
|--------------|-----|------|------|-----|
| (1) \$ | .50 | .31 | .80 | .42 |
| (2) | .75 | .79 | 1.00 | .75 |
| (3) | .85 | 1.00 | 1.00 | .75 |
| (4) | .50 | .315 | .29 | .35 |

| | | | | |
|------------|--------|--------|--------|--------|
| (5) | .02 | .022 | .02 | .015 |
| (6) | .55 | .58 | .52 | .55 |
| (7) | .16 | .15 | .14 | .08 |
| (8) | 45.00 | 23.10 | 22.00 | 18.00 |
| (9) | 50.00 | 31.50 | 22.00 | 19.00 |
| (10) | .08 | .063 | .06 | .05 |
| (11) | 3.00 | 2.37 | 2.50 | 1.97 |
| (12) | 3.50 | 2.92 | 3.00 | 2.24 |
| (13) | 1.00 | 2.21 | 1.00 | 1.00 |
| (14) | 1.50 | 2.84 | 1.00 | 1.00 |
| (15) | 30.00 | 36.75 | 28.50 | 24.00 |
| (16) | 3.60 | 3.15 | 3.00 | 4.00 |
| (17) | 356.00 | 472.56 | 400.00 | 495.00 |
| (18) | .75 | .79 | .70 | .60 |
| (19) | .20 | .16 | .10 | .10 |
| (20) | 2.50 | 3.12 | 3.00 | 3.00 |
| (21) | 1.70 | 1.85 | 2.30 | 3.00 |
| (22) | 22.00 | 22.80 | 24.35 | 20.00 |
| (23) | 256.00 | 434.40 | 350.00 | 250.00 |
| (24) | 2.00 | 1.38 | 2.00 | 2.00 |
| (25) | 26.00 | 26.05 | 24.55 | 22.00 |
| (26) | .40 | .893 | .52 | .60 |
| (27) | .15 | .15 | .14 | .10 |
| (28) | 1.50 | .79 | 1.00 | .75 |
| (29) | 80.00 | 23.10 | 22.00 | 18.00 |
| (30) | 70.00 | 23.10 | 22.00 | 19.00 |
| (31) | .10 | .063 | .06 | .05 |
| (32) | 10.00 | 5.25 | 10.00 | 5.00 |
| (33) | 1.50 | 1.85 | 2.30 | 3.50 |
| (34) | 22.00 | 22.80 | 24.35 | 25.00 |
| (35) | 256.00 | 434.40 | 350.00 | 250.00 |
| (36) | 2.00 | 1.38 | 2.00 | 2.00 |
| (37) | 22.00 | 26.05 | 24.55 | 25.00 |
| (38) | 2.00 | .84 | 2.00 | 2.50 |

SHASTA COUNTY, Cal.—Hemstreet & Bell, 501 11th St., Marysville, at \$93,317 submitted low bid to and recommended for award by U. S. Bureau of Public Roads, San Francisco, to improve 17.106 miles Proj. 77-A1B1, Mt. Shasta-Mt. Lassen National Forest Highway, Lassen National Forest, involving:

- (1) 17.083 miles fine grading subgrade and shoulders;
- (2) 44,000 tons crush. rock base course
- (3) 2600 tons suppl. crushed rock;
- (4) 22,000 M. gals. watering;
- (5) 4500 cu. yds. selected material;
- (6) 90,000 gals. apply Govt. furnished fuel oil.

- Complete bids follow:
- (A) Hemstreet & Bell, Marysville, \$93,317.
 - (B) E. B. Bishop Co., Sacramento, \$98,287.
 - (C) A. Mitchell, Sacramento, \$109,517.
 - (D) Highway Builders, San Anselmo, and Hein Bros., Basalt Rock Co., Petaluma, \$110,179.
 - (E) A. Teichert & Son, Sacramento, \$110,259.
 - (F) Engineer's estimate, \$109,612.

Unit bids follow:

Hemstreet & Bell, (1) \$250.00; (2) \$1.70; (3) \$1.70; (4) \$1.50; (5) \$.75; (6) \$.035.

- E. B. Bishop Co., (1) \$250.00; (2) \$1.75; (3) \$1.65; (4) \$2.00; (5) \$.75; (6) \$.055.
- A. Mitchell, (1) \$400.00; (2) \$1.75; (3) \$1.87; (4) \$2.00; (5) \$.80; (6) \$.032.
- Highway Builders & Hein Bros., (1) \$225.00; (2) \$2.00; (3) \$1.65; (4) \$2.00; (5) \$.75; (6) \$.025.
- A. Teichert & Son, (1) \$500.00; (2) \$1.90; (3) \$1.90; (4) \$2.00; (5) \$.95; (6) \$.05.
- Engineer's estimate, (1) \$200.00; (2) \$2.05; (3) \$1.95; (4) \$2.00; (5) \$.65; (6) \$.04.

TEHAMA COUNTY, Cal. — Until Dec. 15, 2 P. M., bids will be received by C. H. Sweetser, district engineer, U. S. Bureau of Public Roads, 461 Market St., San Francisco, for grading 3.277 mi. Section D, Route 21, The Deer Creek Meadows National Forest Highway, Lassen National Forest, involving:

- (1) 19 acres clearing;
- (2) 96,000 cu. yds. unclass. excav.;

- (3) 1660 cu. yds. unclass. excav., struc.;
 - (4) 84,000 sta. yds. overhaul;
 - (5) 3.221 mi. finish earth graded rd.;
 - (6) 58 M. ft. b. m. untreated timber;
 - (7) 7 log truss spans;
 - (8) 640 lin. ft. logs in log bents;
 - (9) 1180 sq. ft. crib face;
 - (10) 242 cu. yds. concrete;
 - (11) 12,200 lbs. reinf. steel;
 - (12) 126 cu. yds. cement rubble masonry;
 - (13) 3628 lin. ft. corr. metal pipe;
 - (14) 103,000 lbs. struc. steel;
 - (15) 525 cu. yds. hand placed rock fill for log cribs;
 - (16) 250 cu. yds. hand laid rock embankment;
 - (17) 440 cu. yds. cru. rock or grav., backfill;
 - (18) 1355 sq. yds. bit. wearing surface.
- Specifications obtainable from above office on deposit of \$10, returnable, check to be certified and payable to Regional Fiscal Agent, U. S. Forest Service.

ARIZONA STATE—Heafey - Moore Co. and J. A. Casson Co., 344 High St., Oakland, Calif., submitted low bid to State Highway Commission, Phoenix, Arizona, November 16, at \$129,302.38 for highway construction on the Casa Grande-Gila Bend Highway, F. L. H. E-3-A and Non F. A. (A. F. E. 8405).

The work, which begins at a point about 500 feet east of the highway junction one mile east of Gila Bend and extends approximately 20 1/2 miles to the Maricopa-Pinal County Line, consists of minor Grading and Draining work, placing Subgrade stabilizer, and Oil Processing with Cutback Asphalt Cement by the Road Mix Method, and is to be completed on or before May 31, 1933. The principal items are:

- 8,500 cu. yds. drainage excavation;
 - 3,650 cu. yds. borrow excavation;
 - 41,400 lin. ft. new grader ditches;
 - \$5,890 lin. ft. reconstructing ditches;
 - 200 cu. yds. structural excavation;
 - 5,440 cu. yds. subgrade stabilizer;
 - 6,850 cu. yd. ml. subgrade stabilizer, haul;
 - 72 cu. yds. class "B" concrete;
 - 3,900 lbs. reinforcing steel;
 - 160 lin. ft. C.M.P. (various sizes);
 - 760 lin. ft. bank protection;
 - 142,700 cu. yd. ml. mineral aggregate, haul;
 - 45,400 cu. yds. mineral aggregate;
 - 3,200 tons cutback asphaltic cement;
 - 30.7 ml. mix, lay and finish;
 - 2,400 cu. yds. screenings for seal coat;
 - 44.7 ml. construct. of shoulders;
 - 1,440 cu. yds. shoulder material;
 - 3,100 cu. yd. ml. shoulder material, haul;
 - and other incidental items.
- T. S. O'Connell, State Highway Engineer.

SAN DIEGO COUNTY, Cal.—T. M. Morgan Paving Co., 5410 W/lishere Blvd., Los Angeles, at \$94,446.70, awarded contract by State Highway Commission to grade and pave with Portland cement concrete 4.4 mi. between Alpine and Viejas Creek.

WASHOE COUNTY, Nev.—U n t 11 Jan. 4 (approximate date) bids will be received by S. C. Durkee, State Highway Engineer, Carson City, for 5.42 miles grading and asphaltic concrete surface between Reno and Huffakers. Specifications obtainable after Dec. 19 at above office; from County Clerk's office at Reno, on deposit of \$15, of which \$10 is returnable. Certified check 5% required with bid.

BUILDING NEWS

CHURCHES

Plans Being Completed.
DAIRY UNIT Approx. \$40,000
TALMADGE, Mendocino Co., Cal.
 One-story reinf. concrete dairy unit.
 Owner—State of California.

Architect—George B. McDougall, State
 Architect, Public Works Building,
 Sacramento.
 Bids will be asked in about 30 days.

Contract Awarded.
CHURCH Cost, \$68,966
SAN FRANCISCO, NW Judah Street
 and Funston Avenue.
 Interior furnishing for St. Anne's
 Church.

Owner—Roman Catholic Archbishop of
 San Francisco, 1100 Franklin St.
 Plans by Contractor.
 Contractor—S. Rasori, 74 New Mont-
 gomery Street.

Plans To Be Prepared.
CHURCH Cost, \$—
MONTEREY, Monterey Co., Cal.
 New Church (type of construction not
 determined).

Owner—Christian Science Church.
 Architect—Swartz & Ryland, Spezler
 Bldg., Monterey.

FACTORIES AND WARE- HOUSES

Contracts Awarded.
WAREHOUSE, Cont. Price, \$59,850
SAN FRANCISCO, 1900 Bryant St.
 Three and one-half-story and base-
 ment Class B reinforced concrete
 warehouse (82x100 feet) and one-
 story Class C reinforced concrete
 garage with steel trusses (82x100).
 Owner—Best Foods Products Co., 1900
 Bryant Street.

Engineer—K. Theill, 580 Market St.
 Contractor—Larsen & Larsen, 629 Bry-
 ant Street.

Electric—Enterprise Electric Co., 1164
 Mission Street.

Plumbing—Scott Co., 243 Minna St.
Sprinkler System—Fire Protection
 Products Co., 1101 16th St.

Following is a complete list of the
 general bids:
 Larsen & Larsen \$59,850
 S. B. Bagge 60,000
 Barrett & Hilp 62,871
 Villadsen Bros. 63,350
 Cahill Brothers 64,030
 MacDonald & Kahn 66,026
 Lindgren & Swinerton, Inc. 66,574
 H. C. Vensano & Co. 75,300
 Elevator bids are in and held under
 advisement.

Plans Being Prepared.
SHED Cost, \$—
SAN FRANCISCO, Pier No. 35.
 Shed for extension to Pier No. 35 (80
 ft. in length).
 Owner—State of California (Harbor
 Commission).
 Engineer—Frank G. White, Ferry
 Building.
 Bids will be asked in about 3 weeks.

Contract Awarded.
ASSEMBLY PLANT Cost, \$90,000
BECHTEL, Nevada.
 Steel assembly plant (670 ft. long by
 85 ft. wide by 55 ft. high).
 Owner—Babcock-Wilcox Company.
 Plans by Engineering Dept. of Owner.
 Contractor—Six Companies, Inc.,
 Boulder City, Nevada.

The Babcock-Wilcox Company is
 the firm which was awarded a con-
 tract by the U. S. Bureau of Reclama-
 tion for furnishing steel pipe for pen-
 stock tunnels on the Boulder Canyon
 project.

Preparing Working Drawings.
APARTMENTS Cost, \$100,000
SAN FRANCISCO, Pacific Avenue.
 Seven-story Class A steel frame, con-
 crete and brick apartments (70x
 127 ft.) two elevators, steam heat-
 ing system, garbage incinerator,
 tiled baths and kitchens, hard-
 wood floors, electric refrigeration,
 etc.

Owner—Bargene Realty Co., Monad-
 nock Bldg., San Francisco.
 Architect—Chas. E. J. Rogers, Phelan
 Bldg., San Francisco.
 Steel bids will probably be asked in
 about thirty days.

GARAGES AND SERVICE STATIONS

Contract Awarded.
SERVICE STATION Cost, \$15,000
BURLINGAME, San Mateo Co., Cal.
 El Camino Real and Burlingame
 Avenue.
 Modernized steel frame service sta-
 tion.

Owner—Shell Oil Co., Shell Bldg., San
 Francisco.
 Plans by Engr. Dept. of Owner.
 Contractor—Pacific Truck Service Co.,
 646 Park Ave., San Jose.

Contract Awarded.
SERVICE STATION Cost, \$7000
SAN FRANCISCO, NE West Portal
 and Fifteenth Avenues.
 Two 1-story steel service station bldgs.
 Owner—Standard Oil Co., 225 Bush St.
 Plans by Engr. Dept. of Owner.
 Contractor—Lindgren and Swinerton,
 Inc., 225 Bush St.

GOVERNMENT WORK AND SUPPLIES

Contract Awarded.
OFFICERS QTRS. Cont. Price \$116,270
SAN FRANCISCO, Fort Scott.
 Twenty double sets of non-commissioned
 officers qtrs. (hollow tile
 construction, stucco exterior, hot
 water heating system, etc.)

Owner—United States Government.
 Plans by Constructing Quartermaster,
 Fort Mason.
 Contractor—William Spivock, Hobart
 Building.

Contract Awarded.
BARRACKS, Etc. Cont. Price \$159,491
ALAMEDA, Alameda Co., Cal. Gov-
 ernment Island.
 Nature of Work: Two-story and base-
 ment barracks (54x120) for Coast
 Guard;
 One-story shop for Coast Guard (72x
 120-ft.);
 Two-story warehouse (100x125) Pacific
 Supply Depot;
 One-story storage building for Forest
 Service (125x175);
 One-story garage for Coast Guard (20x
 64);
 One-story sentry house (8x12);
 One-story pump house (11x16);
 Heating system (Unit 24).

All structural steel construction,
 brick facing, tile backing on concrete
 foundations, reinforced concrete wall
 base, concrete floors.

Owner—United States Government.
 Plans by Bureau of Public Roads,
 Washington, D. C.
 Contractor—Schuler & McDonald, 1723
 Webster St., Oakland.

Plans Being Completed.
OFFICERS QUARTERS \$335,000
SAN RAFAEL, Marin Co., C al. Ham-
 ilton Field.

Twelve sets of officers' quarters and
 12 sets non-commissioned officers'
 quarters (two-story and basement
 hollow tile and stucco structures,
 tile roof; Spanish type).
 Owner—United States Government.
 Plans by Constructing Quartermaster,
 Hamilton Field, San Rafael.
 Bids will be asked about December
 15.

MARE ISLAND, Solano Co., Cal.—
 As previously reported, until Dec. 21,
 bids will be received by Bureau of
 Yards and Docks, Navy Department,
 Washington, D. C., under Spec. No.
 7115, to furnish four 1000-H.P. water-
 tube boilers with air-cooled settings,
 superheaters, oil burners, automatic
 control equipment with mastic con-
 trol, soot blowers, boiler appurten-
 ances, valves and piping in connection
 with the Central Power Plant at Mare
 Island Navy Yard. Plans and specifi-
 cations are obtainable from the Bureau
 of Yards and Docks or from the
 Commandant, Mare Island Navy Yard
 on deposit of \$10.

WASHINGTON, D. C.—Until Dec.
 28, bids will be received by the Bureau
 of Yards and Docks, Navy Depart-
 ment, Washington, D. C., for a fire
 alarm system, consisting of call boxes,
 electric air horn, gongs, control board
 equipment, wires, cables and connec-
 tions at the Naval Air Station, Sunny-
 vale, California. Specification No.
 6984. Plans and specifications avail-
 able from above office and from the
 Commandant of the 12th Naval Dis-
 trict, 100 Harrison St., San Francisco.

WASHINGTON, D. C.—Standard
 Electric Time Company, Springfield,
 Mass., at \$700 awarded contract by
 Treasury Department, Washington, D.
 C., for furnishing and installing time
 clock systems in the post office build-
 ing at Oakland, Calif.

Contract Awarded.
OFFICERS' QTRS. Cont. Price, \$73,968
SAN FRANCISCO, Fort Mason.
 Seven sets of two-story and basement
 officers' quarters (hollow tile con-
 struction, Mission stucco exterior,
 three baths to each set, garage,
 hot water heating system, etc.)
 Owner—United States Government.
 Plans by Constructing Quartermaster,
 Fort Mason.
 Contractor—William Spivock, Hobart
 Building.

Bids Wanted—To Close December 21.
 Fixtures Cost, \$—
ST. JOHNS, Oregon.
 Interior lighting fixtures for Post
 Office.
 Owner—United States Government.
 Architect—M. F. Stokes, Commerce
 Bldg., Portland.
 Plans and specifications available
 from the office of the Supervising Ar-
 chitect, Washington, D. C.

Commlsioned To Prepare Plans.
POST OFFICE Cost, \$108,000
SOUTH PASADENA, Los Angeles Co.
 Class A post office.
 Owner—United States Government.
 Architect—Marsh, Smith and Powell,
 Architects' Bldg., Los Angeles.

Contract Awarded.
POST OFFICE Cont. Price, \$110,100
EL CENTRO, Imperial Co., Cal.
 One-story and basemnt Class A Post
 Office (101x77 feet).
 Owner—United States Government.
 Plans by Supervising Architect, Wash-
 ington, D. C.
 Contractor—Union Engineering Co.,
 590 Pacific Blvd., Huntington
 Park.

Bids Wanted — To Close January 6,
 3 P. M.
POST OFFICE Cost, \$270,000
BEVERLY HILLS, Los Angeles Co.
 Steel frame and masonry Post Office
 (brick and terra cotta exterior,
 tile and composition roof, steel
 sash, masonry and tile work, steam
 heat, vault, etc.)
 Owner—United States Government.
 Architect—Ralph C. Flewelling, 450 N.
 Beverly Drive, Beverly Hills.

Plans Being Figured—Bids Close Dec.
 30.
POST OFFICE Cost, \$170,000
REDLANDS, San Bernardino Co., Cal.
 Class A Post Office.
 Owner—United States Government.
 Architect—G. Stanley Wilson, 3646 W.
 9th St., Riverside.

Sub-Contracts Awarded.
POST OFFICE Cont. Price, \$111,370
VALLEJO, Solano Co., Cal. Main and
 Carolina Streets.

One-story steel frame post office,
 granite and terra cotta facing,
 steam heating system, freight and
 passenger elevator, etc.)

Owner—United States Government.
 Architect—Chas. Deau, California Life
 Bldg., Sacramento.
 Structural Engineer—Nathaniel Ellery
 2124 E-39th St., Oakland.

Mechanical Engr.—Robert L. St. John
 544 Market St., San Francisco.

Contractor — K. E. Parker Co., 135
 South Park, San Francisco.

Brick Work—White & Gloor, Monad-
 nock Bldg., San Francisco.

Terra Cotta—California Art Tile Co.,
 2711 and Maine Sts., Richmond.

Miscellaneous Iron — Michel & Pfeffer
 Iron Works, Harrison and Tenth
 Sts., San Francisco.

Marble—Clevri Marble Co., 1721 San
 Bruno Ave., San Francisco.

Plumbing & Heating—Fred W. Snook
 536 Clay St., San Francisco.

Electric—Collins Electric Co., 708 E-
 Market St., Stockton.

SUNNYVALE, Santa Clara Co., Cal.
 —Dinnwilly Const. Co., Crocker Bldg.,
 San Francisco, awarded the following
 sub-contracts in connection with the
 construction of the concrete pavement,
 railroad tracks, metal clad partitions,
 and drainage, plumbing and heating,
 air conditioning, helium and gasoline
 systems in the hangar; and one-story
 reinforced concrete gasoline pumping
 and ethylizing building and equipment
 at the Naval Air Station, Sunnyvale,
 Specification No. 6956:

Gas Piping, Ethylizing Equipment, Hel-
 ium Blower, Helium Piping—Bald-
 win & Butler, 620 Cragmont Ave.,
 Berkeley.

Excavation—L. C. Smith, San Mateo.

Plumbing—J. H. Pinkerton, 927 How-
 ard St., San Francisco.

Heating—Fred W. Snook, 536 Clay
 St., San Francisco.

Steel Windows and Doors—Rolph Mills
 & Co., 525 Market St., San Fran-
 cisco.

Concrete—Urban Bros., Palo Alto.

WASHINGTON, D. C.—As previ-
 ously reported Herman Lawson, 465 Te-
 hama St., San Francisco, at \$7,980
 submitted low bid to Treasury De-
 partment, Washington, D. C., for a
 lawn sprinkler system at the Marine
 Hospital, San Francisco. Following is
 a complete list of the bids:

| | |
|---|----------|
| Herman Lawson, S. F. | \$ 7,980 |
| Frank J. Reilly, S. F. | 8,231 |
| Altenate | 8,481 |
| F. W. Snook, S. F. | 8,494 |
| Jas. H. Pinkerton, S. F. | 8,476 |
| West Coast Sprinkler System Co., S. F. | 8,556 |
| Schreiber Bros., Oakland | 9,968 |
| P. L. Burr, S. F. | 9,132 |
| Alex. Coleman, S. F. | 9,347 |
| Fay Imp. Co., S. F. | 9,730 |
| Scott Co., S. F. | 9,800 |
| O'Mara & Stewart, S. F. | 9,990 |
| Brooks of California, L. A. | 10,405 |
| Hadden Co., Alhambra | 10,432 |
| Hickman Bros., San Pedro | 10,772 |

Bids held under advisement.

Bids Wanted—To Close Dec. 21.
COURT HOUSE Cost, \$1,000,000
FORT WORTH, Texas.

Class A Court House.

Owner—United States Government.
 Plans by Supervising Architect, Treas-
 ury Dept., Washington, D. C.

Plans available from Treasury Dept.,
 Washington, D. C., upon deposit of
 \$50.

SAN RAFAEL, Marin Co., Cal.—Un-
 til Dec. 16, 11 A. M., bids will be re-
 ceived by Constructing Quartermaster,
 Hamilton Field (Marin Me a d o w s
 Bombing Base) to construct a 250,000
 gallon capacity steel standpipe with
 concrete foundations, and connect the
 same to existing distribution system
 at Hamilton Field. Specifications ob-
 tainable from above office on deposit
 of \$10, check payable to Treasurer of
 the United States.

Contract Awarded.
IMMIGRATION STATION

HONOLULU, T. H. Contract Price, \$336,000

One-story administration bldg. (21x
 138-ft.) one-story detention home
 (184x80-feet) one story lounging
 shed (104x40-ft.) steel frame and
 masonry construction; conc. piling,
 steel roofing trusses, stucco exter-
 iors, the roofs, copper gutters and
 downspouts, colored cement ter-
 razzo, tile and linoleum floors,
 metal sash, metal doors, vaults,
 marble, tile and travertine work,
 terra cotta grilles and sills, metal
 lath, plumbing, electrical work,
 drinking fountains, storage water
 heater with steam boiler, sterilizer
 and disinfecter.

Owner—United States Government.
 Architect—Herbert C. Cayton,
 Consulting Architect—C. W. Dickey,
 Damon Bldg., Honolulu.
 Contractor—Young Engineering Co.,
 1750 Young St., Honolulu.

WASHINGTON, D. C. — K. E.
 Parker Co., 135 South Park, San Fran-
 cisco, at \$98,340 awarded contract by
 Supervising Architect, Treasury De-
 partment, Washington, D. C., for con-
 struction of the one-story, basement
 and mezzanine floor Class A steel and
 concrete Post Office with brick and
 terra cotta exterior finish and granite
 base, to be erected in Napa for the
 United States Government. Plans were
 prepared by Architects Reed & Corlett,
 Oakland Bank Bldg., Oakland.

Following is a complete list of bids:
 K. E. Parker Co., S. F. \$ 98,840
 William Spivock, S. F. 99,370
 Herbert M. Baruch, Los Angeles 99,457
 MacDonald & Kahn, S. F. 103,000
 Schuler & McDonald, Oakland 104,885
 Anderson & Ringrose, S. F. 105,000
 Bids held under advisement.

Bids Wanted—To Close Dec. 14th, 11
 A. M.

BUILDINGS Cost, \$—
SUNNYVALE, Santa Clara Co., Cal.
 Naval Air Station.

Three one-story reinforced concrete
 buildings and a 70-foot steel flag
 pole (Spec. No. 7030).

Owner—United States Government.
 Plans by Bureau of Yards and Docks,
 Washington, D. C.

Plans obtainable from the Bureau
 of Yards and Docks, Navy Depart-
 ment, Washington, D. C., and from
 the Commandant, Twelfth Naval Dis-
 trict, 100 Harrison St., San Francisco,
 upon deposit of \$10, check made pay-
 able to chief of the Bureau of Yards
 and Docks.

WASHINGTON, D. C.—Montgomery
 Elevator Co., Moline, Illinois, at \$4,957
 awarded contract by Bureau of Yards
 and Docks, Washington, D. C., for
 two electric freight elevators for the
 Naval Air Station, Sunnyvale. Spec.
 No. 7029.

WASHINGTON, D. C. — Libbey &
 Libbey Co., 24 Second Avenue, Min-
 neapolis, Minn., procured plans from
 the Treasury Department, Wash-
 ington, D. C., for the purpose of sub-
 mitting a bid on December 6 to the
 Treasury Department in connection
 with the construction of the Federal
 Building to house the U. S. Forest
 Service Offices. Hodgson & McClean-
 ahagan, Ogden, Utah, architects. Cost,
 \$300,700.

**HALLS AND SOCIETY
 BUILDINGS**

Planned.
LODGE BUILDING Cost, \$25,000

PITTSBURG, Contra Costa Co., Calif.
 Cumberland and Tenth Sts., 45x
 100 feet.

Two-story lodge building (large dance
 hall, lodge rooms, etc.)

Owner — Pittsburg No. 1474,
 Elks.

Architect—Not Selected.
 Further information will be given
 shortly.

HOSPITALS

December 3, 1932
 Sub-Contracts Awarded.

ADDITION Cost, \$50,000
SAN FRANCISCO, Nineteenth Ave.
 and Moraga Street.

Two-story and basement reinforced
 concrete south wing addition to
 hospital (40 beds) brick and terra
 cotta facing.

Owner—Shriner Hospital for Crippled
 Children, John McGilvray, chair-
 man.

Architect—Weeks and Day, 405 Mont-
 gomery Street.

Contractor—J. H. Johnson, 639 Bran-
 den Street.

Structural Steel—Judson - Pacific Co.,
 609 Mission Street.

Reinforcing Steel—Pacific Coast Steel
 Co., 20th and Illinois Streets.

Monel Metal—Formder Corncok Works
 269 Potrero Ave.

Ornamental Iron—Michel and Pfeffer
 Iron Works, Harrison and Tenth
 Streets.

Title—Malott & Peterson, 20th & Harrison Streets.

Roofing—Alta Roofing Co., 976 Indiana.

Bids Opened.
INFIRMARY Cost, \$25,000
SAN RAFAEL, Marin Co., Cal. County Farm.

Two-story Class C infirmary (wards, surgery, dining rooms, kitchen, etc.) to connect to main building by arcade; tile roof, steam heating system.

Owner—County of Marin.
Architect—S. Heiman, 605 Market St., San Francisco.

Low Bidder—DeLuca & Son, 666 Mission St., San Francisco.

Following is a complete list of bids: (1) deduct for omitting portions of interior finish;

(2) deduct for omitting tile roof;

(3) deduct for omitting tile in baths and toilets;

(4) deduct for omitting heating system in present boiler room plant.

DeLuca & Son, San Francisco...\$22,275
.....(1) 3,000
.....(2) 500
.....(3) 530
.....(4) 1,323

Young & Horstmeier, S. F....\$23,177
.....(1) 3,481
.....(2) 666
.....(3) 570
.....(4) 1,327

Leibert & Trobeck, S. F....\$23,338
.....(1) 2,934
.....(2) 500
.....(3) 615
.....(4) 1,800

Jacks & Irvine, S. F....\$23,720
.....(1) 4,109
.....(2) 850
.....(3) 276
.....(4) 1,370

H. H. Larsen, S. F....\$23,943
.....(1) 2,850
.....(2) 500
.....(3) 400
.....(4) 1,450

Smith & Jackson, San Rafael...\$24,070
.....(1) 3,275
.....(2) 500
.....(3) 374
.....(4) 1,493

Clinton Stephenson Const. Co., San Francisco...\$24,158
.....(1) 3,000
.....(2) 700
.....(3) 500
.....(4) 1,450

J. Faggianna, San Rafael...\$26,884
.....(1) 4,223
.....(2) 500
.....(3) 885
.....(4) 1,493

Bids held under advisement.

ELDRIDGE, Sonoma Co., Calif.—Golden Gate Iron Works, 1541 Howard Street, San Francisco, at \$1,450 awarded contract by State Purchasing Department, Sacramento, for steel fire escape stairs at the State Home at Eldridge.

Contracts Awarded.
HOSPITAL Cost, \$10,000
FRESNO Fresno Co., Cal. General Hospital.

One-story brick administration building and remodeling children's ward. Owner—County of Fresno.

Architect—Swartz & Ryland, Brix Bldg., Fresno.

Contractor—T. C. Irwin, 269 N-Fulton St., Fresno, at \$6071.

Plumbing—Barrett Hicks Co., 1031 Broadway, Fresno, at \$1206.

Electric—Robinson Electric Co., 136 N-Van Ness Ave, Fresno, at \$1524.

Following is a complete list of bids:

General Work
(1) add for lockers and bookstacks.

T. C. Irwin, Fresno\$5895
.....(1) 176

Jolly & Harrington, Fresno.....\$6233
.....(1) 188

E. J. Heffner, Fresno.....\$6299
.....(1) 165

W. T. Harris, Fresno.....\$6550
.....(1) 155

Plumbing
Barrett Hicks Co., Fresno.....\$1206

B. A. Newman, Fresno.....1219

Electric
(1) deduct.
Robinson Electric Co., Fresno...\$2165
.....(1) 644

Valley Electric Co., Fresno.....\$2400
.....(1) 650

Electric Constr. Co., Fresno.....\$2418
.....(1) 650

Bids held under advisement.

PUBLIC BUILDINGS, FIRE HOUSES AND JAILS

Prenatal Plans.
AUDITORIUM Cost, \$20,000
PALO ALTO, Santa Clara Co., Cal. Rincónada Park.

Auditorium and theatre (Spanish type).
Owner—City of Palo Alto.

Architect—Birge M. Clark, 310 University Ave., Palo Alto.

The City of Palo Alto has accepted a gift of \$40,000 made by an unnamed donor. Further details will be announced shortly.

SAN FRANCISCO.—The following awards were made by the Trustees of the San Francisco War Memorial for garden fence and granite coping in connection with the War Memorial Project:

Ornamental Iron Fence
Golden Gate Iron Works, 1541 Howard Street\$5,100

Bronze Lanterns
Monarch Iron Works, 262 7th Street1,300

Painting and Gold Leaf
A. A. Zelinsky, 4420 California Street\$ 848

SAN QUENTIN, Marin Co., Calif.—California Steel Products Co., 452 Bay St., San Francisco, at \$529 awarded contract by State Purchasing Department, Sacramento, for steel doors and railings at the San Quentin Penitentiary.

Bids held under advisement.

RESIDENCES

Plans Being Completed.
RESIDENCE Cost, \$50,000
SAN MATEO, San Mateo Co., Cal. Caralands Tract.

Two-story frame and stucco or brick residence (15 rooms, 5 baths; English type).

Owner—C. C. Young, 2223 Easton Dr., Burlingame.

Architect—Willis Polk Co., 277 Pine St., San Francisco.

Bids will be asked in about 1 week.

Contracts Awarded.
RESIDENCE Cost, \$37,000
ATHERTON, San Mateo Co., Cal.

Two-story and basement frame and stucco residence (29 rooms and 9 baths) tile roof, oak floors, warm air heating system, electric refrigeration, etc.

Owner—Frances Stent, Atherton.
Architect—Gardner A. Dalley, 210 Post St., San Francisco.

Contractor—Young & Horstmeier, 461 Market St., San Francisco.

Preparing Preliminary Plans.
ALTERATIONS \$30,000 \$40,000
HILLSBOROUGH, San Mateo Co.,

Cal. Easton Drive.
Alterations and additions to two-story and basement frame residence (add rooms, new plumbing, heating, wiring, mill work, etc.)

Owner—Paul I. Pagan, Hillsborough.
Architect—Arthur Brown Jr., 251 Kearny St., San Francisco.

Contract Awarded.
RESIDENCE Cont. Price, \$7250
HILLCRESS, Santa Clara Co., Calif. McKee Road.

Two-story and basement brick veneer residence (8 rooms and 4 baths tile roof, Spanish type).

Owner—Dr. E. E. Porter,
Architect—W. E. Higgins, 19 N Second St., San Jose.

Contractor—J. E. Perkins, 34 S 34th St., San Jose.

Following is a complete list of bids:

J. E. Perkins, San Jose.....\$7,250

Chas. Thomas, San Jose.....7,541

M. W. Reese, San Jose.....7,570

C. F. Keesling, San Jose.....7,673

N. H. Nielsen, San Jose.....7,684

Paul Anderson, San Jose.....7,999

Megna & Newell, San Jose.....8,467

Guy M. Latta, San Jose.....8,500

Wm. H. Swartz, San Jose.....8,575

W. M. Cauldwell, San Jose.....8,590

Bids will be asked at a later date on painting, heating and septic tank.

Preparing Working Drawings.
RESIDENCE Cost, \$15,000
HILLSBOROUGH, San Mateo County, Calif.

Two-story and basement frame and brick veneer residence (shake roof, gas hot air heating system, electric refrigeration, etc.; Colonial type).

Owner—H. L. Clary.
Architect—Willis Polk Co., 277 Pine St., San Francisco.

Contract Awarded.
RESIDENCE Cont. Price, \$16,453
BERKELEY, Alameda Co., Cal. Avalon Court.

Two-story and basement frame and stucco residence (12 rooms and 4 baths).

Owner—Thomas Telfer.
Architect—H. H. Guterson, 526 Powell Street.

Contractor—Frank G. Applebe, 2405 Acton St., Oakland.

SCHOOLS

Bids Wanted—To Close Dec. 29th, 7:30 P. M.

JUNIOR HIGH SCHOOL Cost, \$325,000
SACRAMENTO, Sacramento Co., Cal. Land Park Drive and Vallejo Way.

Two-story Class C reinforced concrete and brick junior high school (auditorium, gymnasium, etc.)

Owner—Sacramento Board of Education.
Architect—Harry J. Devine, California State Life Bldg., Sacramento.

Bids are being taken on a segregated bid basis as follows: General work, brick work, electrical, plumbing, heating and ventilating, stage equipment, seating equipment, lockers, painting and linoleum.

Contract Awarded.
BLEACHERS Cont. Price, \$8859
BERKELEY, Alameda Co., Cal. University of California campus.

Bleachers to seat approximately 1900; steel construction, wooden seats.
Owner—University of California.
Architect—George Kelham, 315 Montgomery St., San Francisco.

Contractor—Dinwiddie Const. Co., Crocker Bldg., San Francisco.

Prospective Bidders.

SCHOOL Cost, \$200,000
SACRAMENTO, Sacramento Co., Cal.
Fifty-fourth and M Streets.

One-and two-story brick and wood construction Junior High School.
Owner—Sacramento City School Dist.
Architect—Charles Dean, California State Life Bldg., Sacramento.

Following have procured plans. Bids open December 12:

General Work

C. J. Hopkinson, 1810 28th St., Sacramento.

W. C. Keating, Forum Bldg., Sacramento.

Harry Robertson, 209 8th St., Sacramento.

Campbell Constr. Co., 300 R St., Sacramento.

Azevedo & Sarmento, 920 O Street, Sacramento.

Fred Betz, 2042 Markham St., Sacramento.

Jessie McDaniels, Los Angeles.

W. J. Ochs, American Trust Co. Bldg., San Jose.

E. H. Riley, First National Bank Bldg., Stockton.

J. F. Shephard, First National Bank Bldg., Stockton.

Brick Work

Henry Redmond, 2414 N St., Sacramento.

W. J. Clifford, 2815 S St., Sacramento.

Harry Johnson, 1801 G St., Sacramento.

Electrical

Rex Moore, 616 San Antonio St., Sacramento.

M. F. Cannon, 2705 10th Ave., Sacramento.

J. C. Holrecht, 1020 J St., Sacramento.

Luppen & Hawley, 3126 J St., Sacramento.

George C. Foss, 1720 8th St., Sacramento.

Severin Electric Co., 172 Clara St., San Francisco.

J. M. Foley.

W. B. Baker, 15 Harriet St., San Francisco.

California Engineering Co.**Heating and Ventilating**

Hatley & Hatley, 1710 10th St., Sacramento.

Luppen & Hawley, 3126 J St., Sacramento.

Carpenter & Mendenhall, 907 Front St., San Francisco.

Herman Lawson, 465 Tehama St., San Francisco.

L. U. Plummer, 1019 J St., Sacramento.

F. A. McIntyre, 2922 35th St., Sacramento.

Linoleum

McLean Hardwood Co., Sutter and Hazelton Sts., Stockton.

Clive Gephart, 1122 J St., Sacramento.

Painting

Wilcoxson & Wilson, 1724 34th St., Sacramento.

Raphael Co., 270 Tehama St., San Francisco.

D. Zelinsky, 165 Grove St., San Francisco.

Lercy Post, 1017 9th St., Sacramento

Chester King, 3316 Third Ave., Sacramento.

Plumbing

Hately & Hatley, 1710 10th St., Sacramento.

Carpenter & Mendenhall, 907 Front St., Sacramento.

Herman Lawson, 465 Tehama St., San Francisco.

L. U. Plummer, 1019 J St., Sacramento.

F. A. McIntyre, 2922 35th St., Sacramento.

Stage Equipment

Heywood Wakefield Co., 243 Golden Gate Ave., San Francisco.

Los Angeles Scenic Studios, Inc., 1215 Bates Ave., Los Angeles.

Spinner Dist. Corp., 6518 Avalon Blvd., Los Angeles.

Fred Turner, 557 Market St., San Francisco.

American Seating Co., 1125 J St., Sacramento.

Steel Locker

Medart Co., 7 Front St., San Francisco.

Fred Turner, 557 Market St., San Francisco.

Contracts Awarded.

GYMNASIUM Cont. Price, \$101,577
SAN DIEGO, San Diego Co., Cal. State Teachers' College.

One- and two-story reinforced concrete gymnasium (structural steel framing, tile roof, etc.)

Owner—State of California.

Architect—George B. McDougall, State Architect, Public Works Building, Sacramento.

Contractor—H. Mayson, 9315 S Hooper Ave., Los Angeles.

Heating and Ventilating—Jones Heating Co., 497 S Broadway, Pasadena \$15,890.

Electric—H. H. Walker Co., 1323 Venice Blvd., Los Angeles, \$4,500.

Plumbing—E. Rohde, 1746 Columbia St., San Diego, \$11,475.

BERKELEY, Cal.—Until Dec. 21, 8 P. M., bids will be received by Clara F. Andrews, secretary, Berkeley Board of Education, for work in the following schools:

Galvanized Wire Mesh Fence
John Muir School Playground, East Claremont between Ashby and Webster Sts.

Garfield Junior High School Playground, N Rose at Grant St.

Grading, Paving and Concrete Work
Garfield Junior High School Playground, N Rose at Grant St.

Concrete Curbs and Sidewalks
Berkeley High School, Grove Street and Allston Way.

Plans and specifications available from above office on deposit of \$5.00.

BANKS, STORES & OFFICES

Contract Awarded.
STORE Cost, \$6000
GUSTINE, Merced Co., Cal. Fifth Street.

Two-story hollow tile and concrete store (25x40 feet).

Owner—Joseph Laurel, Gustine.

Architect—Not Given.

Contractor—Roy Kruger, Gustine.

Contracts Awarded.
RECONDITION BLDG. Cost, \$10,000
SAN FRANCISCO. 251 California St.

Reconditioning 16-story office building (work involves cleaning exterior, painting, waterproofing marble.)

Owner—Balfour Building Company.

Architect—George Kelham, 315 Montgomery Street.

Cleaning—J. Z. Smith, 1530 Gough Street.

Painting—J. A. Mohr, 433 11th St.

Stone Work—Paul Denville, 2684 Green Street.

MARKET Cost, \$10,000
RICHMOND, Contra Costa Co., Cal. SE Twenty-third St. & Macdonald Avenue.

One-story Class C reinforced concrete market; tar and gravel roof, steel sash, etc.

Owner—Hensley Corp., (% Bells-Gilbert, Inc.), 366 17th St., Oakland.

Architect—H. A. Minton, 525 Market St., San Francisco.

Plans Being Completed.
STORE Cost, \$10,000
MODESTO, Stanislaus Co., Cal.

One-story reinforced concrete store.

Owner—Withheld.

Architect—G. N. Hilburn, 1812 I St., Modesto.

Bids will be asked shortly.

THEATRES

Preparing Preliminary Plans.
STORE Cost, \$10,000
OAKLAND, Alameda Co., Cal. Telegraph Avenue.

One-story Class C brick and concrete store (45x135 ft., 3 stores; plate glass front, metal sash, decorative tile, etc.)

Owner—Withheld.

Architect—E. L. Snyder, 2101 Addison St., Berkeley.

Contract Awarded.
REMODELING Cost, \$30,000
SAN JOSE, Santa Clara Co., Calif. First Street.

Remodel Class B theatre (work involves painting, decorating, tile work, electrical work, seating equipment, ventilating system, Neon sign, etc.)

Owner—Liberty Amusement Co.

Architect—Fred H. Reimers, 233 Post St., San Francisco.

Contractor—Carl N. Swenson Constr. Co., 355 Stockton Ave., San Jose.

Suh-bids will be taken in about one week.

WHARVES AND DOCKS

OAKLAND, Cal.—Grinnell Company of the Pacific, 2230 Peralta St., Oakland, awarded contract by City of Oakland Port Commission for furnishing and installing complete automatic sprinkler systems in the following:

Outer Harbor Terminal.....\$6,053.60

Grove Street Pier.....5,985.50

Market Street Pier.....6,175.50

Sprinkler bids for Ninth Ave. Pier were rejected and new bids are being received and will be opened Nov. 23, 4:30 P. M.

Plans Being Completed.

STADIUM Cost, \$—
SAN JOSE, Santa Clara Co., Cal.

Football stadium (seating capacity of approx. 20,000) crescent shaped earth embankment on each side;

radio broadcasting facilities, dressing rooms, press boxes, etc.

Owner—Associated Student Body of the San Jose State Teachers' College.

Engineer—Michael Antonaol, City Hall San Jose.

There is approximately 45,000 cubic yards of excavation involved in this project. Bids will be asked within 30 days.

Bids Wanted—To Close Dec. 15th, 2 P. M.

EXTENSION Cost, \$—
SAN FRANCISCO. Pier No. 35.

Reinforced concrete extension to Pier No. 35 (80 ft.) reinforced concrete piles on conc. deck, cargo aprons, concrete supports for machinery.

Owner—State of California (Harbor Commission).

Engineer—Frank G. White, Ferry Building.

MEMBERS OF THE ASSOCIATED GENERAL CONTRACTORS

PACIFIC COAST AND INTERMOUNTAIN TERRITORY

CALIFORNIA STATE BRANCH

1318 Pershing Square Bldg.—Trinity 9418—Los Angeles

O. C. STRUTHERS, President

E. L. KIER, Vice-President

GEORGE HERZ, Secretary

MELVILLE DOZIER, JR., Manager

NORTHERN CALIFORNIA CHAPTER

206 Sansome St.—Garfield 7107—San Francisco, Calif.

C. W. Wood, President Geo. C. Pollock, Vice-President
Floyd O. Booe, Secretary-Manager

| | | |
|--|--|--------|
| Atkinson, Lynn S. (HPR)..... | 1316 7 th Edwards Way Bldg., L. A., Tr. | 7451 |
| Atkinson, Guy F. Co., Inc. (BHPR)..... | 461 Russ Bldg., S. F., Sut. | 3629 |
| Ball, N. M. (HP)..... | 1889 Yosemite Rd., Berkeley, AS. | 6722 |
| Basalt Rock Co., Inc. (H)..... | 900 8th St., Napa, Napa | 105 |
| Sechtel Co., W. A. (BHPR)..... | 155 Sansome St., S. F., GA. | 0780 |
| Bevanda, M. J. (HP)..... | 319 Elk St., Stockton | 7470 |
| Bishop, E. B. (HP)..... | 900 Forum Bldg., Sacramento, Capitol | 2456 |
| Bodenhamer Const. Co. (HPR)..... | Box 43, 354 Hobart St., Oakland, Glencourt | 5022 |
| Calif. Const. Co. (BHPR)..... | 715 Standard Oil Bldg., S. F., DO. | 4820 |
| Casson, Jack A. (HP)..... | Hayward Calif., Hayward | 856 |
| Clark & Henry Const. Co. (HP)..... | 564 Market St., S. F., DO. | 2903 |
| Colley, W. C. (HPR)..... | 35 Northampton Ave., Berkeley, ASH. | 1323 |
| Conner, J. L. (HP)..... | P. O. Box No. 86, Monterey | 1137-M |
| Connolly, T. E. (BHPR)..... | 461 Market St., S. F., Kearny | 6408 |
| Conyes, R. A. (HPR)..... | 1043 38th St., Oakland, Olym. | 9391 |
| Currie, James (HPR)..... | 1100 Peninsula Ave., Burlingame, Burl. | 3497 |
| Delin, C. M. (HPR)..... | 206 Sansome St., San Francisco, Gar. | 7107 |
| Dodge Bros., Inc. (HP)..... | Fallon, Nevada, Nevada | 1761 |
| Drumm, A. D., Jr. (HP)..... | Fallon, Nevada, Main | 44-W |
| Eaton & Smith (HPR)..... | 715 Ocean Ave., San Francisco, DE. | 6700 |
| Fairbanks, A. J. & J. L., Inc. (HPR)..... | Linden Ave., So. S. F., KE. | 436 |
| Fay Improvement Co., The (HPR)..... | Phelan Bldg., S. F., KE. | 4044 |
| Fitzmaurice, J. H. (HP)..... | 2857 Hannah St., Oakland, Higate | 2490 |
| Force Const. Co. (HP)..... | 70 Bellevue, Piedmont, Calif., HU. | 9349 |
| Franks Contractg. Co. (RPW)..... | 260 California St., S. F., DOUG. | 6684 |
| Frederickson Bros. (BHP)..... | First Natl. Bank Bldg., Stockton, Stockton | 5974 |
| Frederickson & Watson Const. (BPHR)..... | 873 81st Ave., Oakland, SW. | 1264 |
| French, George J., Jr. (HP)..... | P. O. Box No. 675, Stockton | 6676 |
| Gerwick, Ben C., Inc. (HPR)..... | 112 Market St., S. F., SU. | 8454 |
| Granite Construction Co. (BHPR)..... | 1175 Howard St., San Francisco, FR. | 988 |
| Hanrahan Co. (HP)..... | Hobart Bldg., San Francisco, GA. | 1639 |
| Harney, Charles L. (HP)..... | 74 New Montgomery St., S. F., GA. | 1711 |
| Hauser, W. H. (HPR)..... | 3129 E. 7th St., Oakland, Fruitvale | 6790 |
| Healey-Moore Co. (HP)..... | 344 High St., Oakland, AL. | 0466 |
| Hennestreet & Bell (HP)..... | 1119 "C" Street, Marysville, | 433 |
| Heple, Earl W. (BHPR)..... | 494 Delmas Ave., San Jose, Calif. | |
| Hodgman & MacVicar (HP)..... | 714 Plymouth, Pasadena, Ter. | 1563 |
| Holland, J. P., Inc. (HPR)..... | 1834 McKinnon Ave., S. F., MI. | 5400 |
| Isbell Const. Co. (HP)..... | Carson City, Nev., Ph. 1754 (Also Fresno) | |
| Jenkins, M. A. (HP)..... | 3560 Y St., Sacramento Capital | 422 |
| Jones & King (HPR)..... | Hayward, Calif., Hay. | 74 |
| Kaiser Paving Co. (BHPR)..... | Latham Square Bldg., Oak., HI. | 2614 |
| Kapp, J. F. (HPR)..... | 916 Financial Center Bldg., Oak., AL. | 1620 |
| Larsen Bros. (HP)..... |, Galt, Calif. | |
| Lee, U. B. (HP)..... | 10059 Carpenter St., San Leandro, Sweet. | 1717 |
| Le Tourneau, R. C. (HPR)..... | 122 Moss Ave., Stockton, 471 | |
| Lord & Bishop (HPR)..... | Native Sons Bldg., Sacramento, Main | 3981 |
| Loveland, Nate (HP)..... | 3433 "N" St., Sacramento, Main | 1990 |
| Malcom, C. T. (HPR)..... | Walnut Creek, Calif., W. C. | 277 |
| McDonald, D. (HPR)..... | 204 23rd St., Sacramento, Cap. | 1806 |
| McCillivray Const. Co. (HP)..... | Box 927, Sacramento, Capital | 1806 |
| McMillan, W. W. (HP)..... | 2088 Howard St., San Francisco, Main | 3876 |
| Mercer-Fraser Co. (BHPR)..... | Eureka, Eureka | 808 |
| Nevada Contracting Co. (HPR)..... | Fallon, Nevada, Phone | 1851 |
| Nevada Rock & Sand Co. (HP)..... | Reno, Nevada, Reno | 5291 |
| Nightbird, Fred W. (HP)..... | Fallon, Nevada, Main | 461 |
| Pacific Pavements Co., Ltd. (HP)..... | 85 Barstow St., S. F., HE. | 4178 |
| Pacific States Construction Co. (HP)..... | Call Bldg., S. F., DO. | 0879 |
| Phillips, John, Co. (HP)..... | 582 Market St., San Francisco, KE. | 4471 |
| Pollock, Geo., Co. (HPR)..... | P. O. Box 73, Sacramento, Main | 921 |
| Rohr, H. W., Co. (HPR)..... | 4351 Alhambra Ave., Los Angeles, CA. | 6141 |
| Six Companies, Inc. (BHPR)..... | Financial Center Bldg., S. F., Gar. | 3842 |
| Siems-Helmers, Inc. (BHPR)..... | 206 Sansome St., S. F., EX. | 5140 |
| Steels & Graham Co. (HPR)..... | P. O. Box 576, Roseville, Calif. | |
| Tedford, J. N. (HP)..... | Fallon, Nevada, Main | 461 |
| Teichert, A., & Son, Inc. (HP)..... | 1846 37th St., Sacramento, Main | 6586 |
| Tieslar Bros. (HP)..... | 2819 Grove St., Berkeley, BE. | 8635 |
| Tucker, H. V., Co. (HP)..... | 300 Vermont St., S. F., MA. | 7583 |
| Ulrich Const. Co., Geo. J. P. O. Box 23, Modesto | Modesto, Modesto | 921 |
| Van der Hellen & Pierson (HPR)..... |, Castaic, Calif. | |
| Ward Engineering Co. (HP)..... | 315 Montgomery St., S. F., DOUG. | 6072 |
| Wood, C. W. (HP)..... | P. O. Box 1435, Stockton, 8743 | |
| Young, Clarence (HP)..... | 5235 Broadway Ter., Oakland, OL. | 3743 |
| Young & Son Co., Ltd. (HP)..... | 599 Colusa Ave., Berkeley, Berk | 5511 |

Associate Members

| | | |
|--|--|------|
| American Bitumuls Co. (Bitumuls)..... | 200 Bush St., S. F., GA. | 6653 |
| Anderson Bros. Supply Co. (Commissary)..... | 1922 Russ Bldg., S. F., SU. | 0832 |
| Andrews, F. T., Co. (C. P. A.)..... |, S. F., KE. | 4800 |
| Associated Oil Co. (Asso. Prod.)..... | 79 N. Mont'y St., S. F., KE. | 4800 |
| Austin Western Road Machinery Co. (Road Machinery)..... | 435 Brannan St., San Francisco, DO. | 2183 |
| Autocar Sales & Service Co. (Autocar Trucks)..... | 326 Howard, San Francisco, UN. | 4545 |
| Bacon, Edward R. Co., (Road Machinery)..... | Folsom and 17th Sts., San Francisco, UN. | 4545 |
| Blake Bros. Co. (Crushed Rock)..... | Balboa Bldg., S. F., KE. | 5320 |
| Calaveras Cement Co. (C. P. A.)..... | 115 Montgomery, San Francisco, DO. | 4224 |
| California Corrugated Culvert Co. (Corrugated Pipe)..... | 5th & Parker, West Berkeley, BE. | 5420 |
| Cement Gun Construction Co. (Cumite)..... | 55 Second St., San Francisco, SU. | 8306 |
| Contractors' Ins. Agency (Insurance)..... | 206 Sansome, S. F., SU. | 3400 |
| Cowell Lime & Cement Co. (Cement)..... | 2 Market St., S. F., GA. | 4870 |
| Geiger Iron Works (Equip.)..... | P. O. Box 423, Stockton, Stock. | 1898 |
| Granite Rock Co. (C. P. A.)..... |, Watsonville, Wat. | 988 |
| Harnescheger Sales Corp. (Equip.)..... | 82 Beale St., S. F., DO. | 2133 |
| Harron, Rickard & McCono Co. (Equip.)..... | 1600 Bryant St., San Francisco, UN. | 3740 |
| Link-Belt Co. (Equip.)..... | 400 Paoli Ave., San Francisco, DE. | 6400 |
| Marion Steam Shovel Co. (Power Shovels)..... | 571 Howard St., San Francisco, KE. | 7493 |
| Modern Vehicle Co. (Mirs. Steel Dump Bodies)..... | 437 4th St., San Francisco, GA. | 1402 |
| Murray Ready (Labor Agency)..... | 784 Howard St., S. F., SU. | 1205 |
| Northwest Engineering Co. (Shovels)..... | 23 Main St., S. F., SU. | 7053 |
| Pacific Coast Aggregates..... | 70 Wells Fargo Bldg., S. F., SU. | 8940 |
| Pacific Coast Engineering Co. (Structural Steel)..... | Foot of W. 14th St., Oakland, HI. | 1322 |
| Pacific H. B. A. Steel Co., Inc. (Drill Steel)..... | 540 Brannan St., San Francisco, GA. | 6683 |
| Pacific Portland Cement Co. (Golden Gate)..... |, San Francisco, CA. | 4100 |
| Pland-Evans (Commissary)..... | Merchants' Ex. Bldg., S. F., GA. | 5923 |
| Robinson Tractor Co. (Caterpillar Tractors)..... | 1705-09 E. 12th St., Oakland, FR. | 2485 |
| Roebeling's, Jno. A., Sons Co. (Wire Rope)..... | 1175 Howard St., San Francisco | |
| ..... | 646 Folsom St., San Francisco, CA. | 6490 |
| Santa Cruz Portland Cement Co. (Santa Cruz)..... |, Crocker Bldg., San Francisco, CA. | 3307 |
| Shell Oil Co. (Shell Products)..... | 100 Bush St., S. F., EX. | 4400 |
| Soell Steel Co. (Reinforcing Steel)..... | 1750 Army St., S. F., VA. | 5141 |
| Spears-Wells Machinery Co. (Equip.)..... | 1832 9th St., Oak., HO. | 4100 |
| Standard Oil Co. of Calif. (Standard Products)..... |, San Francisco, SU. | 7700 |
| Traffic Service Bureau (Freight Audits)..... | 24 Calif. St., S. F., GA. | 6194 |
| Union Oil Co. of Calif. (Union Prod.)..... | Mills Bldg., S. F., SU. | 1400 |
| United Commercial Co., Inc. (Equip.)..... | 234 Steuart St., S. F., DO. | 0430 |
| Western Pipe & Steel Co. (Steel Pipe)..... | 444 Market St., S. F., GA. | 6788 |

SOUTHERN CALIFORNIA CHAPTER

1318 Pershing Square Bldg.—Trinity 9418
Los Angeles, Calif.

C. G. FitzGerald, President Melville Dozier, Jr., Manager
LYNN S. ATKINSON, First Vice-President (Engineering Div.)
WM. A. SIMPSON, Second Vice-President (Building Div.)

The address of the firm is the same city in which is located the Chapter office unless otherwise shown in membership list.

Building Contractors

| | | |
|---|------------------------------------|-------|
| Atkinson, J. F. | 1102 Story Bldg., Vandike | 7783 |
| Baruch Corp., Herbert M. | 1015 Lincoln Bldg., Trinity | 5473 |
| Bradley Constr. Co., K. R. | 1833 West Pico, Washington | 2786 |
| Burgin, W. Jay. | 1100 Redondo Ave., Long Beach, L. | 81103 |
| Byerts & Dunn. | 7908 Santa Monica Blvd., Crestview | 9602 |
| Clinton Construction Co., 1103 Spring Arcade Bldg., Madison | Madison | 2597 |
| Crowell, Wm. C. | 495 S. Bdwy., Pasadena, W. | 4662 |
| Crowell Co., Weymouth. | 2104 E. 15th St., Westminster | 5708 |
| DeCamp-Hudson Co., Ltd. | 1277 W. 24th St., Westminster | 3382 |
| Dixon, L. E., Co. | 609 So. Grand Ave., Trinity | 4925 |
| Escherich Bros. | 234 W. 37th Place, Adams | 6294 |

Class of Construction: (B) Building; (H) Highway; (P) Public Works; (R) Railroad.

| | | | |
|--------------------------|--------------------------|----------------|-------------|
| Hall, J. F. | 531 Douglas Bldg. | MUTUAL | 6722 |
| Houghton & Anderson | 143 Rose St. | MUTUAL | 5430 |
| K. P. Lowell & Co., Ltd. | 606 Union Bank Bldg. | VANDIKE | 4072 |
| Macdonald & Driver | 311 Board of Trade Bldg. | TUCKER | 6467 |
| McKee, Robert E. | 1128 Central Bldg. | TRINITY | 6291 |
| Miller, Geo. E. | 401 N. Canon Dr. | B. H. | OXFORD 7404 |
| Simpson Construction Co. | 1007 Architects Bldg. | MUTUAL | 7261 |
| Snell, Fred C. | 339 N. Beverly Dr. | Beverly Hills. | OXFORD 6409 |
| Willard-Brent Co. | 254 E. 27th St. | Richmond | 2101 |

Bridges, Foundations

| | | | |
|---------------------------|------------------------|---------|-------|
| Ledbetter Co., W. M. | Box 1264, Arcade St. | CAPITOL | 13415 |
| Oberg Brothers | 707 San Fernando Bldg. | ANGELUS | 8759 |
| Raymond Concrete Pile Co. | 1008 Washington Bldg. | VANDIKE | 6536 |

Highways, Paving, Grading

| | | |
|-----------------------------|----------------------------|------------------------------|
| Basich Bros. | Torrance, Gardena | 446 |
| Bock, Geo. J. | 1007 S. Harvard | EMPIRE 7614 |
| Donovan & Sons, J. G. | 4031 Goodwin Ave. | OLYMPIC 0423 |
| Ferry, Peter L. | San Fernando Rd. and Bdwy. | Glendale, OL. 0164 |
| Fleming Construction Co. | Pomona | |
| Griffith Company | Railway Bldg. | Westmore 9343 |
| Hall-Johnson Co. | P. O. Box 387, Alhambra | Eliot 1855 |
| Herz & Co., Geo. | 310 Platte Bldg. | San Bernardino, S. B. 241-42 |
| Heuser, Chas. U. | 316 Allen Ave. | Glendale, Douglas 3965 |
| Hudson, Chas. H. | 408 Rives-Strong Bldg. | VANDIKE 3374 |
| Jahn & Bressler | 701 Lane Mortgage Bldg. | TRINITY 8674 |
| Lang Transportation Co. | 5501 Santa Fe Ave. | JEFFERSON 3104 |
| Lewis Construction Co. | 300 S. Juanita St. | Washington 1407 |
| Packard & Tanner | 905 W. Latham St. | Phoenix, Ariz. |
| Pearson & Dickerson | 401 N. Goodwin Ave. | CAPITOL 7603 |
| Ross, M. & Bressler | P. O. Box 596, Santa Ana | 227 |
| Willis, C. G., & Sons, Inc. | 2119 E. 25th St. | Lafayette 9826 |

Pipe Lines, Water Works

| | | |
|----------------------------|-----------------------------|---------------|
| American Concrete Pipe Co. | P. O. Box 1428, Arcade Sta. | JE. 4211 |
| Haverty Co., Thos. | 316 E. 8th St. | VANDIKE 1171 |
| United Concrete Pipe Co. | Box 1, Station H, L. A. | TWInoaks 9196 |

Subways, Conduits

| | |
|------------------------|-----------------------|
| Delta Construction Co. | P. O. Box 79, Compton |
|------------------------|-----------------------|

General Engineering

| | | |
|--------------------------------|----------------------------|-----------------------|
| Atkinson, Lynn S. | 609 S. Grand | TRINITY 7451 |
| Bartmus, Peter | Hollywood Riviera | Redondo, Redonda 6404 |
| Bent Bros., Inc. | 418 S. Pecan St. | ANGELUS 7510 |
| Campbell-Reichert Co. | 4000 Whiteside Ave. | ANGELUS 0598 |
| Cox, R. L. | 1100 Westminster | Alhambra 1699 |
| Emseo Conc. Cutting Corp. | 1517 Santa Fe Ave. | VANDIKE 7168 |
| Fitz-Gerald Eng. & Constr. Co. | 216 Rowan Bldg. | TRINITY 5088 |
| Foley, D. A. Construc. Co. | 716 Grant Bldg. | TUCKER 7814 |
| Kemper Const. Co., Ltd. | 3701 Overland | Los Angeles |
| Macco Construction Co. | Hynes | JEFFERSON 1148 |
| Merritt-Chapman-Scott Corp. | P. O. Box 507, San Pedro | 2880 |
| Mittry Bros. Construction Co. | 722 Detwiler Bldg. | VANDIKE 0210 |
| Morrison-Knudsen Co. | 411 West Fifth St. | MUTUAL 7684 |
| Robinson-Roberts Co. | 706 Rives-Strong Bldg. | TRINITY 2889 |
| Spier, C. A. | 618 Financial Center Bldg. | TUCKER 9570 |
| Standard Dredging Co. | 325 Central Bldg. | TRINITY 3253 |
| Watson, R. A. | 1026 N. McCadden Pl. | GRANITE 4121 |

Affiliates

| | | |
|------------------------------|-------------------------------|----------------|
| Brashears & Co., G. | 501 Security Bldg. | TRINITY 5091 |
| Consolidated Rock Prod. Co. | 656 S. Los Angeles St. | TRINITY 0241 |
| Gilmore Oil Co. | 2423 E. 28th St. | JEFFERSON 1211 |
| Graham Brothers | 1215 W. 7th St., Long Beach | L. B. 62521 |
| Hartford Accident & Ind. Co. | 548 S. Spring St. | Madison 1471 |
| L. A. Brick Co. | 1078 Mission Road | ANGELUS 5684 |
| Sun Lumber Co. | Crescent Drive, Beverly Hills | OXFORD 6191 |
| Union Oil Co. | Union Oil Bldg. | TUCKER 7211 |

ALAMEDA COUNTY CHAPTER

354 Hobart St., Rm. 410—Glencourt 7400—Oakland, Calif.

S. G. Johnson, President H. J. Christensen, Treasurer
Geo. J. Maurer, Vice-President W. E. Hargue, Manager

| | | |
|---------------------------|-----------------------------|----------|
| Brennan, J. P. (B) | 2820 Regent, Berkeley | BE. 0346 |
| Christensen, H. J. (B) | 1924 Broadway, Oakland | LA. 7164 |
| DeVelbiss, C. Dudley (B) | 337 Pine St., S. F. | GA. 3225 |
| Dyer Construction (B) | 337 17th St., Oakland | GL. 3203 |
| Furlong, Thos. H. L. (B) | 460 Jerome Ave., Piedmont | HU. 0620 |
| Jacobs & Pattiani (BP) | 337 17th St., Oakland | GL. 3203 |
| Johnson, S. C. (B) | 4652 Dolores Ave., Oakland | FR. 6650 |
| Keating, W. C. (B) | 925 Forum Bldg., Sacramento | |
| Lesure, E. T. (B) | 87 Ross Circle, Oakland | OL. 0389 |
| Littlefield, R. W. (B) | 337 17th St., Oakland | HI. 0994 |
| Lyons, W. E. (B) | 354 Hobart St., Oakland | HO. 5325 |
| Maurer, George J. Co. (B) | 50 York Drive, Oakland | HU. 3457 |
| Nordstrom, David H. (B) | 354 Hobart St., Oakland | GL. 7400 |
| Pedgrift, James H. (B) | 4106 Broadway, Oakland | HU. 1300 |
| Petersen, George (B) | 1841 Bancroft, San Leandro | TR. 2043 |
| Petersen, James B. (B) | 4021 Agua Vista, Oakland | FR. 9887 |
| Schultz, Herbert (B) | 811 Mendocino, Berkeley | AS. 2360 |
| Sullivan & Sullivan (B) | 2653 Best Ave., Oakland | AN. 4724 |
| Thornally, W. G. (B) | 354 Hobart St., Oakland | GL. 8476 |
| Westlund, Fred J. (B) | 625 40th St., Oakland | OL. 7446 |

Associate Members

| | | |
|---------------------------------|-------------------------------------|----------|
| Calaveras Cement Co. | 315 Montgomery St., San Francisco | |
| Cowell, Henry, Lime & Cemt. Co. | 81 Franklin St., Oakland | HI. 3398 |
| East Bay Glass Co. | 621 Sixth St., Oakland | |
| Lannom Bros. Mfg. Co. | Fifth and Magnolia Sts., Oakland | |
| Maxwell Hardware Co. | 1320 Washington St., Oakland | |
| Melrose Building Materials Co. | 4591 Tidewater Ave., Oakland | |
| Oakland Planing Mill | Second and Washington Sts., Oakland | |
| Pacific Portland Cement Co. | 111 Sutter, San Francisco | GA. 4100 |
| Santa Cruz Portland Cement Co. | 354 Hobart St., Oakland | |
| Sunset Lumber Co. | 400 High St., Oakland | |
| Tilden Lumber Co. | Foot of University Ave., Berkeley | |

SAN DIEGO CHAPTER

Spreckels Theater Bldg.—Main 4289—San Diego, Calif.

George R. Dalry, President M. A. Mathias, Manager
M. H. Golden, Vice-President

| | | |
|--------------------------------|---------------------------------------|--------|
| Carroll, B. C. | 4396 Maryland St., Hillcrest | 5274-M |
| Daley Corporation (HP) | 4430 Boundary St., Randolph | 1136 |
| Dennis Constr. Co., V. R. (HP) | Box 183, Sta. A, Hillcrest | 8293 |
| Ford, E. Paul (HP) | Box 201, E. Diego, Randolph | 5101 |
| Golden, M. H. (B) | 404 California Bank Bldg., Franklin | 7983 |
| Grove, Cecil B. | 4316 Island Ave., Franklin | 7474 |
| Hazard Constr. Co., R. E. (HP) | 2508 Kettner Blvd., Franklin | 6315 |
| Jarboe Constr. Co. (B) | 208 Spreckels Theatre Bldg., Franklin | 3792 |
| Kier Const. Co., W. E. (B) | First National Bank Bldg., Main | 2427 |
| Larsen, B. O. (B) | 1340 E. St., Main | 4752 |
| Miracle Const. Co. (HP) | Box 601, E. San Diego, Main | 2295 |
| Penick & Sons, T. B. (HP) | 3075 L St., Main | 4582 |

PACIFIC NORTHWEST BRANCH

4134 Arcade Building, Seattle, Wash.

JAS. MURDOCK, President H. V. BOGERT, Rec. Secretary J. B. WARRACK, Treasurer
J. C. COMPTON, Vice-President P. L. CROOKS, Vice-Pres. and Secretary

PORTLAND CHAPTER

Multnomah Hotel—Atwater 7883—Portland, Ore.

Paul L. Crooks, President Philip Hart, 2nd Vice-President
Ross B. Hammond, 1st Vice-President J. A. Lyons, Treasurer
G. B. Herington, Executive Secretary

| | | |
|--------------------------------|-----------------------|------|
| Baker Construction Co. (B) | Security Bldg., Atw. | 9211 |
| Christensen, Fred, Inc. (BHP) | 187 E. 34th St., Ew. | 8934 |
| Cochrane Construction Co. (HP) | 65th & Ainsworth, Tr. | 5944 |

| | | |
|-------------------------------------|---------------------------------|------|
| Compton, J. C. (HP) | McMinnville, Ore., McM. | 106 |
| Crooks, P. L., Inc. (HPR) | Henry Bldg., Atw. | 7767 |
| Dann, J. J. (PHR) | 300 Henry Bldg., Atw. | 5837 |
| Edlefsen-Weygant Co. (HP) | Foot of Jefferson, Atwater | 4090 |
| Endicott, Wm. | Corvallis, Oregon | |
| Gates, E. L. (HPR) | Eugene, Oregon | |
| Gilpin Construction Co. (HPR) | Henry Bldg., Atw. | 6220 |
| Greenwood, A. C. (HPR) | 500 N. Front St., Br. | 3030 |
| Guthrie & Co., A. Inc. (BPHR) | 552 Sherlock Bldg., Atw. | 8316 |
| Hammond, Ross B. (B) | 1312 Public Service Bldg., Atw. | 2159 |
| Hauser Bros. Construction Co. (PHR) | Multnomah Hotel, Atw. | 7441 |

Class of Construction: (B) BUILDING; (H) HIGHWAY; (P) PUBLIC WORKS; (R) RAILROAD.

| | |
|--------------------------------|----------------------------------|
| Hoffman, L. H. (BP) | Public Service Bldg., Atw. 3181 |
| Jacobsen-Jensen Co. (PH) | 407 Stanton, Gar. 3313 |
| Johnson Contract Co. (HPR) | 414 Exchange Bldg., Atw. 0678 |
| Johnson-Gardner Co. (HPR) | 414 Exchange Bldg., Atw. 0678 |
| Kern & Kibbe (HPR) | 290 E. Salmon St., Ea. 4116 |
| Kernan, F. J. | Porter Bldg., At. 2035 |
| La Pointe Constr Co. | 1291 Cumberland Rd., Be. 6000 |
| Lindstrom & Feigenson (BPHR) | 1991 Halsey St., Ta. 9226 |
| Lyons, J. A. (BPHR) | 1001 Halsey St., Tr. 2841 |
| Milne Constr. Co. | 1853 E. Broadway, Ta. 7277 |
| Morrison & Knudsen (BPHR) | 319 Broadway, Boise, Idaho |
| Morgan, T. M. (H) | 5410 Wilshire Blvd., Los Angeles |
| Newport Construction Co. (PHR) | 317 Exchange Bldg., Atw. 5900 |
| Pacific Bridge Co. (BPHR) | Ft. of E. Salmon St., Ea. 2164 |
| Parker & Banfield (BP) | 984 E. 17th St., Sel. 6182 |
| Parker-Schram Co. (PHR) | Couch Bldg., Atw. 4375 |
| Peck, E. C., & Co. (PH) | Aberdeen, Wash. |
| Puckett, W. H. Co. (PHR) | 319 Broadway, Boise, Idaho |
| Quinn, J. L. (B) | Box 1109, Klamath Falls, Ore. |
| Rebman, J. (PH) | 343 Vancouver Ave., Tr. 7825 |
| Robertson, Hay & Wallace (B) | 605 Weatherly Bldg., Ea. 3613 |
| *Saxton & Looney | Corvallis, Ore. |
| Seed, John S. (B) | 201 Worcester Bldg., Atw. 6444 |

| | |
|----------------------------------|------------------------|
| Martin, F. E. (B) | Galax Hotel |
| McLellan, A. (B) | E. 932 Ermina |
| Medby, M. C. (B) | S. 3614 Arthur |
| Meyers, W. G. | S. 2217 Teokoa St. |
| Morin, S. G. (B) | S. 309 Bernard |
| Norman, Nick (B) | 231 Waverly Place |
| Nyberg, Carl (H) | Realty Bldg. |
| Orino, Sam (H) | E. 3104 Boone |
| Payne, Mrs. C. M., | N. 2602 Hamilton St. |
| Power, C. A. (H) | S. 1703 Grand |
| Siems, Spokane Co. (BPHR) | Realty Bldg. |
| Standard Asphalt Paving Co. (HP) | Chronicle Bldg. |
| Sullivan, D. A., & Co. | 415 Sprague Ave. |
| Terteling, J. A., & Sons (HP) | 511 Sound Ave. |
| Tobin, James, & Son (H) | West 1715 Pacific Ave. |
| Triangle Construction Co. (H) | W. 1220 Ide |
| True-House Construction Co. (B) | No. 121 Browne |
| Wheeler & England (HP) | Coeur d'Alene, Idaho |
| Young, Peter J. (B) | S. 11 Cedar St. |

Associate Members

| | |
|---|-----------------------------------|
| Honorary Member and Director of Chapter | |
| Shea & Co., J. F. (PHR) | 211 Henry Bldg., Atw. 2435 |
| Sullivan & Doyle (PHR) | Ft. of Curry St., Atw. 5297 |
| | Box 104, Portland, Ore. |
| United Contracting Co. (BPHR) | 309-10 Stock Ex. Bldg., Atw. 5296 |
| von der Hellen & Pierson (HR) | Naches, Wash. |
| White, Ernest & Co. (B) | Twin Falls, Idaho |
| Wren & Greenough (PHR) | 485 28th St. |
| Wright Constr. Co. (BPH) | Aberdeen, Wash. |
| Young, I. L. (BPH) | 524 Henry Bldg., At. 0297 |

Associate Members Portland Chapter

| | |
|-------------------------------------|----------------------------------|
| Balzer Machinery Co. | 275 Pine St., Atw. 9391 |
| Beall Pipe & Tank Co. | 85 Columbia Blvd., Wa. 3171 |
| Clyde Equipment Co. | 555 Thurman St., Br. 5620 |
| Collins Concrete Pipe Co. | 410 River St., Wa. 7670 |
| Feenaughty Machinery Co. | 309 E. Yamhill, Ea. 2187 |
| Grand Sheet Metal Works | 60 E. Third N., Ea. 2181 |
| Latture, J. L. Equip. Co. | 312-314 E. Madison St., Ea. 8166 |
| Loggers & Contractors Machy. Co. | 345 E. Madison St., Ea. 4128 |
| Metropolitan Casualty Ins. Co., The | Wilcox Bldg., Atw. 7521 |
| National Hospital Assn. | 400 Mohawk Bldg., Atw. 5291 |
| Oregon Portland Cement | 321 E. Madison, Ea. 3116 |
| Phoenix Iron Works | 360 Hawthorne, Ea. 0029 |
| Pomeroy, J. H., & Co. | Box 48, Seattle, Wash. |
| Pure Iron Culvert & Mfg. Co. | 763 Gladstone, Sel. 2275 |
| Santa Cruz Portland Cement | 45 Fourth St., Atw. 9848 |
| Standard Oil Co. | Pacific Bldg., Bea. 4161 |
| Swigert, Hart & Yett | Ft. of E. Salmon St., Lan. 1125 |
| Union Oil Co. of California | Yeon Bldg., Atw. 9521 |
| Wallace Bridge & Structural Steel | P. O. Box 48, Seattle, Wash. |
| Shell Oil Co. | Commerce Bldg., At. 7321 |

SPOKANE CHAPTER

West 515 First Avenue—Main 6822—Spokane

| | |
|-------------------------------|--------------------------------|
| Max J. Kunej, President | I. G. Anderson, Vice-President |
| Nick Norman, Vice-President | Dan Hannab, Secty.-Treas. |
| Alloway & Georg (B) | Hutton Bldg. |
| Auld & Shinn (B) | 1121 Indiana |
| Burnette, C. A. (H) | 1118 Ide Ave. |
| Byers, W. A. (H) | W. 1204 Mansfield |
| Clifton & Applegate (HPR) | Hutton Bldg. |
| Collins, J. H. & Co. (H) | Colville, Wash. |
| Colonial Building Co. (BH) | Hutton Bldg. |
| Crick, James (H) | Realty Bldg. |
| Degerstrom, N. A. (HPR) | Peyton Bldg. |
| Edwards, J. E. (H) | S. 1423 Adams |
| Geist, W. L. (H) | W. 444 23rd Ave. |
| Hansen Construction Co. | Opportunity |
| Harding, Geo. (H) | Walla Walla, Wash. |
| Hargrave Construction Co. (H) | W. 418 Twentieth |
| Hewett, F. R. (H) | W. 420 Twenty-second |
| Joslin & McAllister (H) | East 3038 Trent Ave. |
| Kunej, Max J. (H) | Hutton Bldg. |
| Larson Bros. (B) | Hyde Bldg. |
| Long, Oliver J. (H) | W. 1924 Mansfield |
| Lyon & Price (H) | W. 503 Fourteenth |
| March Construction Co. | W. 1002 Riverside, Spokane |

| | |
|---|----------------------------------|
| Beall Pipe & Tank Corp. | West 615 Main Ave. |
| Brandt Bros. | W. 14 Main Ave. |
| Coeur d'Alene Hardware & Foundry | Wallace, Idaho |
| Commercial Importing Co. | 617 Western Ave., Seattle, Wash. |
| Consolidated Supply Co. | W. 1310 Ide Ave. |
| Construction Equipment Co. | 1118 Ide Ave. |
| Feenaughty Machinery Co. | N. 715 Division St. |
| W. P. Fuller & Co. | N. 229 Post St. |
| General Machinery Co. | E. 3501 Riverside |
| Gladding-McBean & Co. | 524 Old National Bldg. |
| Howeys Fuel Co. | N. 740 Division St. |
| Hofius-Ferris Equipment Co. | W. 728 Mallon |
| Marshall Wells Co. | S. 157 Howard |
| Jones & Dillingham Co. | W. 715 First Ave. |
| Jones & Mitchell | Hutton Bldg. |
| Long Lake Lumber Co. | N. 348 Wall St. |
| W. S. McCrea & Co. | 212 Symons Bldg. |
| J. E. McGovern Co. | 550 Peyton Bldg. |
| Nott-Atwater Co. | S. 157 Monroe St. |
| Oriental Importing Tea & Coffee Co. | W. 917 First |
| Spokane Concrete Pipe Co. | N. 2627 Dakota |
| Spokane Culvert & Tank Co. | N. End Division Street Bridge |
| Spokane Paper & Stationery Co. | S. 152 Jefferson |
| Standard Oil Co. of Calif. | Old National Bldg. |
| Union Oil Co. | 611 Chronicle Bldg. |
| Washington Brick, Lime & Sewer Pipe Co. | S. 151 Washington St. |
| Washington Machinery & Supply Co. | W. 9 Cataldo |

MOUNTAIN PACIFIC CHAPTER

(Strictly a Public Works Chapter, practically every member carrying on highway, public works and railroad construction)
Washington Hotel—Seattle, Wash.

| | |
|-----------------------------------|---|
| John W. Rumsey, President | Lee Johnson, Secretary, Treasurer |
| John M. Clifton, Vice-President | James D. Brown, Manager |
| Allen & Goven | Olympia, Wash. |
| Barnard Curtiss Co. | Ellensburg, Wash. |
| Clifton, Applegate & Toole | Hutton Bldg., Spokane, Ma. 4415 |
| Columbia Power & Investment Co. | Stevenson, Wash. |
| Coyle Construction Co. | 901 Westlake N., Seattle, Gar. 5741 |
| N. A. Degerstrom | 444 Peyton Bldg., Spokane |
| Dorsey & Wilder, Inc. | 2006 State St., Bellingham, Wash., 1310 |
| Fuel Oil Service | Olympia, Wash. |
| Goodfellow Bros. | Wenatche, Wash. |
| Grays Harbor Const. | Hoquiam, Wash., Hoq. 303 |
| Hargrave Construction Co. | W. 418, 20th Ave., Spokane |
| Hendricks & Co. | Chehalis, Wash. |
| F. R. Hewitt | 420 W. 22nd, Spokane, Riv. 7554 |
| Johnson, Homer C. | Perkins Hotel, Portland |
| Joslin & McAllister | Spokane, Wash. |
| Lee H. Johnson | 920 N. Tacoma Ave., Tacoma, Ma. 6241 |
| Lidral, Wiley | Securities Bldg., Seattle |
| Lyon & Price | 503 W. 14th, Spokane, Riv. 5319-R |
| Norris Bros. | Burlington, Wash. |
| Chas. A. Powers | S. 1703 Grand, Spokane, Riv. 3640 |
| Puget Sound Bridge & Dredging Co. | Seattle, El. 7300 |
| Puget Sound Construction Co. | Colman Bldg., Seattle, El. 7311 |
| Fred C. Redmon | 206 S. 4th Ave., Yakima, 9133 |
| Rumsey & Co. | Lumber Exchange Bldg., Seattle, Ma. 8751 |
| Standard Asphalt Co. | Chronicle Bldg., Spokane, Wash., Ma. 1689 |
| von der Hellen & Pierson | Enumclaw, Wash. |
| Winston Bros. | 4580 Colorado Ave., Seattle, Glen. 2268 |

SEATTLE CHAPTER

4134 Arcade Bldg.—Main 4709—Seattle, Wash.

James Murdock, President M. Phil Butler, Secretary
George E. Teufel, Vice-President A. S. Downey, Treasurer
H. V. Bogert, Manager

| | |
|--|----------------------------------|
| Bartleson & Ness (B)..... | 6824 17th NE., Ke. 0513 |
| Bromley, H. C. (Honorary)..... | 1619 42nd N., Ea. 6644 |
| Butler, W. T., Inc. (B)..... | 3419 13th S. W., El. 5670 |
| Cawsey, C. C. (B)..... | Title Trust Bldg., El. 2830 |
| Gjarde, Peder P. (B)..... | Lyon Bldg., El. 2660 |
| Goerig, A. C. (HP)..... | 413 Fairview N. (Rear), El. 7625 |
| Hedeon Construction Co. (B)..... | American Bank Bldg., Se. 1080 |
| Henrikson-Alstrom Constr. Co. (B)..... | Textile Tower, El. 6870 |
| Manson Construction Co..... | Grand Trunk Dock, El. 4526 |
| McDonald, Neil (B)..... | Lloyd Bldg., El. 5638 |
| Murdoch & Eckman (B)..... | Liggett Bldg., El. 7760 |
| Nelse Mortensen & Co. (B)..... | 1021 Westlake N., Ga. 6669 |
| Pederson, Hans (BHP)..... | Prefontaine Bldg., El. 8855 |
| Quist Co., A. W. (BP)..... | Exchange Bldg., Ma. 4497 |
| Sound Constr. & Eng. Co. (B)..... | Northern Life Tower, El. 4961 |
| Styllaaesen & Sando (B)..... | Arcade Bldg., Ma. 1641 |
| Teufel & Carlson (B)..... | Skinner Bldg., El. 6431 |
| Warrack Construction Co. (BP)..... | McDowall Bldg., El. 8265 |
| Western Construction Co. (B)..... | Textile Tower, El. 6043 |

SEATTLE CONSTRUCTION COUNCIL

Affiliated with

ASSOCIATED GENERAL CONTRACTORS OF AMERICA
Building Material Dealers' Association

| | |
|--|--------------------------------|
| Abel, Inc..... | 2700 Westlake N., Ga. 9800 |
| C. S. Barlow & Sons, Inc..... | 1326 Northlake, Me. 0700 |
| Builders Brick Co..... | 3800 9th St., El. 0893 |
| Calbraith & Co..... | Foot of Madison St., Ma. 8700 |
| Clay Products Delivery Co..... | 1546 Westlake N., Ga. 6870 |
| Columbia Lumber Co..... | 3935 University Way, Ra. 2400 |
| Dally, S. W. R..... | Pioneer Bldg., Ma. 8678 |
| Fairmount Fuel Co..... | 4210 W. Alaska, We. 0483 |
| Fryer, D. E. & Co..... | 411 Douglas Bldg., Ma. 7147 |
| Gladding, McBean & Co..... | 1500 1st Ave. S., Ma. 9389 |
| Hunter, Sam, Inc..... | 3155 Elliott Ave., Ca. 0320 |
| Klinker Sand & Gravel Co..... | 6515 W. Marigall Way, Gl. 0098 |
| McMullen & Co..... | 462 N. 34th, Me. 5900 |
| Pioneer Sand & Gravel Co..... | 901 Harrison St., Ma. 2900 |
| Queen Anne Sand Co..... | Third W. and Fulton, Ca. 2743 |
| Spring Hill Fuel Co..... | 5223 California Ave., We. 1650 |
| Spokane Grain & Fuel Co..... | 7109 Woodlawn Ave., Ke. 0151 |
| Saltoun Bay Sand & Gravel Co..... | Ft. 20th NW., Su. 0034 |
| Tourtelotte-Bradley, Inc..... | 314 Seneca St., Ma. 7650 |
| Wash. Brick, Lime & Sewer Pipe Co..... | Seaboard Bldg., Ma. 1542 |

Seattle Association of Insulation Contractors

| | |
|------------------------------------|----------------------------|
| Asbestos Covering & Supply Co..... | 1037 6th S., El. 4234 |
| Brower & Co., Chas. R..... | 114 Virginia St., El. 2049 |
| Fryer, D. E., & Co..... | 1233 Utah, Ma. 7147 |
| Jenkins, V. S., Co..... | 1559 Railroad S., El. 7516 |

Contracting Plasterers' Association of Seattle

| | |
|----------------------------|----------------------------------|
| Allyn, W. A..... | 4240 Raymond, Ra. 1459 |
| Blake, C. W..... | 4359 W. Willow, Gl. 1266 |
| Carr Bros..... | 10241 15th SW., Gl. 2584-R1 |
| Clarberg, Walter..... | 1121 W. Elliott, El. 7858 |
| Al Craig..... | 3207 Belvidere, We. 4594 |
| Edwards, A. E..... | 1601 Lakewood Blvd., Ca. 4977 |
| Erickson, O. C..... | 7706 27th NW., He. 2264 |
| Gooch, Wm..... | 2904 W. McGraw, Ca. 8223 |
| Haley & Smyth..... | 110 W. 83rd, Su. 1541 |
| Hoeffle, E. F..... | 311 24th S., El. 8265 |
| Johnson, Joe..... | 7827 46th S., Ra. 2323 |
| Jensen, Pete..... | 722 N. 103rd, Su. 8974 |
| Kelly, J. J..... | 7029 18th NE., Ke. 1339 |
| Lauch & Sons, Gust..... | 115-20 North, Su. 7683 |
| Linhoff, A. C..... | 9 W. Cremona, Ca. 5494 |
| McDougall & Co., E. C..... | 2107 W. Barrett St., Ga. 0790 |
| Mortensen, J. K..... | Lloyd Bldg., Ma. 5441 |
| Nelson & Sen, C. H..... | 12040 7th NW., Su. 0945 |
| Sorensen, Chas..... | 815 Yale Ave. N., Ca. 2221 |
| Stevens, John..... | 2502 30th S., Ra. 4774 |
| Thorslakan, C. B..... | 3450 23rd W., Ca. 6711 |
| Ward, E. P..... | 3026 W. 69th, Su. 0868 |
| Wilson & Long..... | 2309 Warren Ave., Ga. 5011 |
| | Railway Exchange Bldg., Ma. 1519 |

Amalgamated Sheet Metal & Roofing Association

| | |
|-------------------------------------|--------------------------------|
| Builders Sheet Metal & Roofing..... | 1716 Yale, El. 3650 |
| Cetchell Roofing & Flooring Co..... | 901 Westlake N., Ga. 5741 |
| Independent Sheet Metal Co..... | 1723 Westlake N., Ga. 7616 |
| Occidental Sheet Metal Works..... | 2310 Rainier, Be. 2300 |
| Penn Sheet Metal & Roofing Co..... | 550 Denny, El. 3729 |
| Puget Sound Sheet Metal Works..... | 3631 E. Marginal Way, Ma. 0176 |
| Seattle Cornice Works..... | 1730 First Ave. S., Ma. 1544 |
| Van Doren Roofing & Cornice Co..... | 1007 Westlake N., Ga. 7577 |
| Washington Sheet Metal Works..... | 1275 Westlake N., Ga. 5718 |

Northwest Master Painters' Assn., Seattle Chapter

| | |
|--|----------------------------------|
| Anderson & Nelson..... | 10708 First Ave., N. W. SU. 5828 |
| Atlas Painting & Decorating, 3404 Woodlawn Park Ave., ME. 0610 | |
| Boseck, Larry H..... | 6553 24th Ave., N. W., SU. 8497 |
| Branch, Stephen F..... | 6518 12th Ave., N. W., HE. 0116 |
| Cuff, Harry W..... | 764 Belmont Place, EL. 3427 |
| Erickson Painting & Decorating Co..... | Lloyd Bldg., EL. 2025 |
| Featherstone, James J..... | 4318 W. Juneau St., WE. 2768 |
| Grant, R., & Sons..... | 4411 Woodlawn Ave., EV. 0216 |
| Gustavson, O. A..... | 4211 Juneau, Ra. 0248 |
| Maier, Geo. S..... | 338 16th Ave. N., EA. 6525 |
| Nelson Tile & Crystal, Inc..... | 2121 Garfield, Ma. 2404 |
| Nielson, A. P..... | 1820 17th Ave., Pr. 3322 |
| Shepherd, A. F., Co..... | 524 5th Ave. W., Ca. 6196 |
| Sundberg, Oscar..... | 7007 21st Ave., N. E., KE. 4969 |
| Vandenburgh, Geo. H..... | 7612 Linden Ave., SU. 6392 |
| Weickenshorst, A., Decorating Co..... | 516 Westlake North St., EL. 1834 |
| West Coast Painters Co..... | 322 Kullien Bldg., Ga. 0401 |
| Western Painting & Decorating Co..... | 525 Pontius, Ma. 5866 |
| Zeberg, Louis..... | 9274 52nd Ave., South, Ra. 0815 |

Associated Woodwork Manufacturers of Seattle

| | |
|------------------------------|---------------------------------|
| Guarantee Millwork, Inc..... | N. 34th and Woodlawn, Mel. 6500 |
| Nordquist & Nelson, Inc..... | 120 W. Nickerson, Ga. 7173 |
| Pacific Door & Mfg. Co..... | 7th S. and Charleston, Gl. 0410 |

Unclassified

| | |
|---------------------------------------|-------------------------------------|
| Superior Portland Cement..... | Seaboard Bldg., El. 2280 |
| Pacific Lime Co., Ltd..... | Arctic Bldg., El. 3591 |
| Seattle Hardwood Floor Co..... | 616 7th Ave. N., Ga. 1274 |
| Rodgers Tile & Marble Co..... | 117 1/2 Yale Ave., Ma. 3446 |
| Olympic Portland Cement Co., Ltd..... | Dexter Horton Bldg., El. 1464 |
| W. P. Fuller & Co..... | Second S. and Jackson, El. 5334 |
| Standard Gypsum Co..... | 1871 16th Ave. SW., El. 4033 |
| Pacific Coast Cement Co..... | L. C. Smith Bldg., Ma. 5080 |
| Lockwood Lumber Co..... | Western Ave. and Broadway, El. 1834 |
| C. C. Belknap Glass Co..... | Railroad Ave. and Stewart, Ma. 9469 |

INTERMOUNTAIN BRANCH

Central Bldg.—Salt Lake City, Utah

G. H. Malan, President T. C. Sorensen, Secretary-Treasurer
H. T. Reynolds, Jr., Vice-President Mark Tuttle, Manager

| | |
|--|--|
| Alston & Hoggan (B)..... | Beason Bldg., Was. 2374 |
| Bernsten Brothers (B)..... | 1180 Warnock Ave., Hy. 4927-W |
| Bury, Onda (PBH)..... | Kiesel Bldg., Ogden, 972 |
| Burke, J. J., Co. (PHB)..... | Kearns Bldg., Was. 845 |
| Christensen Const. Co. (HR)..... | Felt Bldg., Was. 5756 |
| Christensen & Gardner (PH)..... | Terminal Bldg., Was. 2962 |
| Clyde, W. W., Co. (PH)..... | Springville, Utah |
| *Compton, J. C. (HPR)..... | McCinnville, Oregon |
| Dinsmore, C. F. & Co. (PB)..... | Eccles Bldg., Ogden, 389 |
| Fetzer, Louis S..... | Templeton Bldg., Hy. 1932-W |
| Gibbons & Reed (HP)..... | 165 East 4th South, Was. 1238 |
| Griffith, J. L. (PHR)..... | 117 Central Bldg., Was. 919 |
| Jacobsen Construction Co. (B)..... | 210 Terminal Bldg., Was. 3136 |
| Kampe, Charles (B)..... | 26 South 12th East, Hy. 7097 |
| *Morrison-Knudson Co. (HPR)..... | Cont. Natl. Bank Bldg., Was. 6585 |
| Moser, John H. (B)..... | Logan, Utah |
| Mullins & Wheeler (B)..... | Box 77, Sugar Station |
| Nelson, Alf (HPR)..... | Logan, Utah |
| *Newell, S. H., Co. (PBHR)..... | Kamas, Utah |
| Palfreyman, B. D. (H)..... | 167 East 2nd North, Provo, Utah |
| Paulsen, Paul (B)..... | Box 77, Sugar Station |
| Reynolds, Ely, Construction Co. (HPR)..... | Springville, Utah |
| Roland T. G. (BP)..... | 1558 Yale Ave., Was. 3433 |
| Ryberg Brothers (HPR)..... | 207 Terminal Bldg., Was. 2962 |
| Ryberg-Sorenson Co. (B)..... | 207 Terminal Bldg., Was. 2962 |
| Schraffen, H. E. (B)..... | Dooly Bldg., Was. 6431 |
| Smith, Enoch (PH)..... | 737 East 2nd South, Hy. 6322 |
| Strange, V. P. (HP)..... | 402 Utah Sav. & Trust Bldg., Was. 5726 |
| Strong & Grant (PH)..... | Springville, Utah |
| Whiting, J. W. (HPR)..... | Springville, Utah |
| Thorn, A. O. (HR)..... | Springville, Utah |
| Union Construction Co. (HP)..... | Ogden, Utah, Ogden 33 |
| Utah Construction Co. (PHR)..... | McIntyre Bldg., Hy. 4435 |
| Utah Construction Co. (PHR)..... | First Natl. Bank Bldg., Ogden 491 |
| Wattis-Samuels Co. (PHR)..... | 1611 Hot Springs Ave., Was. 5507 |
| Wheelwright Constr. Co. (HPR)..... | 2434 Monroe Ave., Ogden, 451 |
| Whiting, Floyd S. (HPR)..... | Kaysville, Utah, 915 |
| Whiting, J. W. (HPR)..... | Springville, Utah |
| Whitmyer, Geo. A. & Sons Co. (B)..... | 2759 Grant Ave., Ogden, 246 |
| Young & Ogden (HPR)..... | Richfield, Utah |

*Contributing Members.

Class of Construction: (B) Building; (H) Highway; (P) Public Works; (R) Railroad.

PACIFIC

SKILL - INTEGRITY



RESPONSIBILITY

25¢
per Copy

CONSTRUCTOR

CONSOLIDATED WITH

Building and Engineering News

IN THIS ISSUE



CALIFORNIA'S LONGEST ARCH

By S. P. McCasland

ROAD BUILDERS READY FOR ANNUAL CONFERENCE

SOME PHASES OF THE 1932 FEDERAL INCOME TAX LAW (Part III)

By Frank T. Andrews, C. P. A.

CREDIT GROUP COOPERATION

By A. J. McGarry

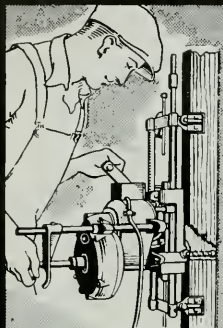
SCOPE OF THE CONTRACT PERFORMANCE SURETY BOND

By Geo. N. Crocker

UNIT BID SUMMARY CONSTRUCTION NEWS



WAPPAT *Electric* TOOLS



Are Built to Last Longer

Cuts production costs . . . Speeds up the job . . . Makes for greater efficiency . . .
A size and type for every purpose.

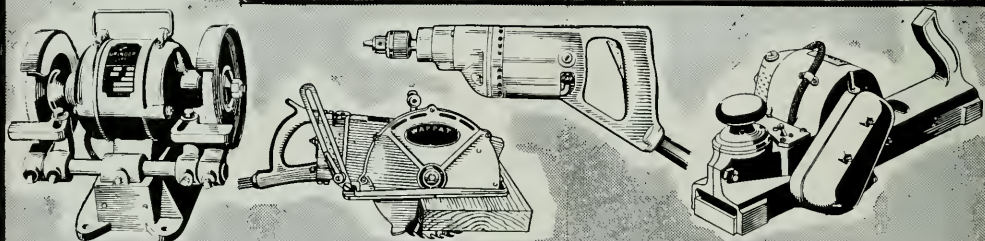
Ask for a Demonstration

M. N. THACKABERRY

228 First Street, San Francisco
KEarny 4467

TOOLS RENTED

308 E. Third St., Los Angeles
MUtual 7508



COLTON CEMENT



Uniform Quality : Service : Satisfaction

Manufactured by

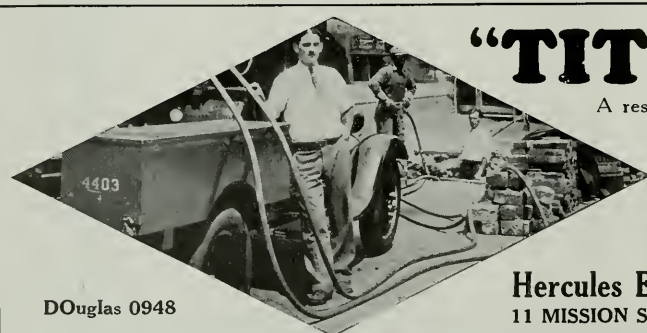
CALIFORNIA PORTLAND CEMENT COMPANY

1228 PACIFIC MUTUAL BUILDING

Mills at Colton, California

TR. 1271

Los Angeles



“TITAN” The Air Hose
With the
Red Cover

A responsible hose that resists extreme external wear . . . An oil-proof rubber tube that remains intact after hours of exposure to lubricating oils.

A fabric construction that carries a safety factor of five-to-one in pressure resistance.

DOuglas 0948

Hercules Equipment & Rubber Co.
11 MISSION STREET SAN FRANCISCO

PACIFIC CONSTRUCTOR

With which is Consolidated Building and Engineering News

Official Publication of the Associated General Contractors of America
for the Eleven Pacific Coast States

SAM B. EUBANKS, *Editor*

S. P. McCASLAND, *Assoc. Editor, Am. Soc. C. E.*

VOL. 15

SAN FRANCISCO, CALIF., DECEMBER 28, 1932

No. 23

Editorial Comment

THE industrial, agricultural and tourist development of the State is at stake in tampering with the orderly development of the public roads system in California, according to Frederick H. Meyer, chairman of the Highway Protective Committee, in an article published in the current issue of the State Chamber of Commerce magazine. Meyer points to the defeat of Proposition No. 4 on the November ballot by a vote of over two to one as the serving by California motorists of notice "in definite and unmistakable terms that they will not tolerate tampering with the State's road program." This measure sought to divert \$480,000 annually from State highway funds to non-road purposes.

Meyer holds that this rebuke to the initial effort to divert highway funds to general State purposes is conclusive evidence that the voters are convinced false economy is not economy. He states, "Interested organizations and our legislators should give thoughtful and earnest consideration to all proposed changes in our state highway 'set-up.' Each suggestion should be considered in light of its effect upon the system as a whole. Commitments should be withheld until detailed studies have been completed and all suggestions carefully weighed in balance."

Meyer definitely opposes, on behalf of his statewide committee, which includes civic leaders and officials, the proposed diversion of gasoline tax funds to pay interest and redemption on outstanding highway bonds. "The proposed transfer of gasoline tax funds," Meyer said yesterday, "will not reduce the cost of government one cent but it will cost many times its value in damage to the highway program and consequently to the best interests of the motorists. Permanent, new construction means reduced maintenance costs, lower operating costs, shorter time of travel, shorter routes, better grades and curves. By an orderly procedure California is getting its roads built out of earnings of those who use the roads. Those having the interest of the State at heart should hesitate before becoming a party to the disintegration of this most successful of all public enterprises."

EXCESSIVE costs of day labor methods over the contract method of constructing public works are shown in a compilation of instances taken from many localities and covering a variety of work. The record, published in The Constructor, official publication of the A. G. C., is reprinted below:

A Michigan State-built highway cost \$50,000 per mile as compared with \$27,000 per mile for the same construction by contract in Illinois.

The Fidelity and Deposit Company, of Maryland, bonded a contractor who half-built a California State road, and when the State declared the finished contract forfeited on account of alleged slowness, the bonding company elected to let the State complete the work by day labor, with the result that it cost twice as much as it had cost to build the first half of the road.

In Marion County, Iowa, test construction of culverts gave a cost of \$26.95 per yard for day labor work and \$24.66 for contract work.

The Ashland reservoir, Denver, Colo., built by day labor, cost 15.21 per cent more than the contractor's bid.

The Gunnison tunnel was built by the U. S. Reclamation Service by day labor for \$3,038,895, and responsible bids of \$1,573,016 and \$2,123,300 were rejected.

The St. Louis Board of Public Service rejected a sewer bid of \$382,901 with guarantee of completion in eight months and did only a part of the work by day labor in 23 months, at a cost of \$425,000, exclusive of overhead, supervision, bonding costs, etc.

In the third Mississippi River District, \$5,000,000 of day labor work done by the government cost about 30 per cent more than similar work done by contract.

COSTS EXCEED ESTIMATES

The 1920 report of the U. S. Bureau of Public Roads states that on 20 highway jobs in California executed by contract, the cost exceeded the (government) engineers' estimate by 30 per cent, while on 10 jobs done by day labor, the costs exceeded the estimates by 193 per cent.

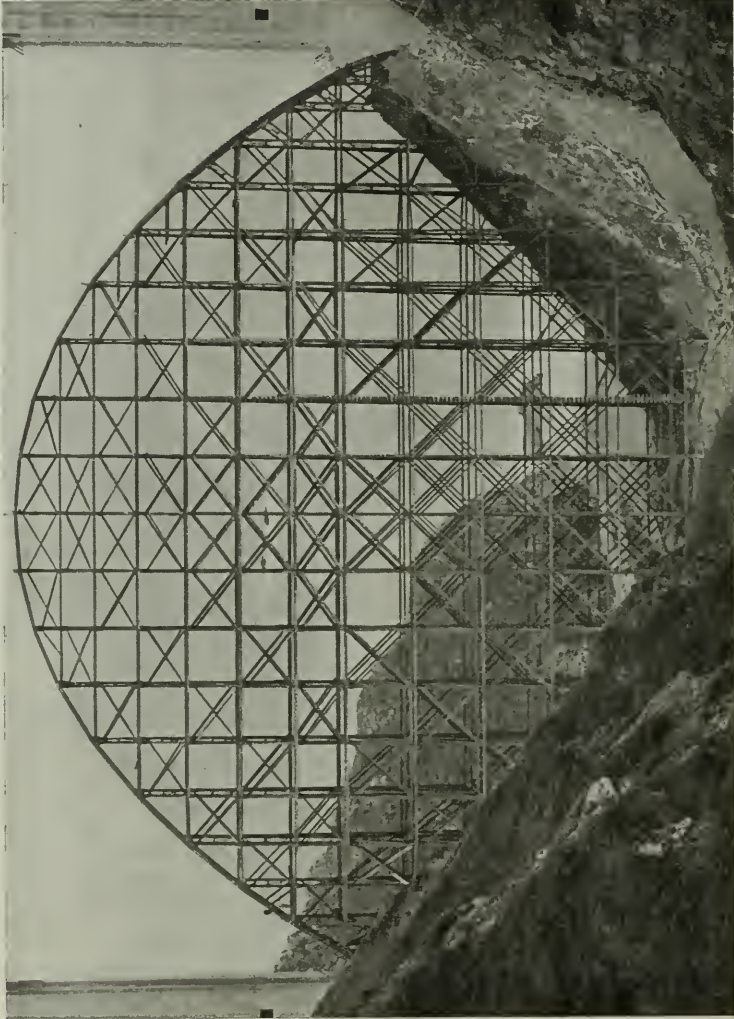
According to California Automobile Club reports the engineers' estimate for five highway jobs for concrete work done by day labor was exceeded by 131 per cent.

The estimated cost of street paving in Knoxville, Iowa, was \$1.80 per yard, its day labor cost after favorable modification of the specifications was \$2.50.

The estimated cost for the Franklin Avenue bridge, Minneapolis, Minn., was \$450,000, and the cost of construction by day labor was more than \$1,000,000.

The estimated cost of the 16th Street viaduct, Denver, Colo., was \$420,000. The actual cost by day labor in city employ was \$668,390.29.

The engineers' estimate for the Unconpage project of the U. S. Reclamation Service was \$2,250,000. Its cost by day labor was \$6,715,074.41.



View of Completed falsework, 260 feet high, for the largest concrete arch ever built in the West. The bridge is a link in the San Simeon-Carmel Highway, crossing Bixby Creek, 18 miles south of Carmel. It was built by Ward Engineering Co.

California's Longest Arch

By S. P. McCASLAND

THE formal opening to traffic of the Bixby Creek bridge marks the successful completion by the Ward Engineering Co., of one of the most tricky arch jobs yet undertaken in this part of the country. Rising 260 feet above the stream bed, and having a span of 330 feet, the arch is the largest in the west. It is located on the Carmel-San Simeon highway about 18 miles south of Carmel, spanning the mouth of the canyon of Bixby Creek.

To those who were fortunate enough to see the job under construction, it presented many striking examples of the contractor's ingenuity.

There was a temporary road which ran for some distance along a scratch in the rock walls of the canyon, high above Bixby Creek. This road terminated at the site on one of the main piers, above which was the most spectacular construction device on the job: a high-line cableway about which the entire scheme of operations was planned. It consisted of 2½ inch Roebling cable, spanning 1300 feet between "dead man" anchors high up on the slopes. The cable ran above the center-line of the arch, and despite curvature of the bridge approaches, it was possible to convey material to any desired portion of the job.

The accompanying illustration shows the high-line in operation as a concrete conveyor, and also indicates how the operator, who of necessity rode the bucket at all times, must stand on "infinity." No photograph can, however, convey the impression of height at which operations were carried on; this is a sensation which must be actually experienced to be appreciated.

The entire job presents an enviable record of smooth progress, running through to final completion without a serious accident. This is due, according to the contractor's engineer, E. C. Panton, to careful and thorough office planning as well as minute attention to field details. The magnitude of the arch at once indicates the necessity for much attention to a schedule of operations.

The first portion of the job to be undertaken was the main piers, the bases of which form the arch abutments. By confining operations to this part of the job during the first few months, it was possible to postpone work on the centering of the arch until after the spring run-off—a desirable step, as many of the false work columns were located in the stream bed. Excavation for the main piers proceeded very much in accordance with schedule, although it was found impossible to use powder due to the steep angle of the slope and the rotten condition of surface rock. Firm bed-rock was found at an elevation slightly deeper than expected by state engineers—about fifteen feet below the lowest concrete visible in accompanying illustrations.

The centering of the arch was regarded by the contractor as the most difficult portion of the job. The general feeling of the staff was that all other phases of the project were just "ordinary contracting." The false-work was complicated to some extent by the great height of the members, but the problem that gave designers the greatest concern was wind load. Due to the location of the structure—at the mouth of a canyon and only a few feet from the ocean, heavy winds were to be expected, but it was impossible to secure any data on which to base a value for probable maximum velocity. For this reason, some con-

sideration was given to a plan of anchoring the timbers with cables on the down-stream side.

The final decision, however, was for an unanchored structure, stable up to a velocity of 52 miles per hour. In addition to direct wind stress, there was also the hazard of wave action to which the timbers in the creek bottom might be exposed during storms, but precautions to meet this emergency were regarded as too costly to be justified.

Completion of the false-work design required some weeks of effort in the contractor's office, and the period of construction on the main piers and abutments offered a welcome opportunity for this purpose. With timbers reaching to a length of 260 feet, it was not feasible to adopt the method of centering wherein it is attempted to place supports perpendicular to the arch ring; hence a design embodying vertical bents was selected. This may have slightly increased the amount of lumber necessary, but any such added cost was more than offset by convenience both in design and construction.

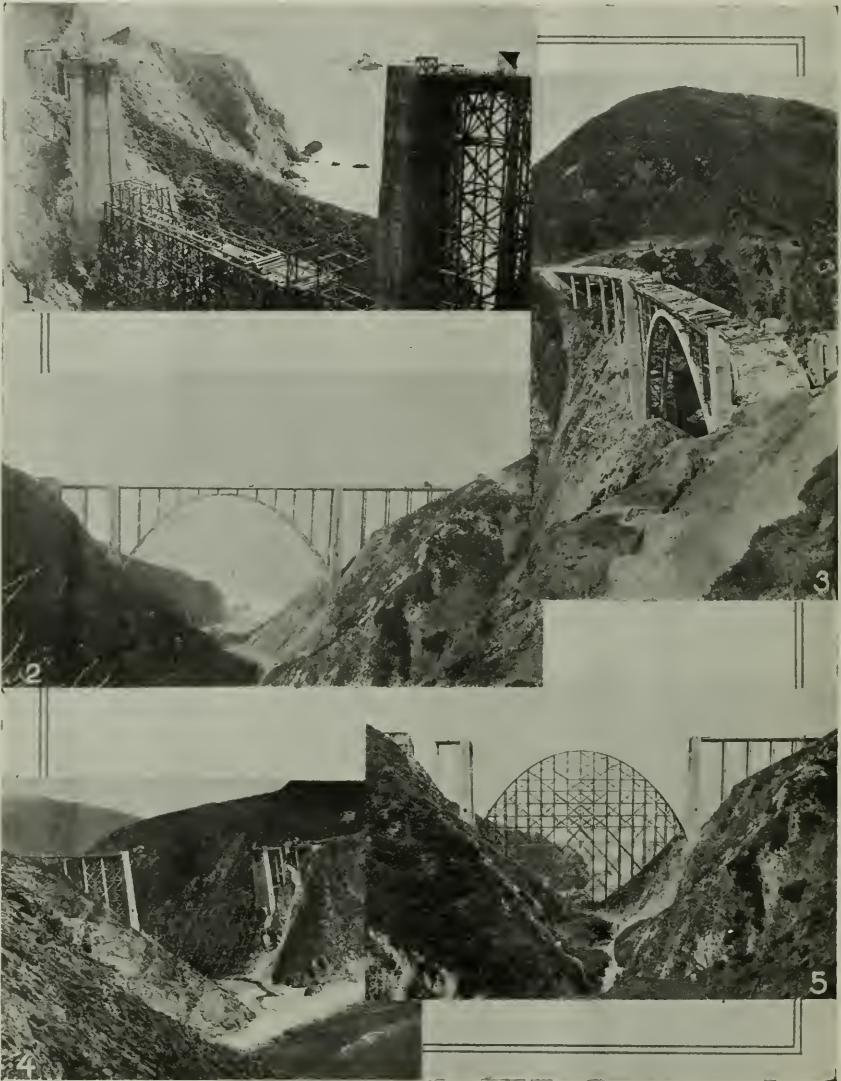
In order to eliminate settling in so far as possible, large concrete footings were set for each of the false-work columns. The subsoil for the footings was carefully prepared, being of hard gravel in the stream bed and solid rock higher on the slope. False-work above the first story was made up in bents on the ground and hoisted into place from the cableway, the average height of the units being between twenty and twenty-five feet. Great care was taken with all joints, and as a consequence of this and the large footings, no troublesome settling occurred. In fact, compression of the members and "take-up" of the joints was calculated to such a nicety that the final grade of the arch was within a "hundredth."

Throughout the entire job wind played an important part in the procedure of construction. Early in the work it was observed that there was a sharp increase in velocity about three in the afternoon, after which hour heavy wind could be expected as a regular daily occurrence. To meet this situation the contractor planned his day so that there would be no work after three, as there were frequent gusts of sufficient strength to blow a man off the scaffolding. As the height of the scaffolding increased, this shut-down order was established for all times when the breeze was sufficient to make work hazardous. Ample justification for these and other precautions is seen in the accident record. Despite the hazards involved, not a single serious accident occurred. Those who saw the work in progress will agree that only the greatest care and constant vigilance on the part of supervisors could have accomplished such a record.

The quantity of lumber used on the job embraced approximately a half million feet, some of which was reused by the contractor on a nearby job at Rocky Creek. Lumber was supplied by M. J. Murphy, Inc., of Carmel, who purchased it from the McCormick Lumber Co. of San Francisco.

Concrete for the entire job was prepared at a central mixing plant near the north pier. Pouring the arch was accomplished through the medium of the cableway, a one-yard bucket discharging into a hopper on top of the arch formwork. From the hopper the mix was "chuted" into

(Continued on Page 7)



A concrete rainbow arch, the longest in the West, now throws its graceful span across Bixby Creek on the San Simeon-Carmel Highway. Progressive steps in its construction are pictured above. Nos. 1 and 4 are different views of the falsework as it was being built up from the canyon floor. No. 2 shows the completed rainbow of concrete with falsework removed. No. 3 shows the completed falsework, 260 feet high, and in No. 5 is seen the completed rainbow of concrete with falsework removed. No. 5 is a top view of span and roadway before railings were added.

CALIFORNIA'S LONGEST ARCH

(Continued from Page 5)

place in the conventional manner. Strict observance of a pouring schedule which was prepared by the designing engineers was constantly necessary. This required the casting of small segments at specific points, open segments being left to facilitate proper curing, expansion, etc. In order that operations might not be delayed by the conventional 28-day cure, the contractor adopted the use of Calaveras Quick Hardening Cement in all parts of the arch. By this means it was possible to pour adjacent sections after seven days. The last segments to be poured were short "keys," the initial expansion of which would be insufficient to produce stress in the arch. In the pouring of the keys, great care was necessary to get the concrete between the steel bars and properly tamped, as the arch was very heavily reinforced, the bars being furnished by Soule Steel Co., of San Francisco.

After concrete of the arch ring had cured for a sufficient length of time to assume proper strength, the falsework was removed and work started on the spandril columns. These operations have the appearance of being much more hazardous than the construction of the arch itself, as the workmen had nothing between themselves and a 260-foot drop, but a thin rib of concrete, $4\frac{1}{2}$ feet wide. The cableway, however, simplified operations to some extent, and after the first stages of forms and bracing were in place a greater sense of security was established. The fact that the greater part of the bridge is on a grade and a curve with the roadway having a consequent superelevation causes all of the spandril columns to be of different length. This complicated their construction and resulted in the necessity for great care in the distribution of material from the highline.

The Bixby Creek Bridge represents the final choice of one of two locations mapped out by the state highway engineers. The alternate route would have apparently been equal in cost, and would have crossed the canyon some distance up stream by way of a 900 foot tunnel and a short bridge. The high arch bridge was selected for several reasons, the most important of which were greater safety of the route traversed, and greater scenic beauty. The curved approaches serve to set off to great advantage the beauty of the structure itself and its natural background.

After the decision in favor of the present route, engineers decided to include in the call for bids a construction alternate which it was felt might result in a saving of cost. The alternate consisted of an arch in which the reinforcing should be of structural steel and self-supporting. Had this plan been adopted, false-work for the arch would have been unnecessary. However, the successful contractor submitted a lower bid with the reinforcing and false-work, and the award was made on this basis.

ALAMEDA A.G.C. ADVOCATES LIEN

LAW CHANGE AS CREDIT BENEFIT

Change in the California lien law to limit the owner's liability to the contract price is advocated by the Alameda Chapter, Associated General Contractors, as a method of improving credit conditions in the building industry.

The Chapter voted to work for amendment of the State law following a lengthy discussion of the work of the State building congress committee on lien law amendment. W. E. Lyons, chairman of the committee, outlined the provisions of the uniform law sponsored by the Department of Commerce in an address to the membership.

Placing a limit on the owner's liability, it is contended, will re-establish sound credit in the building business by protecting material and supply firms and forcing contractors to fix a fair price on jobs. It will also reduce lien litigation and eliminate the expense of filing labor and material bonds.

Proponents of the law change assert that the present measure has destroyed all sound credit practice and made it possible for the irresponsible and speculative contractor to obtain credit as easily as the responsible and experienced builder.

The following resolution on the lien law was adopted by the Chapter:

WHEREAS, The California lien law in its present form, has proven to be destructive of sound credit in the building business and has failed to give the protection which was sought, and

WHEREAS, The California Building Congress of the State Chamber of Commerce has given special study to a solution of this situation, therefore,

BE IT RESOLVED, That this meeting favors amending the existing lien law to limit the owner's liability to the contract price, or similar legislation aimed to promote more sound credit conditions.

BE IT FURTHER RESOLVED, That a copy of this resolution be sent to the California Building Congress and that body be asked to take action to bring about the passage of the necessary legislation at the forthcoming session of the State Legislature.

UNIT OVERHAUL CHANGE—Specification of the unit of overhaul by the "thousand station yards" instead of the "station yard" as at present is under consideration by the California state highway commission. The department has requested opinions from contractors on the proposed change.

This would make the proposed unit one thousand times as large as the unit now in use. The reason is to reduce the number of units and avoid the large figures now necessary, where the quantities run as large as a million or more station yards of overhaul. In figuring unit prices it would also eliminate the necessity for dealing with fractions of a cent.

Contractors Machinery Exchange

Rentals a Specialty

1135 - 57th Avenue

OAKLAND, CALIF.

FRUITVALE 0715

Road Builders' Association Holds 30th Annual Conference Next Month

GAINING broader scope and a new significance because they will be staged coincidentally with the meetings of virtually every national organization identified with highway and construction enterprise, the thirtieth annual meeting and Road Show of the American Road Builders' Association will be held in Detroit, January 16-20. Although unchanged in its essential character the convention will come to a climax with a two days general program designated as the Highway and Building Congress.

The decision of the thirty-four participating and sponsoring organizations of the Congress to hold coincidental meetings followed by two days of general sessions recognizes the necessity for common action against present conditions in the highway and construction industry. Enlarged attendance at the individual organization meetings and the development of a common program looking toward economic recovery are expected to be the outstanding benefits of the Congress.

Retaining its individual character during the first three days of the Congress week, the annual convention of the A. R. B. A. will devote its energies to a number of subjects of immediate and vital importance to the highway industry. Outstanding among these are the questions of conserving motor vehicle and gasoline tax revenues to the purpose of highway construction and maintenance and the wisdom of a continued highway program to relieve unemployment. These subjects are destined also for prominent places on the Highway and Building Congress program, the first day of which will be devoted entirely to consideration of matters relating to highways.

As was the case in 1932, the Road Show will be held at the Detroit Municipal Airport. Again it will feature not only equipment and materials used in highway construction and maintenance but also a large display of motor trucks.

While it is yet too early to forecast attendance figures, there are strong indications that the Congress will bring to Detroit the largest number of representatives of the highway and construction industries ever gathered at one time. The total attendance is expected to exceed the 25,000 average established by previous American Road Builders' Association conventions, especially with 22 organizations meeting during the week. The group will include Federal, State, county and municipal highway officials, manufacturers of materials and equipment, contractors, distributors, motor truck operators and manufacturers, insurance company representatives and others whose interests ally them with either highway or general construction enterprise.

Indicating the scope and variety of highway matters to be dealt with in the A. R. B. A. convention sessions is the fact that 23 committee reports will be made. Thirteen will be of a general nature, the remaining ten divided equally between the sessions of the County Officials' and the City Officials' Divisions.

The first convention sessions will be held on Monday afternoon, January 16, two of them to run concurrently in rooms available at the Municipal Airport.

The reports are scheduled to be made at the first general session. They will cover as many different varieties of paving types, asphalt, brick and reinforced concrete.

At the same time, three County officials' committee reports will be made. W. O. Washington, president of The County Officials' Division will report on legislative, administrative and finance matters in a paper entitled "The Administrative and Financial Relationship of State and County."

Another report to be made at this group session is that of the Regional Surveys and Plans Committee. It will be presented by George C. Wright, under the title "The Evaluation of Planning Data."

Two subjects will be presented by the Public Relations Committee, "The Importance of Technical Direction of County Highway Operations," and "County Road Work and Its Relation to Unemployment." J. W. Mavity is chairman of this committee.

The City Officials' Division of the Association will inaugurate its program on Tuesday morning, January 17. Reports of two committees, Finance and Traffic, headed by A. Harrington Place and M. O. Eldridge, will be made at the opening session. At a concurrent meeting in another room of the Airport, three general committee papers will be submitted. They will deal, respectively, with Single Track Concrete Roads, Graded Aggregate Low Cost Roads, and Use of Emulsions.

The Tuesday afternoon sessions will see the conclusion of the City Officials' Division group meeting when three additional reports will be made. They are those of the committee on Design and Construction, Maintenance and Street Maintenance Economics. Chairmen of these committees are H. L. Shaner, F. M. Davison and G. B. Sowers. A meeting of the County Officials' Division, held at the same time, will conclude the committee reports with those on Design and Construction and Maintenance. H. B. Keasbey and H. G. Sours are chairmen of these two groups.

The sessions of Wednesday, January 18, will be devoted entirely to the activities of general committees of the Association. Three subjects are scheduled to be covered at the morning meeting, concrete pipe, corrugated metal pipe, and equipment for low cost roads. The concluding group of four reports will be presented at the afternoon meeting. The committees accorded place on this program are those dealing with equipment for spreading and finishing, truck scrapers, snow plows and hauling equipment.

An especial feature of the Wednesday program is a meeting that will run concurrently with the general session which will bring together motor truck manufacturers and operators, motor vehicle administrators of the North Central States and heads of regulatory commissions of the same area. These agencies will meet for the purpose of making a thorough study of reciprocal regulatory statutes with the view toward eliminating the non-uniformity which now imposes so many and such serious restrictions upon motor freight movement between the states.

With 41 state legislatures convening in January, it is felt that the time is ideal for a thorough study of the entire question of uniform and reciprocal regulations which will bring the flexibility and economy of motor freight transportation to the benefit of the general public. Every agency identified with this particular situation has signified its keen desire to contribute toward remedying

the present unsatisfactory state of affairs in the motor freight transport field.

Other organizations participating in the Highway and Building Congress in addition to the American Road Builders' Association include: American Institute of Steel Construction, American Society of Municipal Engineers, American Welding Society (Detroit Section), Asphalt Institute, Associated Equipment Distributors, Associated General Contractors of America, Construction League of the United States (including fourteen member organizations), Highway Research Board, International Association of Public Works Officials, Materials Handling Institute with Material Handling Division of the American Society of Mechanical Engineers cooperating, National Association of Builders' Exchanges, National County Roads Planning Commission, National Crushed Stone Association, National Paving Brick Association, National Ready Mixed Concrete Association, National Rural Letter Carriers' Association, National Sand and Gravel Association, Portland Cement Association, Society of Automotive Engineers, Steel Founders' Society of America, Inc., and the Truck Association Executives of America.

In addition to the 22 participating associations, twelve other allied groups have lent their sponsorship to the Congress. They are: American Association of State Highway Officials, American Concrete Institute, American Institute of Consulting Engineers, American Motorists Association, American Petroleum Institute, Common Brick Manufacturers Association of America, Canadian Good Roads Association, National Highways Association, National Lime Association, National Lumber Manufacturers Association, Producers' Council, and the Wire Reinforcement Institute.

The full weight of these organizations will be thrown behind the Highway Day program of the Congress which will be held on Thursday, January 19. Six papers dealing with as many different vital problems now confronting the highway industry, and delivered by internationally known authorities, will feature the morning and afternoon sessions of this day's program.

The subjects of the papers are:

"Highway Program of the Nation; Its Present Status and the Outlook for the Future."

"Importance of Highway Transportation to Economic Recovery."

"Correlation of Different Forms of Transportation."

"What Highways Mean to the Economic, Educational and Social Life of the United States."

"Highways are self-liquidating Projects."

"Diversion of Motor Vehicle and Gasoline Tax."

"The Interest of the Agricultural Industry in Adequate Highways."

Friday, January 20, will be designated as "Construction Day," on the Congress' program. Organizations identified primarily with highway work will lend their full support to this program just as those whose functions relate most definitely to general construction share in the activities of Highway Day. The program for the final day of the Congress is being arranged by the Construction

League of the United States.

A feature of the Road Show which this year is expected to particularly enhance its interest is the fact that so much of the equipment and so many of the materials to be displayed are greatly advanced for economy and efficiency of operation. As usual, users of both types of exhibits will have an unparalleled opportunity to gain first hand knowledge of all developments in equipment, materials and methods and to make a comparative study of them in their individual forms. Manufacturers will assign experts from their design departments to the exhibit booths, assuring the show visitor of an adequate explanation of every feature of their individual displays.

Government exhibits promise to transcend in excellence those of previous years. That of the Bureau of Public Roads, always an outstanding feature of the show, will illustrate progress in highway development and portray the practical products of extensive research operations recently completed. The United States Department of Commerce this year will have its most comprehensive display in the show, one designed to illustrate the various services which this Federal agency is rendering and is prepared to render to the highway and building interests to the country.

A circumstance that is expected to contribute significantly to the attendance of the convention, not merely of the American Road Builders' Association, but of all other organizations participating in the Congress is the exceptionally low rail fare offered to delegates. In establishing a rate of one and one-ninth the one-way fare for the round trip, the railroads of the country have set a new record in concessions to convention travel. Never before has such a rate been given to any group, a reflection of the rail executives' confidence that the volume of business will be sufficient to justify the remarkable reduction.

FORM GRADER APPROVED

The federal regulations surrounding the emergency federal aid construction program outlined policies that would be applicable in this work. The necessity for using hand labor wherever possible was set forth in each proposal. One of the regulations has now been changed. The U. S. Bureau of Public Roads through its district engineer, James T. Voshell, who is in responsible charge of the federal construction in Illinois, has advised the State Highway Department that form grader machines will be approved. It has been established that this mechanical device is a necessary piece of equipment if pavement of the desired smoothness is to be secured. Contractors who have been awarded emergency relief contracts have been advised accordingly by the engineers of the highway department.

Move More Dirt Faster with LE TOURNEAU Equipment

A complete line of grading machinery—designed by a contractor—developed on actual construction jobs—built to stand continuous use under the worst conditions.

ENGINEER'S CONSULTATION FREE

R. G. LE TOURNEAU, INC.

Wilson Way at Roosevelt

Stockton, Calif.

SUCONEM Super Concrete Emulsions
Limited

—for Better Concrete— 2710 S. ALAMEDA ST., Los Angeles
District Offices
46th Ave. and 308 Stock Ex. Bldg., 216 Walker Bldg.,
Oakland, Calif. Portland, Ore. Seattle, Wash.

Some Phases of the 1932 Federal Income Tax Law

FRANK T. ANDREWS, *Certified Public Accountant; Associate Member, Associated General Contractors*

The following is the third of a series of eight articles outlining income tax regulations of interest to every contractor.

DURING the 1932 session of Congress the most difficult legislation was that associated with the effort to balance the National Budget. There was very conclusive evidence that the losses taken, by individuals and corporations, upon sale or exchange of stocks and bonds had materially decreased the revenue from the income tax.

In order to overcome a part of the revenue loss Congress placed a limitation upon stock and bond losses. It was enacted that losses arising from the sale of stocks and bonds, held for less than two years, may only be deductible, in the year sustained, against gains from similar transactions.

To explain this situation, let us assume that a loss of \$10,000 was taken during 1932 on the sale of various stocks purchased within two years; let us also assume that a profit of \$2,000 was earned during the year on other stocks. The loss exceeds the profit by \$8,000. This excess loss may not be used to reduce any other revenue or profits shown on the income tax return. If, however, a profit were made in the next succeeding year, from similar security transactions, the excess loss may be carried forward and may be used to reduce such profit. But, if an additional loss from such transactions occurs in the next succeeding year, then there is no advantage to be received from the prior year's loss at any time, as such losses may be carried forward only one year.

The new legislation does not affect the method of reporting stocks and bonds sold or exchanged which have been held for more than two years. It is also apparent that Congress did not intend to affect government or municipal bonds with this new provision.

Except where an individual is permitted to inventory securities at cost or market, whichever is lower, fluctuations in the value of securities do not affect the taxable income. Gain or loss can only be reflected by a bona fide sale. A bona fide sale is one in contradistinction to a so-called "wash sale." A wash sale occurs where stocks or bonds are sold and where substantially identical property was purchased either within 30 days after or prior to making the sale. In event of a wash sale no loss is allowed; however, the cost basis of the new acquisition is changed. Example: "A" purchased a share of stock in 1922 for \$100, which he sold January 15, 1932, for \$80. On February 1, 1932, he purchased a share of the same stock for \$90. No loss is recognized from the sale. However, if the new share is sold it takes a cost of \$110; that is, the basis of the old share (\$100) increased by \$10, the amount of the difference between the price for which it sold (\$80) and the repurchase price (\$90.)

The rule is: If within 30 days before or after the sale of stock or securities, substantially identical property were acquired, the basis in the case of the new property shall

be the same as the basis (or cost) of the stock or securities disposed of, increased by the amount of any excess of the repurchase price over the sale price or decreased by the amount by which the sale price exceeds the repurchase price, as the case may be.

This rule, however, applies in only one case; that is, in case of an apparent loss. If a profit is realized in a wash sale, it must be reported in full.

Dividends from stocks are not taxable to corporations receiving them; individuals will be taxed on dividends at surtax rates only.

Interest upon obligations of a State, or any political subdivision thereof, is entirely exempt from the income tax. Interest on Liberty Bonds and other obligations of the United States is exempt from normal income tax, but is not fully exempt from surtax. The first Liberty Loan $3\frac{1}{2}\%$ bonds are entirely exempt from taxation. Liberty 4% and $4\frac{1}{4}\%$ bonds, Treasury Bonds and Treasury Certificates are allowed an exemption of interest on an aggregate of not exceeding \$5,000 in principal amount; all interest above the exemption is subject to surtax and must be included in gross income of individuals. Income from Liberty Bonds is wholly exempt from the corporation income tax.

The general increases in tax rates and reductions of personal exemptions are forcing the larger incomes into tax-free securities. The effect of the new tax rates upon income will place many low-yield municipal bonds ahead of high-yield domestic bonds, where the net income for the year is large. For example, a married man having an annual net income of from \$48,000 to \$50,000 must purchase domestic bonds to yield 7.86% in order to equal the revenue, after taxes, of a $5\frac{1}{2}\%$ tax-free bond. However if domestic bonds containing a tax-free covenant are purchased the situation may be somewhat different.

A portion of the income tax, on bonds containing a tax-free covenant, is paid by the issuing company directly to the Government. The amount of tax to be paid at the source is usually indicated in the bond and is ordinarily 2% of the interest paid. Hence, on the returns of individuals, after the income tax has been computed in the ordinary manner, there may be deducted from the total tax, an amount equal to 2% of the interest received from so-called tax-free bonds.

Under prior laws interest or dividends received from building and loan associations up to \$300 was exempt from taxation. The new Act omits the exemption and considers income from this source as fully taxable.

The income from stocks and bonds forming part of an irrevocable trust is taxable to the grantee. The same would not be true, however, of a revocable trust.

Mr. Andrews will gladly answer your income tax questions during the time these articles are appearing in the Pacific Constructor. Address your communications to F. T. Andrews & Co., Certified Public Accountants, Russ Building, San Francisco.

CO-OPERATIVE CONSTRUCTION CREDIT

CONSTRUCTION INDUSTRIES' CREDIT BUREAU

(A non-profit, membership owned and operated association affiliated with the National Association of Credit Men)

333 MONTGOMERY STREET, SAN FRANCISCO

F. H. Eichler, Chairman

A. J. McGarry, Mgr.

CREDIT GROUP CO-OPERATION

ARE you interested in receiving advance information about customers whose financial situation is becoming precarious?

Are you in need of information that will limit bad debt losses?



A. J. McGarry

Do you want to reduce the amount of your capital that is tied up in receivables?

Are you vainly trying to stem the increasing volume of trade abuses?

Do you wish to eliminate guess work from your credit department?

Are you positive that you always revise your credit file on THE customer whose condition is the most shaky?

Do you wish to remove the haphazard element of selection of the accounts that need your particular attention and skillful handling?

There is a way to do all of those things that is simple, yet quite effective. A method that, if followed earnestly, will lead to a stabilization of

credit in your industry. It will enable you and others in your industry to unerringly pick out the customer who is operating on seller's capital.

It will aid your industry to assist worthy customers and free them from unfair competition of the irresponsible outlet, the outlet whose only reason for existence is found in some seller's over-eagerness for sales volume.

This method is known as CREDIT GROUP CO-OPERATION.

Business is becoming more complex and diversified every day. No longer does any merchant provide an outlet solely for one industry. All merchants are customers of several industries. Often they are customers of many industries. To meet this need, members of a "CREDIT GROUP" use the INTERCHANGE CLEARANCE System.

Reports compiled by this system present facts taken from the ledgers of sellers in many markets and in many industries. They are truly INTERTRADE—INTERMARKET—INTERCHANGE reports, revealing the record the merchant has established as to his capacity or willingness to pay. These reports are sent to the inquiring member and also to all other creditors who have supplied their record in time to be incorporated in the report. This feature of the system is known as the "RECIPROCAL REPORT." Reciprocal reports provide a semi-automatic revision of credit files. They frequently have been

priceless in their revelations,—yet the only cost is the time and effort to record the experience.

At frequent intervals, co-operating members meet to discuss mutual credit problems. Out of these meetings come forth the ideas that express the principles generally spoken of as BUSINESS SERVICE. The principle embraced by this service can best be expressed by the following slogan. "A customer worth having, is worth saving." It is the principle that recognizes that sellers owe a direct obligation to the worthy customer who is struggling for existence; desperately struggling because of competition forced upon him by the so-called merchant who is neither properly financed nor competent. BUSINESS SERVICE recognizes that at times a moratorium is necessary for a debtor if the receivables of industry are to be conserved. It also gives cognizance to the importance of preserving the integrity of the worthy debtor who is temporarily embarrassed.

Credit group cooperation develops a prestige and pulling power that members have capitalized in the Collection Departments of the Association. These Collection Departments bring to bear upon the recalcitrant and slow paying debtor the prestige created by approximately 25,000 members during more than 35 years experience.

There comes a time in Credit Group cooperation when the members are faced with the insolvency of a mutual customer. Then the efficient aid of the Adjustment Bureau is sought. If the affairs of the debtor are free of fraud and there are no legal complications, the liquidation is only a business problem and is handled out of court. All that is accomplished is through agreement between the creditors and the debtors. In the event of legal complications, creditors concentrate their claims in the Adjustment Bureau for the preservation of their rights and the conservation of their interest.

Many industries have developed the following supplemental service:

Once a month the members of such a group supply the Association with a list of their past due accounts, showing the total owing classified as to date of purchase. These figures from all members are consolidated and issued as the MONTHLY INDUSTRIAL SURVEY. The result is a composite picture of the delinquent accounts of the industry. It reveals the chronic abuser of sales terms; the regular offender of discount privileges; the dealer operating on sellers' capital, and it unerringly points out the merchant whose condition is fast approaching the unmanageable stage.

AND it does all these things before it is too late.

NEW EQUIPMENT INSTALLED

Addition of a quantity of new equipment to its factory has been necessitated by the numerous orders for heavy grading equipment received by R. G. LeTourneau, Inc., of Stockton, California, according to information from that concern.

Within the past month the following units have been installed: 1 18 in. Axelson engine lathe; 1 Natco 24-spindle drill; 1 Ryerson 4 ft. radial drill; 2 Jones & Lamson turret lathes; 1 Steidle turret lathe; 2 Fellowes gear shapers; 1 Luzon electric welder, 300 amperes; 2 Lincoln electric welders, 400 amperes.

THE LEGAL PAGE FOR CONTRACTORS

By GEORGE N. CROCKER, Counsel for Associated General Contractors of America, California Branch

Member of the legal firm of Travers, Landels, Weigel and Crocker
Russ Bldg., San Francisco—Central Bank Bldg., Oakland, Calif.

THE SCOPE OF THE CONTRACT PERFORMANCE SURETY BOND

THE usual surety bond which is put up to guarantee performance of a contract or subcontract for construction work is so worded that by its terms the surety company guarantees the principal's obligation "to furnish all materials, labor and equipment necessary for the completion of the work contracted for in accordance with all of the terms of the contract, and to pay for any and all materials, supplies, teams, implements or machinery furnished for the performance of such contract, or for work done thereunder of any kind." Just what items of expenditure or debts incurred in the performance of such contract or subcontract are covered by the terms of such a bond? Or, in parlance commonly used, what are included among the "lienable" items, referring to the items for which a creditor of the contractor or subcontractor has a right to look to the surety for payment?



Geo. N. Crocker

This problem is one which is naturally of great significance to the surety, in that it seeks to determine the extent of the surety's liability, and to the laborer or materialman or other creditor who may endeavor to hold the surety liable under the bond if the contractor or subcontractor defaults in paying his bills; it is also important to the general contractor whose subcontractor has defaulted in payment of his bills, who is himself under full responsibility as the general contractor on the work, and whose only resource is to look to his subcontractor's surety for protection and reimbursement.

There are many points in connection with this problem which are not yet settled under the law, but decisions are constantly being made which are rapidly clarifying the law on the subject.

It is thoroughly settled that rental claims are covered by contractors' bonds. The Supreme Court of California in the case of Bricker vs. Rollins and Jareki, 178 Cal. 347, came to the following conclusions:

"In the case of the rental of animals or of machinery applying motive power to the performance of the work to be done under the contract, it is the energy of the instrumentality for which the price is paid, and that energy, whether in vital or mechanical or fluid form, is the thing which is supplied for and used in the work. The foregoing reasoning applies also to the rental of tools, the use of which contributed to the performance of the work. It was the use of the tool, and not the

tool itself which formed the basis of the claim of recompense."

Although this rule has been repudiated by the courts of some other states, it has the sanction of the United States Supreme Court in the case of Illinois Surety Company vs. John Davis Company, 244 U. S. 376, and, therefore, applies in all cases of federal statutory bonds.

In regard to the purchase price of machinery and equipment the rule as laid down by the court is that one who sells machinery or equipment to the contractor is not protected by the surety bond as to the purchase price. However, a distinction has been made in the case of small tools, accessories or other appliances or equipment which are necessarily consumed in the performance of the work, and which have only a salvage value after the work is completed. Such equipment is considered as materials or supplies actually going into the construction, and hence are within the scope of the terms of the surety bond.

It has likewise been held in several decisions that the expense of transportation of necessary equipment to the job came within the terms of the surety bond. It is also well settled that one who supplies gasoline or oil or other fuel in the operation of equipment upon the job is protected by the surety bond. In accordance with these principles, it was held in Ryan vs. Shannahan, 209 Cal. 98, that the rental and transportation of a gasoline shovel to be used on the work was secured by the bond which had been given to secure performance by the contractor of the terms, covenants and conditions of the contract.

Attempts have been made to recover from the surety company money loaned to the contractor. In such cases it has been argued that money which is borrowed by the contractor for the sole purpose of its utilization in the performance of his contract might well come within a reasonable interpretation of the word "supplies" and should, therefore, be covered by the contractor's surety bond. The courts, however, have rejected this argument and have held that the surety company is not liable to the contractor's creditor for money loaned to the contractor, even though that money is used solely in the performance of the contract. The California District Court of Appeal in People's National Bank vs. Southern Surety Company, 105 Cal. App. 731, held that a surety bond conditioned upon payment by a contractor for "materials, provisions, provender, or other supplies used in, upon, or for, or about the performance of the work" does not include money loaned or advanced to the contractor. In such a case the word "supplies" refers only to materials which went into or were consumed necessarily in the construction itself. The court stated the rule as follows:

"A person lending money to a contractor may not recover the amount in an action on the contractor's bond given to secure the payment of persons performing labor or furnishing material, when no stipulation is made as to the lending of money to the contractor, notwithstanding the funds are used in procuring labor or materials for carrying on the work."

ELECT DIRECTORS—Four directors were elected to fill expiring terms at the annual meeting of the Alameda Chapter, A.G.C., held in Oakland, on December 13. They are: W. E. Lyons, W. G. Thornally, David Nordstrom and Thomas F. L. Furlong.

**PENNSYLVANIA BUILDING ASPHALT
SECONDARY ROADS AT MINIMUM COST**

"Road building in America has passed into a new stage," writes Gov. Pinchot of Pennsylvania, one of the leading road building states, in a current issue of *The New Republic*. "Arterial highways, which heretofore have been our chief concern, are to yield their position of first importance, and secondary roads, farm-to-market roads, are to replace them as a major engineering undertaking of the nation.

"Here in America in a decade and a half we ran our road bill to a billion and a half dollars a year. We thought we knew what we wanted in roads and how to get it. We concluded we must have an unbroken slab of pavement that would endure to the end of time. Such was our standard and we would live up to it.

"But there was a certain exasperating ant in the molasses. These roads were back-breakingly expensive. In Pennsylvania they cost us \$50,000 to \$70,000 a mile. We spent as much as \$85,000,000 a year to build them. Even where resources shamed Croesus there was a physical limit to the mileage that could be built on this basis. And while we got certain arterial highways people in the country stayed in the mud.

"Several states decided the time was ripe to get roads to areas where traffic did not call for a boulevard that cost \$60,000 a mile. Foremost were Pennsylvania, Virginia and North Carolina . . .

"Part of the hard luck of the farmer everywhere comes from his difficulty in getting his product from his factory, which is the farm, to his market. Cheap and continuous transportation is even more important to the producer of milk than to the manufacturer of steel because milk is quickly perishable. For all these reasons it was imperative that something be done for those who live on the back roads.

"Today Pennsylvania is building all-weather highways that cost six thousand dollars a mile or less . . . Road builders of the nation are watching what promises to be the beginning of a new era in road building . . .

"Authorities had been in agreement for years as to durably paved main roads. Pennsylvania spent hundreds of millions to build them. They constituted its arterial system—the roads carrying heavy traffic between centers of population. But now the main roads were nearly all improved. And clinging to the notion that only high-cost pavement should be built, the state frequently put down fifty-thousand-dollar-a-mile roads where they were not needed. In use for years, travel on them was so light that the pavement lacked the customary dark stripe made by oil dropped by traffic. The money spent on every twenty miles of such pavement would have brought a satisfactory surface to one or two hundred miles of purely rural roads.

"We studied cheaper roads for lighter traffic and found that where old roadbeds had adequate bases, we could put on a layer of brokenstone aggregate, treat it with a bituminous binder and, at a cost ranging from \$1,500 to \$2,500 a mile, get a satisfactory surface. It could be built upon as it tended to break down, and would improve with the years . . .

"As our studies proceeded we adopted a type of road

that serves our purposes admirably. By no means is it the cheapest possible type. It is a substantial structure which the engineers say can be built up to carry almost any weight of traffic. On these rural roads the maximum of \$6,000 a mile is all that may go into them. Often we cut \$1,000 from that figure . . .

"If I may pause to brag a bit, I point to the fact that here in Pennsylvania we have over 34,000 miles of highway under care of the state. The huge state of Texas has only 20,000 miles of state highway and our wealthy neighbor, New York, less than that mileage. No other state has ever approached our program. We challenge them all to do as we have done, to come along with Pennsylvania in a real, concerted effort to lift the farmer out of the mud."

ALGERIAN HIGHWAYS—At the beginning of 1932 Algeria had over 30,000 miles of roads, of which 90 per cent were built during the past 10 years, according to a survey by the Department of Commerce. Of the 4,037 miles that constitute national highways, over half are macadam surfaced with tar or asphalt and the rest ordinary water-bound macadam. Besides natural highways, there are 41 miles of departmental roads, 7,592 miles of main roads, 7,905 of by-roads, and 11,834 miles of unclassified rural roads, making a total of 31,409 miles. Algeria spent \$7,276,000 on construction and maintenance of the national highways during 1931 and it is expected that a similar amount will have been expended during 1932.

Cypress Lawn Memorial Park

COLMA, SAN MATEO CO., CALIFORNIA
Executive Office—995 Market St., San Francisco



VIEW OF NEW MEMORIAL COLUMBARIUM
(Largest and most beautiful Columbarium ever erected)

WE HAVE FACILITIES FOR:
Earth Interment Cremation
Mausoleum Entombment Columbarium Inurnment

Cypress Lawn is adequately protected by a
PERPETUAL CARE FUND.

"VISIT CYPRESS LAWN MEMORIAL PARK"

UNIT BID SUMMARY

Compiled from the Daily News Service of Pacific Constructor

SLUDGE TANKS—POMONA—BIDS OPENED

POMONA, Los Angeles Co., Cal.—Contracting Engineers, Inc., 2310 1/2 W. Vernon Ave., Los Angeles, submitted low bid to city council, Dec. 13, at \$11,009, for the construction of Sludge Concentration and Digestion Tanks, Pumps and Boiler House at the site of the present Tri-City Disposal Plant, located at Spadra, involving major items as follows:

- 1 900 cu. yds. earth excav.;
 - 46 cu. yds. loose rock excav.;
 - 10 cu. yds. solid rock excav.;
 - 13,600 lbs. structural steel;
 - 22,000 lbs. reinf. steel;
 - 318 cu. yds. concrete;
 - Cast iron pipe, fittings, etc.
- Black & Veatch (Alva J. Smith, representative), 810 Boylston St., Pasadena, consulting engineers. The en-

gineer's estimate was \$11,957.

The bids were taken on items as follows:

- (1) (a) 900 cu. yds. earth excav.;
- (b) 40 cu. yds. loose rock;
- (c) 10 cu. yds. solid rock;
- (2) screen chamber, complete;
- (3) sludge digestion tank, complete;
- (4) (a) pumps, motors, etc. (chain belt);
- (b) pumps, motors, etc., (Barnes-Dorco—alternate);
- (c) pumps, motors, etc. (Harlow—alternate);
- (d) pumps, motors, etc (bidder's alternate);
- (5a) alterations to final settling tank,
- (b) alterations to inlet baffles;
- (5a) preliminary settling tank,
- (b) piping for same;

- (7) yard piping;
 - (3) remove 8-in. line;
 - (9) relay 8-in. line.
- The total bids were:
- (A) Contracting Engineers, Inc., \$11,009.
 - (B) Bennett & Taylor, Los Angeles, \$11,575.
 - (C) John Strona, Pomona, \$11,969.
 - (D) J. B. McIntosh, Glendale, \$11,957.50.
 - (E) Campbell Constr. Co., Ontario, \$12,093.
 - (F) Harry P. Miller, \$13,055.
 - (G) H. A. Teect, Ontario, \$16,260.
 - (H) R. G. Winery, Los Angeles, \$16,323.
 - (I) Oberg Bros. \$18,660.

The unit bids were:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) |
|-----------|---------|------------|------------|---------|---------|---------|---------|---------|---------|
| (1a)..... | \$.40 | \$ 387.96* | \$ 445.00* | \$.39 | \$.43 | \$.75 | \$.75 | \$.85 | \$ 1.00 |
| (1b)..... | 1.50 | 40.00 | 60.00 | .50 | .45 | .80 | 2.00 | 1.75 | 2.50 |
| (c)..... | 3.00 | 35.00 | 25.00 | 1.50 | 4.00 | 2.50 | 5.00 | 3.50 | 5.00 |
| (2)..... | 250.00 | 3,300 | 347.60 | 261.80 | 220.00 | 297.00 | 450.00 | 320.00 | 500.00 |
| (3)..... | 4934.00 | 5188.00 | 6035.00 | 5830.00 | 5641.00 | 5682.00 | 8900.00 | 7470.00 | 9500.00 |
| (4a)..... | 3300.00 | 3321.60 | 2364.00 | 2946.00 | 3175.00 | 3694.00 | 3550.00 | 4072.00 | 3800.00 |
| (b)..... | 3225.00 | 3229.00 | 2364.00 | 2880.00 | 3108.00 | 3694.00 | 3500.00 | 3972.00 | 3800.00 |
| (c)..... | 3375.00 | 3279.00 | 2744.00 | 2930.00 | 3150.00 | 3741.00 | 3550.00 | 3572.00 | 3800.00 |
| (d)..... | 3100.00 | 3136.00 | ..... | 2752.00 | ..... | ..... | 3475.00 | ..... | ..... |
| (5a)..... | 800.00 | 918.00 | 724.00 | 797.00 | 1083.30 | 804.00 | 990.00 | 1168.00 | 1200.00 |
| (b)..... | 150.06 | 170.90 | 60.00 | 202.00 | 153.00 | 213.00 | 280.00 | 580.00 | 450.00 |
| (c)..... | 500.00 | 529.60 | 472.00 | 655.00 | 556.00 | 786.00 | 550.00 | 948.00 | 625.00 |
| (d)..... | 200.00 | 171.00 | 337.00 | 331.00 | 228.00 | 37.00 | 275.00 | 160.00 | 307.00 |
| (7)..... | 500.00 | 475.90 | 599.00 | 645.00 | 464.00 | 800.00 | 600.00 | 835.00 | 1228.00 |
| (8)..... | 190.00* | .23 | 30.00* | .30 | .25 | 27.50* | .25 | .25 | .30 |
| (9)..... | 50.00 | .20 | 30.60 | .40 | .25 | 27.50 | .50 | .20 | .40 |

*Lump sum bid.

8.9 MILF GRADE AND ASPH. CONC. PAVE.—TEHAMA COUNTY

TEHAMA COUNTY, Calif.—Hanrahan Co., 532 Market St., San Francisco at \$129,805.50 submitted low bid to the State Highway Commission, Sacramento, for 8.9 miles grading and asphalt concrete paving between the southerly boundary and Corning, involving:

- (1) 72,000 cu. yds. rdwy. excav. without class;
- (2) 504,500 sq. yds. overhaul;
- (3) 20,200 cu. yds. imp. borrow;
- (4) 9,900 cu. yds. sel. material;
- (5) 500 cu. yds. struc. excav.;
- (6) 40,000 sq. yds. asph. paint blinder;
- (7) 21,650 tons asph. conc. (base and leveling course);
- (8) 12,600 tons asph. conc. (Type A surf.);
- (9) 137 cu. yds. Class A Port. cem. conc. (struc.);

- (10) 9,600 lbs. bar reinf. steel (struc.)
- (11) 500 lin. ft. 12-in. corr. metal pipe
- (12) 300 lin. ft. 18-in. do;
- (13) 225 lin. ft. do (clean and relay);
- (14) 15 concrete headwalls, move and reset;
- (15) 2,360 cu. yds. Port. cem. conc. remove from exist. pave. and struc.;
- (16) 500 M. gals. water (embank. and shoulders);
- (17) 88,000 lbs. struc. steel;
- (18) 18 M. ft. b.m. redwood timber, sel. all-heart struc. grade;
- (19) 1,520 lin. ft. remove old bridge rail;
- (20) 471 sta. finish rdwy.;
- (21) 70 monuments complete in place. State will furnish corrugated metal pipe.

- Complete bids follow:
- (A) Hanrahan Co., S. F., \$129,805.50.
 - (B) California Const. Co., San Francisco and D. MacDonald, Sacramento, \$136,446.00.
 - (C) A. Teichert & Son, Sacramento, \$137,280.00.
 - (D) M. J. Bevanda, Stockton, \$138,964.50.
 - (E) Union Paving Co., San Francisco, \$142,550.70.
 - (F) Peninsula Paving Co., San Francisco, \$147,166.80.
 - (G) Clark & Henry Co., San Francisco, \$151,765.50.
 - (H) Hemstreet and Bell, Marysville, \$152,685.50.
 - (I) J. R. Reeves and Lord & Bishop, Sacramento, \$159,203.75.
 - (J) Granite Const. Co., Watsonville, \$168,600.40.

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) |
|-----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| (1)..... | \$.14 | \$.18 | \$.15 | \$.19 | \$.20 | \$.19 | \$.20 | \$.21 | \$.21 | \$.25 |
| (2)..... | .004 | .005 | .005 | .003 | .008 | .005 | .005 | .005 | .005 | .005 |
| (3)..... | .26 | .27 | .285 | .28 | .30 | .26 | .33 | .35 | .30 | .35 |
| (4)..... | .28 | .31 | .30 | .35 | .35 | .77 | .60 | .70 | .62 | .80 |
| (5)..... | .60 | .75 | .80 | .65 | 1.00 | .80 | .80 | 1.00 | .50 | 1.30 |
| (6)..... | .015 | .01 | .015 | .02 | .01 | .01 | .02 | .025 | .02 | .015 |
| (7)..... | 2.70 | 2.56 | 2.80 | 2.80 | 2.70 | 2.87 | 3.00 | 2.90 | 3.15 | 3.24 |
| (8)..... | 2.85 | 2.99 | 3.09 | 3.00 | 3.00 | 2.92 | 3.00 | 3.12 | 3.70 | 3.24 |
| (9)..... | 15.00 | 22.00 | 15.00 | 15.00 | 15.00 | 16.40 | 18.00 | 17.50 | 16.00 | 20.00 |
| (10)..... | .04 | .045 | .04 | .05 | .05 | .04 | .04 | .04 | .04 | .04 |
| (11)..... | .30 | .50 | .30 | .25 | .50 | .20 | .25 | .25 | .30 | .30 |
| (12)..... | .30 | .50 | .40 | .35 | .50 | .20 | .30 | .30 | .35 | .30 |
| (13)..... | .50 | .50 | .50 | 1.00 | .50 | .30 | .60 | .50 | .75 | .50 |
| (14)..... | 8.00 | 8.00 | 10.00 | 10.00 | 10.00 | 20.00 | 10.00 | 8.00 | 6.00 | 10.00 |
| (15)..... | 1.00 | 1.00 | 1.00 | 1.00 | 1.50 | 1.20 | 1.50 | 1.00 | 1.00 | 1.30 |
| (16)..... | 1.00 | 1.50 | 1.50 | 1.50 | 1.50 | 2.50 | 2.00 | 1.50 | 1.50 | 2.50 |
| (17)..... | .055 | .07 | .06 | .06 | .06 | .055 | .06 | .08 | .0 | .08 |
| (18)..... | 75.00 | 85.00 | 60.00 | 75.00 | 80.00 | 60.00 | 80.00 | 67.50 | 65.00 | 100.00 |
| (19)..... | .25 | .10 | .10 | .25 | .06 | .20 | .10 | .20 | .10 | .12 |
| (20)..... | 4.00 | 7.00 | 4.00 | 4.00 | 6.00 | 10.00 | 7.00 | 5.00 | 3.00 | 8.00 |
| (21)..... | 2.50 | 3.00 | 2.50 | 2.00 | 4.00 | 2.50 | 3.00 | 2.50 | 2.00 | 2.50 |

4.3 MI. GRADE AND PAVE—SAN JOAQUIN COUNTY

SAN JOAQUIN COUNTY, Calif.—Fredrickson & Watson, 873 81st Ave., Oakland, at \$123,883.80 submitted low bid Dec. 14 to State Highway Commission, Sacramento, to grade and pave with Portland cement concrete 4.3 mi. between Manteca and Mossdale, involving:

- (1) 145 remove and dispose of trees;
- (2) 77,000 (2) 77,000 cu. yds. rdwy. excav. without class.;
- (3) 2,495,000 sta. yds. overhaul;
- (5) 50,195 sq. yds. subgrade for pave.
- (4) 2170 cu. yds. struc. excav.;
- (6) 10,672 cu. yds. Class "A" cemen conc. (pave.);
- (7) 88 cu. yds. Class "A" cem. conc. (struc.);
- (8) 242,200 lbs. bar reinf. steel (pave. and struc.);
- (9) 4030 cu. yds. salvaged surf. (sub-base and borders);
- (10) 3205 tons cru. gravel or stone (untr. base and surf.);

- (11) 277 tons cru. gravel or stone (bit. tr. surf.);
- (12) 14 tons cut-back asphalt;
- (13) 1104 bbls. heavy fuel oil;
- (14) 30 lin. ft. 12-in. corr. metal pipe.
- (15) 2435 lin. ft. 18-in. do.;
- (16) 12 lin. ft. 24-in. do.;
- (17) 70 lin. ft. 36-in. do.;
- (18) 196 lin. ft. 42-in. do.;
- (19) 118 lin. ft. salvage exist. culverts;
- (20) 152 lin. ft. corr. metal pipe (clean and relay);
- (21) 15 move and reset headwalls;
- (22) 40 cu. yds. Port. cemen. concr. in exist. struc. remove and dispose of;
- (23) 124 mi. new barbed wire fence;
- (24) 1.4 mi. new hog-tight fence;
- (25) 0.42 mi. move and reset existing fences;
- (26) 27 fence gates;
- (27) 2590 M. gals. water;
- (28) 226 sta. finish rdwy.;
- (29) 31 monuments complete in place.

State will furnish corrugated metal pipe, headgates and cast steel frame and covers for drop inlets.

Complete bids follow:

- (A) Fredrickson & Watson, Oakland, \$123,883.80.
- (B) M. J. Bevanda, Stockton, \$124,291.10.
- (C) Union Paving Co., San Francisco, \$124,395.15.
- (D) United Concrete Pipe Corp., Los Angeles, \$125,439.12.
- (E) C. W. Wood, Stockton, \$125,862.80.
- (F) Heafey-Moore Co., Berkeley, and J. A. Casson, Hayward, \$126,440.08.
- (G) A. J. Raich, San Jose, \$130,954.74.
- (H) D. Macdonald and N. M. Ball, Sacramento and Porterville, \$136,144.17.
- (I) Hanrahan Co., San Francisco \$136,525.55.
- (J) Valley Paving & Concrete Co., Fresno, \$139,994.75.

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) |
|------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| (1) | \$ 2.25 | \$ 2.00 | \$ 3.00 | \$ 3.00 | \$ 3.00 | \$ 1.50 | \$ 3.00 | \$ 5.00 | \$ 5.00 | \$ 3.00 |
| (2) | .16 | .17 | 15.00 | .14 | .14 | .14 | .22 | .13 | .20 | .175 |
| (3) | .002 | .003 | .001 | .004 | .002 | .0025 | .005 | .004 | .003 | .004 |
| (4) | .50 | .50 | .50 | .30 | .35 | .60 | .50 | .60 | .70 | .75 |
| (5) | .06 | .10 | .07 | .06 | .06 | .08 | .06 | .08 | .07 | .07 |
| (6) | 7.25 | 6.60 | 8.00 | 7.31 | 7.80 | 7.30 | 6.77 | 7.25 | 7.50 | 7.75 |
| (7) | 14.50 | 15.00 | 12.00 | 15.00 | 13.00 | 14.00 | 15.00 | 18.00 | 20.00 | 20.00 |
| (8) | .04 | .035 | .03 | .035 | .0375 | .0275 | .038 | .036 | .033 | .04 |
| (9) | .50 | .75 | .20 | .50 | .50 | .60 | .50 | .70 | .30 | .30 |
| (10) | 1.15 | 1.25 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.25 | 1.40 | 1.20 |
| (11) | 3.60 | 3.75 | 2.50 | 3.50 | 3.50 | 2.40 | 3.60 | 2.80 | 2.50 | 3.90 |
| (12) | 15.00 | 18.00 | 13.00 | 3.50 | 14.00 | 13.00 | 15.00 | 15.00 | 20.00 | 16.00 |
| (13) | 2.00 | 1.60 | 1.50 | 1.60 | 1.90 | 1.52 | 1.60 | 3.15 | 2.00 | 1.70 |
| (14) | .20 | .25 | .20 | .20 | .25 | .25 | .20 | .30 | .30 | .30 |
| (15) | .20 | .35 | .30 | .30 | .25 | .40 | .20 | .30 | .40 | .50 |
| (16) | .30 | .45 | .35 | .35 | .25 | .50 | .25 | .50 | .40 | .50 |
| (17) | .50 | .60 | .40 | .40 | .25 | .50 | .25 | .50 | .50 | 1.00 |
| (18) | .60 | .75 | .50 | .45 | .40 | .75 | .30 | .75 | .60 | 1.00 |
| (19) | .40 | .50 | .50 | .50 | .25 | .20 | .20 | .50 | .50 | .50 |
| (20) | .40 | 1.00 | .50 | .50 | .25 | .75 | .40 | .50 | .50 | 1.50 |
| (21) | 10.00 | 10.00 | 2.00 | 10.00 | 6.00 | 10.00 | 8.00 | 5.50 | 10.00 | 10.00 |
| (22) | 1.50 | 2.00 | 1.00 | 2.00 | 2.00 | 2.50 | 3.00 | 3.00 | 4.00 | 3.50 |
| (23) | 300.00 | 400.00 | 200.00 | 400.00 | 300.00 | 350.00 | 400.00 | 400.00 | 200.00 | 350.00 |
| (24) | 350.00 | 600.00 | 300.00 | 400.00 | 450.00 | 500.00 | 500.00 | 450.00 | 400.00 | 450.00 |
| (25) | 150.00 | 150.00 | 50.00 | 200.00 | 250.00 | 250.00 | 300.00 | 400.00 | 200.00 | 200.00 |
| (26) | 11.00 | 15.00 | 12.00 | 15.00 | 13.00 | 14.00 | 12.00 | 15.00 | 15.00 | 15.00 |
| (27) | .60 | 1.00 | 1.00 | .50 | .40 | 1.25 | 1.00 | 1.40 | 1.40 | 1.50 |
| (28) | 4.00 | 5.00 | 2.00 | 3.00 | 2.00 | 5.00 | 4.00 | 7.50 | 5.00 | 5.00 |
| (29) | 3.00 | 2.00 | 1.00 | 2.00 | 2.00 | 2.50 | 2.50 | 3.00 | 2.50 | 2.00 |

BULKHEAD -- LOS ANGELES CITY -- BIDS OPENED

LOS ANGELES, Cal.—Thomas Kelly and Son, 9470 Santa Monica Blvd., Beverly Hills, submitted low bid to board of public works Dec. 21 at \$7,403.94, for the construction of a bulkhead and appurtenances in the Esplanade bet. 130 ft. north and 100 ft. south of 66th Ave. and in an adjacent right of way, under cash contract, involving:

- (1) clearing, inc. removal of interfering portions of existing struc.;
- (2) 2198 ft. creosoted timber vertical piles driven below cut-off line;
- (3) 896 ft. creosoted timber brace piles driven below cut-off line;
- (4) 6186 ft. 8x12-in. grooved creosoted timber sheet piles, inc. splines, in place below cut-off line;

- (5) 40 ft. 8x8-in. grooved creosoted square timber piles, inc. splines, in place below cut-off line;
- (6) 614 M. ft. b.m. creosoted timber waling, in place;
- (7) 0.80 M. ft. b.m. creosoted timber bolster, in place;
- (8) 3.07 M. ft. b.m. creosoted anchor timbers, in place;
- (9) 0.65 M. ft. b.m. creosoted timbers and lumber for stairway and misc. details, in place;
- (10) 1.16 M. ft. b.m. surfaced timbers and lumber for guard rail and stairway, inc. painting, in place;
- (11) 38 galv. steel tie bar assemblies complete, inc. 1 1/2-in. dia. bars, galv. or cadmiumized nuts and turnbuckles, and painting, in place;

- (12) 2810 lbs. of galv. steel plates in place;
 - (13) 4290 lbs. galv. or cadmiumized bolts, tiebars, and nuts, in place;
 - (14) 970 lbs. of galv. washers, in place
 - (15) 60 lbs. galv. spikes, in place;
 - (16) 1500 cu. yds. of grading (fill).
- The bids are as follows:
- (A) Thomas Kelly & Son, \$7,403.94.
 - (B) R. H. Travers, \$9,163.05.
 - (C) John Strona, \$9,308.83.
 - (D) E. G. Ferham, \$9,352.63.
 - (E) R. R. Bishop, \$9,794.10.
 - (F) Kemper Const. Co., \$10,239.38.
 - (G) Clark & Campbell, \$10,264.50.
 - (H) Fred F. Greenfield Co., \$10,896.55.
 - (I) William Hess, \$11,765.13.
 - (J) R. G. Whitney, \$12,388.00.
 - (K) Engineer's estimate, \$8,087.25.

Unit bids follow:

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) |
|-----|---------|--------|--------|--------|--------|----------|----------|----------|----------|----------|----------|--------|--------|--------|--------|--------|
| (A) | \$50.00 | \$ 7.0 | \$ 7.4 | \$ 5.0 | \$ 6.0 | \$ 70.00 | \$ 70.00 | \$ 70.00 | \$ 70.00 | \$ 70.00 | \$ 10.00 | \$ 0.6 | \$ 0.1 | \$ 1.1 | \$ 1.0 | \$ 2.5 |
| (B) | 50.00 | 1.00 | 1.00 | .55 | .50 | 70.00 | 70.00 | 70.00 | 70.00 | 60.00 | 9.00 | .05 | .06 | .095 | .065 | .63 |
| (C) | 250.00 | .81 | .81 | .52 | .52 | 78.61 | 149.40 | 63.40 | 91.45 | 91.45 | 12.60 | .09 | .13 | .16 | .08 | .60 |
| (D) | 50.00 | .90 | 1.10 | .59 | .60 | 71.00 | 97.00 | 70.00 | 105.00 | 90.00 | 10.50 | .07 | .08 | .13 | .15 | .46 |
| (E) | 300.00 | .95 | 1.00 | .60 | .60 | 85.00 | 85.00 | 85.00 | 85.00 | 70.00 | 10.00 | .08 | .09 | .12 | .08 | .45 |
| (F) | 60.00 | .96 | 1.20 | .53 | .54 | 81.60 | 81.60 | 81.60 | 81.60 | 52.80 | 15.60 | .072 | .12 | .12 | .12 | .68 |
| (G) | 100.00 | .95 | 1.20 | .65 | .65 | 80.00 | 80.00 | 80.00 | 85.00 | 63.00 | 11.00 | .08 | .085 | .12 | .08 | .60 |
| (H) | 358.00 | 1.05 | 1.11 | .80 | .93 | 77.60 | 82.00 | 63.00 | 86.00 | 85.00 | 7.84 | .06 | .06 | .11 | .08 | .33 |
| (I) | 500.00 | 1.00 | 1.10 | .63 | .80 | 70.00 | 75.00 | 75.00 | 70.00 | 70.00 | 10.50 | .12 | .155 | .12 | .30 | 1.25 |
| (J) | 105.00 | 1.55 | 1.90 | .65 | .65 | 115.00 | 115.00 | 115.00 | 115.00 | 87.50 | 12.00 | .09 | .10 | .16 | 1.05 | 1.00 |
| (K) | 50.00 | .90 | 1.00 | .45 | .40 | 67.00 | 67.00 | 67.00 | 67.00 | 67.00 | 6.50 | .046 | .115 | .10 | .08 | .40 |

1.4-MI. GRADE & CEM. CONC. PAVE—STANISLAUS CO.

STANISLAUS COUNTY, Calif.—C. W. Wood, P. O. Box 1435, Stockton, at \$69,838.90 submitted low bid Dec. 14 to the State Highway Commission, Sacramento, to grade and pave with Portland cement concrete 1.4 mi. between Hatch Crossing and Modesto, involving:

- (1) 286 remove trees;
- (2) 16,000 cu. yds. rdwy. excav. without class;
- (3) 27,000 sta. yds. overhaul;
- (4) 26,900 cu. yds. imp. borrow;
- (5) 2800 cu. yds. struc. excav.;
- (6) 28,325 cu. yds. subgrade for pave.
- (7) 5000 cu. yds. Class "A" cement conc. (pave.);
- (8) 175 cu. yds. Class "A" cement conc. (struc.);
- (9) 158,000 lbs. bar reinf. steel (pave. and struc.);
- (10) 4 lin. ft. 12-in. corr. metal pipe;
- (11) 303 lin. ft. 18-in. do.;
- (12) 433 lin. ft. 30-in. do.;
- (13) 116 lin. ft. 36-in. do.;
- (14) 676 tons untr. cru. gravel or stone surf.;
- (15) 1000 tons cru. gravel or stone (bit. tr. surf.);

- (16) 50 tons cut-btck asphalt;
 - (17) 600 sq. yds. asph. paint binder;
 - (18) 386 bbls. heavy fuel oil (shoult-ders);
 - (19) 12 bbls. heavy fuel oil (prime cont);
 - (20) 2.1 mi. new property fence;
 - (21) 15 fence gates;
 - (22) 1770 M. gals. water;
 - (23) 135 cu. yds. Port. cem. concr. remove and dispose of;
 - (24) 72 sta. finish rdwy.;
 - (25) 21 monuments complete in place.
- State will furnish corrugated metal pipe and headgates.

- Complete bids follow:
- (A) C. W. Wood, Stockton, \$69,838.90.
 - (B) Union Paving Co., San Francisco, \$70,366.15.
 - (C) M. J. Bevanda, Stockton, \$70,564.80.
 - (D) United Concrete Pipe Corp., Los Angeles, \$72,269.05.
 - (E) D. McDonald, Sacramento, and N. M. Ball, Porterville, \$75,651.00.
 - (F) Valley Paving & Concrete Co., Fresno, \$78,501.00.
 - (G) J. F. Knapp, Oakland, \$91,445.
- Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) |
|-----------|---------|--------|--------|--------|--------|--------|--------|
| (1)..... | \$ 2.00 | 2.00 | 1.50 | 3.00 | 3.50 | 2.50 | 2.00 |
| (2)..... | .15 | .10 | .20 | .20 | .17 | .20 | .30 |
| (3)..... | .005 | .01 | .01 | .005 | .005 | .007 | .01 |
| (4)..... | .22 | .30 | .27 | .30 | .27 | .30 | .40 |
| (5)..... | .40 | .60 | .50 | .30 | .60 | .50 | .75 |
| (6)..... | .06 | .07 | .10 | .07 | .10 | .06 | .10 |
| (7)..... | 7.68 | 8.00 | 6.75 | 7.30 | 7.30 | 8.00 | 9.00 |
| (8)..... | 13.00 | 12.60 | 13.00 | 15.00 | 14.50 | 16.00 | 18.00 |
| (9)..... | .0375 | 0.03 | .035 | .04 | .036 | .04 | .04 |
| (10)..... | .50 | .30 | .30 | .50 | .50 | .50 | .50 |
| (11)..... | .25 | .30 | .35 | .20 | .50 | .50 | .50 |
| (12)..... | .30 | .35 | .40 | .30 | .50 | .75 | .75 |
| (13)..... | .40 | .49 | .50 | .50 | .50 | .75 | .80 |
| (14)..... | 1.25 | 1.00 | 2.50 | 1.95 | 1.50 | 1.20 | 2.00 |
| (15)..... | 3.00 | 2.00 | 2.50 | 3.00 | 3.55 | 3.60 | 4.00 |
| (16)..... | 14.00 | 10.00 | 18.00 | 3.00 | 15.00 | 16.00 | 15.00 |
| (17)..... | .05 | .005 | .02 | .07 | .02 | .03 | .05 |
| (18)..... | 2.00 | 1.50 | 1.50 | 1.76 | 3.70 | 1.75 | 2.50 |
| (19)..... | 2.50 | 1.50 | 2.50 | 2.00 | 1.90 | 1.75 | 2.50 |
| (20)..... | 300.00 | 100.00 | 250.00 | 400.00 | 400.00 | 350.00 | 350.00 |
| (21)..... | 15.00 | 15.00 | 15.00 | 15.00 | 15.00 | 15.00 | 15.00 |
| (22)..... | .40 | .70 | 1.00 | .50 | 1.40 | 1.60 | 2.00 |
| (23)..... | 1.50 | 1.50 | 2.00 | 2.00 | 3.00 | 2.00 | 2.00 |
| (24)..... | 4.00 | 5.00 | 5.00 | 3.00 | 7.50 | 5.00 | 5.00 |
| (25)..... | 2.50 | 4.00 | 2.00 | 2.00 | 3.00 | 2.00 | 3.00 |

BRIDGE CALIENTE CREEK—KERN COUNTY—STATE

KERN COUNTY, Cal.—As previously reported, Carl Ingalls, P. O. Box 1593, Bakersfield, at \$10,822.02 submitted low bid to District Engineer, State Highway Commission, Fresno, to construct a bridge across Caliente Creek about 15 miles east of Bakersfield, consisting of eleven 19-ft. timber stringer spans on cressed bents, involving:

- (1) 200 cu. yds. channel excav.;
- (2) 120 cu. yds. struc. excav.;
- (3) 3,180 lin. ft. furnish creos. Douglas fir piles (inc. test piles);
- (4) 105 drive piles (inc. test piles);
- (5) 79 MF8M redwood timber in place, dense sel. all-heart struc. grade;
- (6) 31 MF8M do. sel. all-heart struc. grade.

- Complete bids follow:
- (A) Carl Ingalls, Bakersfield, \$10,822.02
 - (B) Stroud Bros. & Seabrook, Bakersfield, 10,822.50
 - (C) Hartman Con. Co. and G. A. Graham, Bakersfield, 10,969.10
 - (D) R. R. Bishop, Long Beach, 11,206.60
 - (E) Lindgren and Swiherton, San Francisco, 11,618.25
 - (F) Lynch-Cannon, L. A., 11,603.60
 - (G) F. W. Nighbert, Bakersfield, 12,380.70
 - (H) M. B. McGowan, S. F., 12,546.74
 - (I) H. M. Baruch Corp. and Robinson-Roberts, L. A., 12,845.00
 - (J) Paul Npperman, Bakersfield, 13,315.00

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| (1)..... | \$.25 | .40 | .30 | .50 | .50 | .50 | .40 | .57 | .25 | \$.25 |
| (2)..... | .25 | .75 | .70 | 2.00 | 1.00 | .50 | .60 | .76 | .75 | .45 |
| (3)..... | .54 | .55 | .615 | .52 | .55 | .50 | .615 | .628 | .60 | .67 |
| (4)..... | 16.20 | 15.00 | 8.00 | 15.00 | 12.25 | 20.00 | 10.00 | 13.30 | 22.00 | 21.00 |
| (5)..... | 67.18 | 68.50 | 72.60 | 70.00 | 78.00 | 73.00 | 83.00 | 80.50 | 78.00 | 81.25 |
| (6)..... | 66.60 | 72.00 | 74.00 | 68.00 | 71.00 | 66.00 | 86.00 | 83.50 | 75.00 | 79.25 |

SAN GABRIEL DAM NO. 1
LOS ANGELES COUNTY

LOS ANGELES, Calif.—West Slope Construction Co., room 1205, 810 South Spring St., submitted low bid (based on bidder's totals) to County Supervisors Dec. 19 at \$8,600,527 (using Gunite facing) and \$8,633,032 (using concrete poured face) for the construction of a rock fill dam in San Gabriel Canyon, 2.4 miles downstream from the Forks and 8.6 miles above Azusa. The proposed dam will be 295 ft. in height above stream bed, 1670 ft. in length measured along the road on the crest, and 900 ft. thick at the base stream bed.

E. C. Eaton, County Flood Control Engineer, 202 N Broadway, prepared the plans. West Slope Const. Co. is low on the face of the total bids submitted, but the computation of the extra for overhaul from the various quarries, as noted in the list of items shown below, may change the net result. No information will be available until the Chief Engineer makes his final report to the board. He was instructed to do this with dispatch as the supervisors wish to let a contract as soon as possible. His report will probably be ready by Dec. 27.

The total bids were:

- (A) West Slope Const. Co., room 1205, 810 S Spring St., composed of Foley Eros. Bates & Rogers Const. Co., J. C. Maguire, Butte, Mont., and The Lawler Corp., Butte, Mont.—Total 1 (including item 23) Gunite face, \$8,600,527; Total 2 (including item 23a) concrete poured face, \$8,633,032. Quarries: Delezville or Ormond.
- (B) Constructors, Inc., 609 S Grand Ave., Los Angeles—Total 1, Gunite, \$8,767,415; Total 2, concrete poured face, \$8,767,415. Quarries, Riverside County.
- (C) Silas Mason Co., 500 5th Ave., New York City, and 707 Spring Arcade Bldg., Los Angeles—Total 1, Gunite, \$8,944,869; Total 2, concrete poured face, \$8,901,529. Quarries: Kumpke, Deetz, Bly or other quarry in same district.
- (D) J. A. McEachern Co. and Guy F. Atkinson Co. 925 Story Bldg., Los Angeles—Total No. 1, Gunite, \$9,052,898.50; Total No. 2, concrete poured face, \$9,020,393.50. Quarry: Hole Quarry site, May Station, Riverside Co.
- (E) Merritt-Chapman & Scott Corp. 720 Wilmington-San Pedro Road, San Pedro—Total No. 1, Gunite, \$9,068,225; Total No. 2, concrete poured face \$9,303,245. Quarries: Delezville and Ormond.
- (F) Walsh Const. Co., Davenport, Ia.—Total No. 1, Gunite, \$10,189,499.75; Total No. 2, concrete poured face, \$10,146,159.75. Quarry: near Riverside, within 60 miles of Azusa.
- (G) Rosoff Subway Const. Co., 295 Madison Ave., New York City—Total No. 1, Gunite, \$10,220,369.50; Total No. 2, concrete poured face, \$10,198,699.50.
- (H) Engineer's est.—using Quarry No. 10; Gunite, \$8,655,555; concrete poured face, \$8,612,215.

The low bids on alternative proposals follow:

ALTERNATIVE NO. 2
Open Cut Excavation
S. J. Groves & Son, room 409, 318 W 9th St., Los Angeles, \$654,200.
Engineer's estimate, \$941,300.

ALTERNATIVE NO. 3
Driving of All Tunnels and Inclined Shaft
S. H. Palmer and J. P. Holland, Inc. 503 Market St.—1834 McKinnon St., San Francisco, \$291,315.
Engineer's estimate, \$338,500.

SAN GABRIEL DAM NO. 1

.6 MI. GRADE & CEM. CONC. PAVE.—MERCED CO.

ALTERNATIVE NO. 4
Furnishing and Placing Complete of All Rock Fill

No bid.
Engineer's estimate, \$6,203,050.

ALTERNATIVE NO. 5
Furnishing and Placing All Concrete Gunite

No bid.
Engineer's estimate—Gunite, \$1,006,400; concrete, \$963,060.

ALTERNATIVE NO. 6
Drilling of Grout Holes and Grouting Thereof

Halliburton Grouting Co., 810 So. Spring St., Los Angeles, \$114,779.
Engineer's estimate, \$135,380.

ALTERNATIVE NO. 7
Placing of Metal
C. M. Hill, 330 W 54th St., Los Angeles, \$107,738.

Engineer's estimate, \$132,725.

ALTERNATIVE NO. 8
Driving Tunnels, Inclined Shaft and Lining Thereof with Concrete

Floyd Shofner, 5670 Wilshire Blvd., Los Angeles, \$432,670.
Engineer's estimate, \$538,135.

ALTERNATIVE NO. 9
Placing of All Concrete and Gunite Except Tunnel Lining

No bid.
Engineer's estimate—Gunite, \$786,415; concrete poured face, \$743,075.

ALTERNATIVE NO. 10
All Open-Cut Excavation, Backfill and Furnishing and Placing Complete of All Rock Fill

West Slope Const. Co., \$7,064,520.
Engineer's estimate, \$7,124,350.

The items in Proposal No. 1 were:

PROPOSAL NO. 1

- (1) 400,000 cu. yds. class A excavation on west abutment above elevation 1190;
- (2) 125,000 cu. yds. class B excavation on east abutment above elevation 1190;
- (3) 659,000 cu. yds. class C excavation, streambed below elevation 1290 in vicinity of cut-off;
- (4) 632,000 cu. yds. class D excavation, streambed below elevation 1190 downstream from cut-off;
- (5) 15,000 cu. yds. class E excavation, cut-off trenches;
- (6) 24,000 cu. yds. class F excavation, miscellaneous open cut;
- (7) 1750 cu. yds. class G excavation, inclined outlet shaft;
- (8) 62,700 cu. yds. class H excavation, main outlet tunnel;
- (9) 735 cu. yds. class J excavation, spillway pilot tunnel;
- (10) 53,000 cu. yds. backfill;
- (11) 4,160,000 cu. yds. class A rockfill in body of dam;
- (12) 643 cu. yds. class B rockfill below streambed downstream from cut-off;
- (13) 470,000 cu. yds. class C rockfill, large rock on downstream face;
- (14) 249,000 cu. yds. class D rockfill, packed on upstream face;
- (15) 19,100 cu. yds. class A concrete, main cut-off wall;
- (16) 725 cu. yds. class B reinf. concr.;
- (17) 3300 cu. yds. class C concrete, trash racks and tunnel outlet;
- (18) 400 cu. yds. class D concrete, lining in outlet shaft;
- (19) 13,500 cu. yds. class E concrete, lining in outlet tunnel;
- (20) 35,500 cu. yds. class F concrete, plain concrete;
- (21) 325 cu. yds. class G conc., tunnel plug;
- (22) 6600 cu. yds. class H concrete, floater slabs;
- (23) 2,167,000 sq. ft. placing 6-in. Gunite facing slabs;

MERCED COUNTY, Calif.—C. W. Wood, P. O. Box 1435, Stockton, at \$28,409.50 submitted low bid to State Highway Commission, Sacramento, to grade and pave with Portland cement concrete 0.6 mile between Merced and Merced Airport, Involving:

- (1) 550 cu. yds. rdwy. excav., without class;
- (2) 24,000 cu. yds. imp. borrow;
- (3) 420 cu. yds. struc. excav.;
- (4) 5,700 sq. yds. subgrade for pave.;
- (5) 1,250 cu. yds. Class A Port. cem. conc. (pave.);
- (6) 40 cu. yds. Class A Port. cem. conc. (struc.);
- (7) 39,500 lbs. bar reinf. steel (pave. and struc.);
- (8) 100 lin. ft. 18-in. corr. metal pipe
- (9) 100 lin. ft. 24-in. do;
- (10) 2 M. ft. b.m. redwood timber, sel all-heart struc. grade;
- (11) 8.5 M. ft. b.m. Douglas fir timber, sel. struc. grade;
- (12) 720 tons crusher run base
- (13) 720 tons oil treated crushed stone or gravel surf. (borders);

(14) 840 cu. yds. Port. Cem. Concrete remove from existing pave.;

(15) 0.25 mile move and reset property fences;

(16) 1 gate complete in place;

(17) 2,130 lin. ft. laminated timber guard rail;

(18) 31 sta. finish roadway;

(19) 15 monuments complete in place. State will furnish corrugated metal pipe and cast steel frames and covers for drop inlets.

Complete bids follow:

(A) C. W. Wood, Stockton, \$28,409.50.

(B) A. J. Ralsch, San Jose, \$29,051.50.

(C) United Const. Pipe Corp., Los Angeles, \$29,470.00.

(D) D. MacDonald and N. M. Ball, Sacramento and Porterville, \$31,146.00.

(E) Valley Paving & Const. Co., Fresno, \$31,363.50.

(F) M. J. Bevanda, Stockton, \$36,739.50.

(G) Bundersen & Lauritzen and Delta Dredging Co., Pittsburg, \$36,923.50.

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) |
|-----------|--------|--------|--------|--------|--------|--------|--------|
| (1)..... | \$.30 | .30 | .40 | .50 | .25 | 1.00 | .45 |
| (2)..... | .30 | .35 | .38 | .35 | .40 | .47 | .47 |
| (3)..... | .50 | 1.00 | .50 | .85 | .75 | 1.00 | 1.20 |
| (4)..... | .07 | .08 | .10 | .10 | .06 | .20 | .11 |
| (5)..... | 8.90 | 7.50 | 7.90 | 9.00 | 9.00 | 9.50 | 11.25 |
| (6)..... | 16.00 | 18.00 | 18.00 | 20.00 | 20.00 | 18.00 | 18.00 |
| (7)..... | .04 | .04 | .05 | .045 | .04 | .045 | .045 |
| (8)..... | .30 | .30 | .30 | .75 | .50 | .40 | .40 |
| (9)..... | .30 | .40 | .40 | 1.00 | .50 | .75 | .50 |
| (10)..... | 80.00 | 75.00 | 100.00 | 90.00 | 100.00 | 100.00 | 100.00 |
| (11)..... | 80.00 | 50.00 | 60.00 | 60.00 | 100.00 | 75.00 | 90.00 |
| (12)..... | 2.00 | 1.40 | 2.50 | 2.25 | 2.00 | 3.00 | 2.35 |
| (13)..... | 3.50 | 3.20 | 2.80 | 4.00 | 2.70 | 4.25 | 3.70 |
| (14)..... | 1.25 | 2.50 | 1.00 | 1.25 | 2.00 | 2.00 | 1.25 |
| (15)..... | 300.00 | 240.00 | 200.00 | 500.00 | 200.00 | 350.00 | 300.00 |
| (16)..... | 12.50 | 15.00 | 25.00 | 20.00 | 15.00 | 25.00 | 20.00 |
| (17)..... | .80 | 1.00 | 1.00 | .90 | .80 | .90 | .85 |
| (18)..... | 5.00 | 4.00 | 5.00 | 7.00 | 5.00 | 10.00 | 8.00 |
| (19)..... | 3.00 | 2.00 | 2.00 | 3.00 | 3.00 | 3.00 | 3.00 |

IMP. LA VERNE STREETS—L. A. COUNTY

LOS ANGELES, Calif.—Griffith Co., 502 Los Angeles Railway Bldg., Los Angeles, submitted low bid to county supervisors Dec. 5 at \$31,029.43, for the improvement of streets in La Verne, a total length of 10,000 ft. or 1.89 miles, under cash contract No. 450 involving:

- (1) 39,331 sq. ft. 2-in. asphalt concrete wearing surface;
- (2) 71,743 sq. ft. 3-in. do;
- (3) 1500 tons variable thickness asphalt concrete wearing surface;
- (4) 16,358 sq. ft. 4-in. asph. concrete base;

(5) 134,872 sq. ft. 9x7x9-in. cement concrete pavement;

(6) 6074 sq. ft. 8-in. cement concrete pavement;

(7) 25,840 sq. ft. 6-in. cement concrete base.

Complete bids follow:

(A) Griffith Co., \$31,029.43

(B) G. R. Curtis Paving Co., \$2,611.59

(C) Hall-Johnson Co., \$3,820.33

(D) Geo. H. Oswald, \$33,878.91

(E) Bob Bosko, \$4,447.21

(F) J. E. Haddock, \$4,475.26

(G) F. W. Teschke, \$5,440.70

Unit bids follow:

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|----------|--------|--------|--------|-------|--------|-------|-------|------|
| (A)..... | \$.028 | \$.045 | \$2.20 | \$.06 | \$.137 | \$.15 | \$.11 | 1.20 |
| (B)..... | .028 | .042 | 2.25 | .071 | .146 | .154 | .12 | 2.00 |
| (C)..... | .035 | .05 | 2.49 | .07 | .145 | .16 | .13 | 1.50 |
| (D)..... | .0265 | .05 | 2.20 | .07 | .15 | .16 | .13 | 2.00 |
| (E)..... | .035 | .06 | 2.85 | .075 | .1425 | .1425 | .115 | 1.00 |
| (F)..... | .0325 | .055 | 3.10 | .07 | .14 | .16 | .13 | 2.00 |
| (G)..... | .03 | .043 | 2.28 | .056 | .161 | .163 | .149 | 2.00 |

L. A. COUNTY—REINFORCING BARS

LOS ANGELES, Cal. — L. A. Iron & Steel Co., 1522 Santa Fe Ave., Los Angeles, submitted low bid to County Supervisors, December 12, at \$4944.50, for furnishing 184,050 lbs. of reinforcing bars for use in the construction of protection works in the Big Tujunga Wash. The items are:

- (1) 122,000 lbs. A schedule No. 2 D14;
- (2) 6,900 lbs. B do;
- (3) 47,500 lbs. C do;
- (4) 2,500 lbs. D do;
- (5) 2,400 lbs. E do;
- (6) 2,750 lbs. F do.

Bidders follow:

(A) L. A. Iron & Steel Co.

(B) Blue Diamond Corp., Ltd.

(C) Concrete Engineering Co.

(D) South Steel Co.

Unit bids follow:

| | (1) | (2) | (3) | (4) | (5) | (6) | Total 1 | Total 2* |
|----------|--------|--------|--------|--------|--------|--------|-----------|-----------|
| (A)..... | \$.027 | \$.027 | \$.027 | \$.27 | \$.027 | \$.027 | \$4969.25 | \$4944.50 |
| (B)..... | .0325 | .0325 | .0325 | .0325 | .0325 | .0325 | 5931.63 | 5951.74 |
| (C)..... | .306 | .036 | .036 | .036 | .036 | .036 | 6618.92 | 6585.82 |
| (D)..... | .04145 | .0325 | .04145 | .04145 | .04145 | .0382 | 7549.32 | 7511.57 |

*With discount shown.

3.277-MI. GRADING—TEHAMA COUNTY—GOV'T.

SAN GABRIEL DAM NO. 1

TEHAMA COUNTY, Cal.—Frank C. Cuffee, Box 441, San Rafael, at \$97,281.35 submitted low bid to and recommended for award by U. S. Bureau of Public Roads, San Francisco, for grading 3.277 miles of Section D, Rt. 21, The Deer Creek Meadows National Forest Highway, Lassen National Forest. Complete list of bids follows: (A) Frank C. Cuffee, San Rafael, \$97,281.35.

- (B) Baker & Taylor, Chester, \$99,903.50.
- (C) Nate Lovelace, Sacramento, \$102,544.75.
- (D) MacDonald & Kahn, San Francisco, \$107,830.20.
- (E) Bodenhamer Const. Co., Oakland, \$119,194.25.

(F) Engineer's estimate, \$114,448.10.

Quantities follow:

| | | | | | |
|--|--|-----------------------------------|---|--|---|
| (1) 19 acres clearing; | (2) 96,000 cu. yds. unclass. excav.; | (3) 1600 cu. yds. do, for struc.; | (4) 84,000 sta. yds. overhaul; | (5) 3.221 mi. finish earth graded rd.; | (6) 58 MFEM untreated timber in place; |
| (7) 7 25-ft. log truss spans complete; | (8) 640 lin. ft. logs in log bents; | (9) 1100 sq. ft. crib face; | (10) 156 cu. yds. Class A concrete; | (11) 86 cu. yds. Class B concrete; | (12) 12,200 lbs. reinf. steel; |
| (13) 136 cu. yds. cement rubble masonry; | (14) 1,768 lin. ft. 8-in. perf. corrugated galv. metal pipe; | (15) 164 lin. ft. 18-in. do; | (16) 920 lin. ft. 18-in. corrug. galvanized metal pipe; | (17) 616 lin. ft. 24-in. do; | (18) 60 lin. ft. 30-in. do; |
| (19) 40 lin. ft. 36-in. do; | (20) 50 lin. ft. 48-in. do; | (21) 103,000 lbs. struc. steel; | (22) 525 cu. yds. hand placed rock fill for low cribs; | (23) 250 cu. yds. hand laid rock embankment; | (24) 440 cu. yds. crushed rock or rock, backfill; |
| (25) 1,353 sq. yds. bit. wearing surf. | Unit prices follow: | | | | |
| (A) | (B) | (C) | (D) | (E) | (F) |
| (1) \$600.00 | \$350.00 | \$300.00 | \$350.00 | \$500.00 | \$350.00 |
| (2) .47 | .59 | .55 | .63 | .70 | .65 |
| (3) 1.25 | 1.50 | 1.25 | 1.75 | 1.80 | 2.00 |
| (4) .03 | .015 | .03 | .03 | .03 | .03 |
| (5) 150.00 | 400.00 | 250.00 | 300.00 | 300.00 | 300.00 |
| (6) 70.00 | 50.00 | 80.00 | 70.00 | 70.00 | 65.00 |
| (7) 600.00 | 400.00 | 250.00 | 300.00 | 500.00 | 675.00 |
| (8) .80 | 1.00 | .60 | 1.00 | 1.00 | 1.00 |
| (9) .80 | .50 | .50 | .50 | .75 | .70 |
| (10) 26.00 | 30.00 | 35.00 | 27.00 | 25.00 | 30.00 |
| (11) 26.00 | 28.00 | 34.00 | 25.00 | 25.00 | 27.50 |
| (12) .06 | .05 | .04 | .06 | .06 | .065 |
| (13) 18.00 | 12.00 | 18.00 | 15.00 | 16.00 | 16.00 |
| (14) 1.30 | .75 | 2.00 | .80 | 1.00 | 1.10 |
| (15) 2.00 | 1.40 | 2.50 | 1.75 | 2.00 | 1.60 |
| (16) 1.50 | 1.30 | 2.25 | 1.50 | 1.80 | 1.60 |
| (17) 2.25 | 2.00 | 3.00 | 2.10 | 2.50 | 2.60 |
| (18) 3.00 | 2.50 | 3.25 | 3.00 | 3.50 | 3.50 |
| (19) 4.00 | 3.85 | 4.50 | 4.00 | 4.50 | 4.50 |
| (20) 5.00 | 6.00 | 7.00 | 6.00 | 8.00 | 6.50 |
| (21) .06 | .055 | .06 | .055 | .06 | .06 |
| (22) 3.00 | 2.00 | 3.50 | 2.50 | 2.50 | 3.00 |
| (23) 3.00 | 4.00 | 3.00 | 4.00 | 4.00 | 4.00 |
| (24) 3.00 | 2.50 | 3.00 | 3.50 | 3.00 | 3.00 |
| (25) .60 | 1.50 | .50 | 2.50 | 1.65 | 2.00 |

TELE. LINES—L. A.—METROPOLITAN WATER DIST.

LOS ANGELES, Cal.—H. H. Walker, Inc., Newbery Electric Corp., and Quality Electric Co., Ltd., 1323 Venice Blvd., Los Angeles, submitted low bid to Metropolitan Water District, Los Angeles, Dec. 5, at \$88742.10 (based on Schedule No. 4, using Southern Pine and Western Red Cedar Poles) for constructing telephone lines in the Lakeview-Ranning-Cabazyn Section. The work to be contracted for consists of approximately 15.7 miles of cross-arm telephone trunk line, 1.6 miles of bracket telephone line and two installations telephone protective equipment.

The bids were taken on schedule and items as follows:

SCHEDULE 1

Construction of telephone lines and for certain protective assembly installations.

Bids will be considered upon the following schedule and, as alternatives, upon schedules 2, 3 and 4, separately. No bids will be considered for parts of schedules.

- (1) Construct 5.8 miles of telephone trunk line on 165-ft. span basis, using Douglas fir poles (price per mile);
- (3) Construct 10.9 miles of telephone trunk line on 220-ft. span basis,

using Douglas fir poles (price per mile);

- (5) Construct 1.6 miles of telephone bracket line on 220-ft. span basis, using Douglas fir poles (price per mile);
- (8) Install two protective assemblies as per Drawing No. E-683 at (price per assembly).

Bidder to state number of days within which he will complete construction after notice to proceed.

SCHEDULE 2

Construction of telephone lines for certain protective assembly installations.

Bids will be considered upon the following schedule and as alternatives upon schedules 1, 3 and 4 separately.

No bids will be considered for parts of schedules.

- (2) Construct 5.8 miles of telephone trunk line on 165-ft. span basis, using Southern pine poles (price per mile);
- (4) Construct 10.9 miles of telephone trunk line on 220-ft. span basis, using Southern pine poles (price per mile);
- (6) Construct 1.6 miles of telephone bracket line on 220-ft. span basis, using Southern pine poles (price per mile);

- (23a) 2,167,000 sq. ft. do;
- (24) 4500 lin. ft. drilling grout holes, Class A, less than 10 ft.;
- (25) 11,300 lin. ft. drilling grout holes, Class B, greater than 10 ft. and less than 50 ft.;
- (26) 34,000 lin. ft. drilling grout holes, Class C, greater than 50 ft. and less than 150 ft.;
- (27) 8500 lin. ft. drilling grout holes, Class D, re-drilling through grout;
- (28) 17,500 lin. ft. drilling grout holes, Class E, less than 20 ft., in shaft tunnels only;
- (29) 2500 holes, placing fittings on grout holes;
- (30) 6650 lin. ft. placing grout pipe;
- (31) 620 cu. yds. pressure grouting;
- (32) 36,000 lin. ft. placing metal seals;
- (33) 220,000 lbs. place gates & valves;
- (34) 154,000 lbs. place steel trash racks;
- (35) 3000 lbs. place iron pipe hand-railing;
- (36) 5550 lbs. placing structural steel;
- (37) 148,000 lbs. install pipe for valve operation;
- (38) 1000 lbs. place operating machinery;
- (39) 7,675,000 lbs. place reinf. steel;
- (40) 1500 lbs. place iron pipe conduit;
- (41) 3100 lbs. place misc. metal;
- (42) 2040 lin. ft. place tie drains;
- (43) 1120 lin. ft. place steel dowels;
- (44) 900,000 cu. yds. quarry stripping at any quarry designated in the spec.;
- (45) 1,800,000 cu. yds. quarry waste at any quarry designated in the spec.;
- (46) extra for overhaul from Bichota Quarry to Dam for rock of all classifications;

(A) for hauling a total of less than 250,000 cu. yds. of rock;

(B) for hauling a total of more than 250,000 and less than 500,000 cu. yds. of rock;

(C) for hauling a total of more than 500,000 and less than 1,000,000 cu. yds. of rock;

(D) for hauling a total of more than 1,000,000 and less than 1,500,000 cu. yds. of rock;

(E) for hauling a total of more than 1,500,000 cu. yds. of rock;

(47) extra for overhaul from Narrows Quarry to Dam (A), (B), (C), (D) and (E);

(48) extra for overhaul from Devil's Quarry to Dam (A), (B), (C), (D) and (E);

(49) extra or less for rock obtained outside of San Gabriel:

(A) for a total of less than 250,000 cu. yds. of rock;

(B) for a total of more than 250,000 cu. yds. and less than 500,000 cu. yds. of rock;

(C) for a total of more than 500,000 and less than 1,000,000 cu. yds. of rock;

(D) for a total of more than 1,000,000 and less than 1,500,000 cu. yds. of rock;

(E) for a total of more than 1,500,000 cu. yds. of rock.

The above prices are to be (deducted from or added to) the unit prices as bid in this proposal under items 11, 12, 13 and 14.

(See table on another column)

The unit prices on the Alternative proposals, showing items and bidders are as follows:

ALTERNATE PROPOSAL NO. 2

FOR ALL OPEN CUT EXCAVATION

(1) 350,000 cu. yds. excav., Class A on west abutment above elev. 1190;

(2) 125,000 cu. yds. excav., Class B do

(3) 620,000 cu. yds. excav., Class C, streambed below elev. 1190 in vicinity of cutoff;

SAN GABRIEL DAM NO. 1

- (4) 600,000 cu. yds. excav., Class D, streambed below elev. 1190 downstream from cutoff;
- (5-A) 14,800 cu. yds. excav., Class E-1 main cut off trench.
- (A) S. J. Groves & Son, \$554,200.
- (B) Geo. Pollock & Co., Sacramento \$714,500.
- (C) S. H. Palmer and J. P. Holland, Inc., San Francisco, \$799,900.
- (D) Engineer's estimate, \$321,300.

The unit bids on No. 2 were:

| | (A) | (B) | (C) | (D) |
|------------|-------|-------|-------|-------|
| (1) | \$.45 | \$.50 | \$.57 | \$.50 |
| (2) | .45 | .40 | .55 | .75 |
| (3) | .40 | .50 | .38 | .50 |
| (4) | .20 | .15 | .38 | .40 |
| (5a) | 4.00 | 5.00 | 3.50 | 6.00 |

ALTERNATE PROPOSAL NO. 3 FOR DRIVING OF ALL TUNNELS AND INCLINED SHAFT

- (6-B) 21,000 cu. yds. excav., Class F-2, misc. open cut;
 - (7) 1750 cu. yds. excav., Class G, inclined outlet shaft;
 - (8) 62,700 cu. yds. excav., Class H, main outlet tunnel;
 - (9) 735 cu. yds. excav., Class J, spillway pilot tunnel.
- The total bids on No. 3 were:
- (A) S. H. Palmer and J. B. Holland, Inc., \$291,915.
 - (B) Northern States Contracting Co. St. Paul, Minn., \$323,565.
 - (C) Herbert M. Baruch Corp. and Robinson-Roberts Co., Los Angeles, \$336,537.50.
 - (D) Youdall Const. Co., San Francisco, \$342,080.
 - (E) Engineer's estimate, \$338,500.

| | (A) | (B) | (C) | (D) | (E) |
|-----------|--------|--------|--------|--------|--------|
| (6b)..... | \$1.00 | \$1.42 | \$1.65 | \$1.30 | \$1.50 |
| (7) | 10.00 | 7.80 | 8.45 | 7.70 | 10.00 |
| (8) | 4.65 | 4.35 | 4.45 | 4.70 | 4.50 |
| (9) | 8.00 | 10.00 | 11.00 | 9.00 | 10.00 |

ALTERNATE PROPOSAL NO. 4 FOR FURNISHING AND PLACING COMPLETE ALL ROCK FILL

- (1) 20,000 cu. yds. excav. Class A on west abutment above elevation 1190.
- (2) 5000 cu. yds. excav. Class B east abutment above elevation 1190;
- (3) 34,000 cu. yds. excav. Class C, streambed below elev. 1190 in vicinity of cutoff;
- (4) 33,000 cu. yds. excav. Class D, streambed below elev. 1190 downstream from cut-off;
- (5-B) 200 cu. yds. excav., Class E-2, misc. cut-off trenches;
- (6-A) 3000 cu. yds. excav., Class F-1, misc. open cut except tunnel approaches;
- (10) 55,000 cu. yds. backfill;
- (11) 4,100,000 cu. yds. rockfill, Class A, in body of dam;
- (12) 643,000 cu. yds. rockfill, Class B, below streambed downstream from cutoff;
- (13) 470,000 cu. yds. rockfill, Class C, large rock on downstream face;
- (14) 349,000 cu. yds. rockfill, Class D, packed rock on upstream face;
- (44) 900,000 cu. yds. quarry stripping at any quarry;
- (45) 1,800,000 cu. yds. quarry waste at any quarry;

- Construction of diversion works complete, lump sum;
 - (46) (47) (48) (49) extra for overhaul same as under Proposal No. 1.
- No bids.

For the unit prices of the engineer's estimate, see Proposal No. 1, where all items appear except the lump sum

- (8) Install two protective assemblies as per Drawing No. E-688 (price per assembly).
- Bidder to state number of days within which he will complete construction after notice to proceed.

SCHEDULE 3

Construction of telephone lines and for certain protective assembly installations.

Bids will be considered upon the following schedule and as alternatives upon Schedules 1, 2 and 4 separately. No bids will be considered for parts of schedules.

- (1) Construct 5.8 miles of telephone trunk line on 165-ft. span basis, using Douglas fir poles (price per mile);
- (3) Construct 10.9 miles of telephone trunk line on 220-ft. span basis, using Douglas fir poles (price per mile);
- (7) Construct 1.6 miles of telephone bracket line on 220-ft. span basis, using Western red cedar poles (price per mile);
- (8) Install two protective assemblies per Drawing No. E-688 (price per assembly).

Bidder to state number of days within which he will complete construction after notice to proceed.

SCHEDULE 4

Construction of telephone lines and for certain protective installations.

Bids will be considered upon the fol-

lowing schedule and as alternatives, upon Schedules 1, 2 and 3 separately. No bid will be considered for parts of schedules.

- (2) Construct 5.8 miles of telephone trunk line on 165-ft. span basis, using Southern pine poles, at (price per mile);
- (4) Construct 10.9 miles of telephone trunk line on 220-ft. span basis, using Southern pine poles (price per mile);
- (7) Construct 1.6 miles of telephone bracket line on 220-ft. span basis, using Western red cedar poles (price per mile);
- (8) Install two protective assemblies per Drawing No. E-688 (price per assembly).

Bidder to state number of days within which he will complete construction after notice to proceed.

The bidders were:

- (A) H. H. Walker, Inc., Newbery Electric Corp., and Quality Elec. Co., Ltd.
- (B) Hall-Johnson Co., Alhambra and E. A. Irish, 1018 Mignonette St., Los Angeles.
- (C) H. O. Buerie, 8952 Ellis Ave., Los Angeles.
- (D) Bennett & Taylor, 1978 So. Los Angeles St., Los Angeles.
- (E) R. E. Campbell, 711 Central Bldg., Los Angeles.

The complete bids were:

SCHEDULE NO. 1

| | (A) | (B) | (C) | (D) | (E) |
|-------------|-----------|-----------|-----------|-----------|-----------|
| (1)..... | \$ 529.14 | \$ 598.00 | \$ 610.00 | \$ 750.00 | \$ 670.00 |
| (2)..... | 477.33 | 489.00 | 509.00 | 470.00 | 480.00 |
| (3)..... | 341.33 | 470.00 | 450.00 | 397.50 | 405.00 |
| (4)..... | 110.37 | 122.00 | 92.00 | 68.00 | 146.00 |
| Total..... | 9,102.97 | 9,794.50 | 10,091.30 | 10,245.00 | 10,053.00 |
| Time d..... | 60 | 55 | 70 | 60 | 60 |

SCHEDULE NO. 2

| | | | | | |
|-------------|----------|----------|----------|----------|----------|
| (2)..... | 523.70 | 559.00 | 572.15 | 724.00 | 650.00 |
| (4)..... | 460.38 | 459.00 | 480.55 | 452.00 | 465.00 |
| (6)..... | 328.90 | 444.00 | 115.65 | 375.60 | 395.00 |
| (8)..... | 110.33 | 122.00 | 92.60 | 68.00 | 144.00 |
| Total..... | 8,803.14 | 9,199.70 | 9,197.50 | 9,862.00 | 9,758.50 |
| Time d..... | 60 | 55 | 60 | 60 | 60 |

SCHEDULE NO. 3

| | | | | | |
|-------------|----------|----------|----------|-----------|----------|
| (1)..... | 539.14 | 598.00 | 610.00 | 750.00 | 670.00 |
| (2)..... | 477.33 | 489.00 | 509.00 | 470.00 | 480.00 |
| (7)..... | 290.75 | 433.00 | 400.00 | 345.00 | 360.00 |
| (8)..... | 110.37 | 122.00 | 96.60 | 68.00 | 142.00 |
| Total..... | 9,021.97 | 9,743.39 | 9,906.60 | 10,161.60 | 9,973.00 |
| Time d..... | 60 | 55 | 60 | 60 | 60 |

SCHEDULE NO. 4

| | | | | | |
|-------------|----------|----------|----------|----------|----------|
| (2)..... | 523.79 | 559.00 | 572.15 | 724.00 | 650.00 |
| (4)..... | 460.38 | 459.00 | 480.55 | 452.00 | 465.00 |
| (7)..... | 290.75 | 433.00 | 400.30 | 345.00 | 360.00 |
| (8)..... | 110.37 | 122.00 | 90.00 | 68.00 | 112.00 |
| Total..... | 8,742.10 | 9,190.10 | 9,376.46 | 9,814.00 | 9,698.50 |
| Time d..... | 60 | 55 | 60 | 60 | 60 |

MOISTURE CONTENT OF POLES—IN PCT

| | | | | | |
|------------------|-----|--------|--------|-----|-----|
| Douglas Fir..... | 12% | 10% | 10-12% | 10% | 12% |
| Sou. Pine..... | 25% | 20-25% | 20-25% | 10% | 25% |
| W. R. Ced..... | 16% | 30% | 20% | 20% | 20% |

RECONSTRUCT 20TH STREET—SAN FRANCISCO

SAN FRANCISCO.—Department of Public Works at 1198.50 submits low bid to reconstruct 20th St. from Colingwood to Diamond, involving:

- (1) 80 ft. granite curb, reset;
- (2) 3,500 sq. ft. 6-in. Class E concrete pavement;
- (3) 25 tons asph. concrete binder;
- (4) 5,000 sq. ft. remove and replace asph. conc. wearing surface;
- (5) 500 sq. ft. asph. concrete conform pavement.

Complete bids follow: (A) Department of Public Works, \$1,198.50.

- (B) C. L. Harney, \$1232.00.
- (C) U. Peira & Sons, \$1261.25.
- (D) E. J. Treacy, \$1299.50.
- (E) M. J. Lynch, \$1379.50.
- (F) A. G. Raisch, \$1395.00.
- (G) Eaton & Smith, \$1417.50.
- (H) Fay Improvement Co., \$1434.40.

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| (1)..... | \$.30 | \$.40 | \$.25 | \$.15 | \$.40 | \$.50 | \$.75 | \$.38 |
| (2)..... | .21 | .20 | .1775 | .21 | .225 | .21 | .25 | .234 |
| (3)..... | 3.00 | 4.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 | 4.00 |
| (4)..... | .067 | .07 | .09 | .0775 | .075 | .09 | .065 | .093 |
| (5)..... | .059 | .07 | .09 | .08 | .07 | .09 | .065 | .08 |

STEEL STANDPIPE — HAMILTON FIELD

SAN RAFAEL, Marin Co., Calif.—Pittsburgh-Des Moines Steel Co., Rialto Bldg., San Francisco, at \$7,833 submitted low bid to Constructing Quartermaster, Hamilton Field (Marin Meadows) Bombing Base, to construct a 250,000-gallon capacity steel standpipe with concrete foundations and connect same to existing distribution system at Hamilton Field. Following is a complete list of the quantities and complete bids:

(1) lump sum;
 (2) excavation, clay, per cu. yd.;
 (3) excavation, rock, per cu. yd.;
 (4) excavation, concrete, per cu. yd.;
 (5) reinforcing steel, per lb.;

| | (A) | (B) | (C) | (D) | (E) | (F) |
|----------|------------|------------|------------|------------|-------------|-------------|
| (1)..... | \$7,833.00 | \$3,214.00 | \$9,197.00 | \$9,490.00 | \$10,885.00 | \$12,344.00 |
| (2)..... | 1.00 | 1.00 | .80 | 1.25 | 1.00 | 1.25 |
| (3)..... | 2.50 | 2.50 | 2.15 | 2.50 | 6.00 | 2.50 |
| (4)..... | 12.00 | 18.00 | 12.00 | 10.00 | 14.00 | 10.00 |
| (5)..... | .04 | .05 | .05 | .06 | .08 | .06 |
| (6)..... | .40 | .68 | .45 | .40 | .60 | .40 |
| (7)..... | 1.20 | 1.25 | 1.05 | 1.10 | 2.00 | 1.10 |

(6) 8-in. vit. clay pipe, per ft.;
 (7) 8-in. cast iron pipe, per ft.
 Total bids follow:
 (A) Pittsburgh-Des Moines Steel Co., San Francisco, \$7,833.00.
 (B) Chicago Bridge & Iron Works, San Francisco, \$8,214.00.
 (C) Western Pipe & Steel Co., San Francisco, \$9,197.00.
 (D) Steel Tank & Pipe Co., Berkeley, \$9,490.00.
 (E) Minneapolis Moline Power & Implement Co., S. F., \$10,885.00.
 (F) Boiler Tank & Pipe Co., Oakland, \$12,344.00.

Unit prices follow:

| | (A) | (B) | (C) | (D) | (E) | (F) |
|----------|------------|------------|------------|------------|-------------|-------------|
| (1)..... | \$7,833.00 | \$3,214.00 | \$9,197.00 | \$9,490.00 | \$10,885.00 | \$12,344.00 |
| (2)..... | 1.00 | 1.00 | .80 | 1.25 | 1.00 | 1.25 |
| (3)..... | 2.50 | 2.50 | 2.15 | 2.50 | 6.00 | 2.50 |
| (4)..... | 12.00 | 18.00 | 12.00 | 10.00 | 14.00 | 10.00 |
| (5)..... | .04 | .05 | .05 | .06 | .08 | .06 |
| (6)..... | .40 | .68 | .45 | .40 | .60 | .40 |
| (7)..... | 1.20 | 1.25 | 1.05 | 1.10 | 2.00 | 1.10 |

SLOPE EXCAVATION — LOS ANGELES COUNTY

LOS ANGELES COUNTY, Calif.—C. G. Willis & Sons, Inc., 2119 E 25th St., Los Angeles, at \$102,076.50 submitted low bid Dec 21 to the State Highway Commission, Sacramento, to excavate slopes between Santa Ynez Canyon and Santa Monica Canyon, 1.5 miles, involving:
 (1) 310,000 cu. yds. slope excav., unclassified;
 (2) 4,500,000 sta. yds. overhaul;
 (3) 1,200 cu. yds. struc. excav.;
 (4) 4,200 tons rip-rap;
 (5) 20 cu. yds. Class A cem. concrete (struc.);
 (6) 700 lbs. bar reinf. steel (struc.);
 (7) 500 lbs. miscellaneous iron & steel (struc.);
 (8) 270 lin. ft. 8-in. corr. metal pipe;
 (9) 540 lin. ft. 24-in. do;
 (10) 200 lin. ft. 36-in. do;
 (11) 810 lin. ft. 8-in. perforated metal pipe;
 (12) 1,550 bbls. heavy fuel oil;
 (13) 25 tons asph. road oil (ditches);
 (14) 1,200 lin. ft. laminated guard rail;

(15) 50 sta. finish roadway.
 State will furnish corrugated metal pipe, perforated metal pipe and spillway assemblies.
 Complete bids follow:
 (A) C. G. Willis & Sons, Los Angeles, \$102,076.50.
 (B) Von der Hellen & Pierson, Catalo, \$103,323.00.
 (C) Griffith Co., Los Angeles, \$109,104.50.
 (D) Merritt-Chapman & Scott, San Diego, \$113,189.80.
 (E) S. H. Palmer and J. P. Holland, San Francisco, \$119,251.50.
 (F) M. S. Ross, Los Angeles, \$123,534.50.
 (G) Weymouth Crowell Co., Los Angeles, and E. P. Watson, Jr., Pasadena, \$130,273.00.
 (H) Guy P. Atkinson, San Francisco, \$132,934.50.
 (I) H. M. Baruch Corp. and Robinson-Roberts Co. Los Angeles, \$133,160.00.

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) |
|-----------|--------|--------|--------|-------|-------|-------|-------|-------|-------|
| (1)..... | \$.245 | \$.245 | \$.276 | \$.25 | \$.28 | \$.32 | \$.31 | \$.31 | \$.29 |
| (2)..... | .002 | .003 | .002 | .003 | .006 | .005 | .003 | .003 | .006 |
| (3)..... | .60 | .75 | .40 | .65 | .50 | 1.00 | .50 | 1.00 | .60 |
| (4)..... | 2.50 | 1.65 | 2.20 | 2.45 | 2.25 | 1.50 | 3.45 | 3.00 | 2.45 |
| (5)..... | 24.00 | 20.00 | 13.00 | 27.00 | 25.00 | 18.00 | 20.00 | 25.00 | 25.00 |
| (6)..... | .07 | .05 | .03 | .10 | .05 | .05 | .05 | .07 | .05 |
| (7)..... | .10 | .10 | .03 | .20 | .08 | .10 | .10 | .25 | .12 |
| (8)..... | .25 | .30 | .25 | .41 | .20 | .40 | .40 | .40 | .75 |
| (9)..... | .35 | .30 | .35 | .41 | .25 | .60 | .40 | .75 | .50 |
| (10)..... | .50 | .50 | .45 | .53 | .35 | 1.00 | .60 | 1.00 | .70 |
| (11)..... | .35 | .50 | .70 | .71 | .50 | .75 | .75 | 1.00 | .75 |
| (12)..... | 2.00 | 2.00 | 1.80 | 1.90 | 1.75 | 1.60 | 1.63 | 3.25 | 1.30 |
| (13)..... | 17.50 | 20.00 | 12.00 | 13.67 | 23.00 | 18.00 | 23.60 | 40.00 | 20.00 |
| (14)..... | .75 | .80 | 1.00 | .52 | .75 | .50 | .65 | 1.00 | .60 |
| (15)..... | 5.00 | 5.00 | 2.00 | 4.50 | 2.00 | 5.00 | 3.00 | 2.00 | 4.00 |

Unit bids follow:

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) |
|-----------|--------|--------|--------|-------|-------|-------|-------|-------|-------|
| (1)..... | \$.245 | \$.245 | \$.276 | \$.25 | \$.28 | \$.32 | \$.31 | \$.31 | \$.29 |
| (2)..... | .002 | .003 | .002 | .003 | .006 | .005 | .003 | .003 | .006 |
| (3)..... | .60 | .75 | .40 | .65 | .50 | 1.00 | .50 | 1.00 | .60 |
| (4)..... | 2.50 | 1.65 | 2.20 | 2.45 | 2.25 | 1.50 | 3.45 | 3.00 | 2.45 |
| (5)..... | 24.00 | 20.00 | 13.00 | 27.00 | 25.00 | 18.00 | 20.00 | 25.00 | 25.00 |
| (6)..... | .07 | .05 | .03 | .10 | .05 | .05 | .05 | .07 | .05 |
| (7)..... | .10 | .10 | .03 | .20 | .08 | .10 | .10 | .25 | .12 |
| (8)..... | .25 | .30 | .25 | .41 | .20 | .40 | .40 | .40 | .75 |
| (9)..... | .35 | .30 | .35 | .41 | .25 | .60 | .40 | .75 | .50 |
| (10)..... | .50 | .50 | .45 | .53 | .35 | 1.00 | .60 | 1.00 | .70 |
| (11)..... | .35 | .50 | .70 | .71 | .50 | .75 | .75 | 1.00 | .75 |
| (12)..... | 2.00 | 2.00 | 1.80 | 1.90 | 1.75 | 1.60 | 1.63 | 3.25 | 1.30 |
| (13)..... | 17.50 | 20.00 | 12.00 | 13.67 | 23.00 | 18.00 | 23.60 | 40.00 | 20.00 |
| (14)..... | .75 | .80 | 1.00 | .52 | .75 | .50 | .65 | 1.00 | .60 |
| (15)..... | 5.00 | 5.00 | 2.00 | 4.50 | 2.00 | 5.00 | 3.00 | 2.00 | 4.00 |

SAN ANTONIO SPREADING GROUNDS—L. A. COUNTY

LOS ANGELES, Cal. — Davis & Davis, Inc., 317 N. Avenue 21, submitted low bid to county supervisors, Dec. 19, at \$419.90, for the construction of intake and diversion structures at San Antonio spreading grounds, involving:
 (1) 700 cu. yds. excavation;
 (2) 1650 cu. yds. earth fill in levee;
 (3) 75 cu. yds. backfill at structures;
 (4) 195 cu. yds. class A concrete;
 (5) 75 cu. yds. class B concrete;
 (6) 95 cu. yds. cement rubble masonry;
 (7) 5569 sq. ft. construction of rock

and wire mattress;
 (8) lump sum for removing existing structures;
 (9) lump sum for fabrication and erection of gates;
 (10) 175 lin. ft. erilling doveel holes.
 E. C. Eaton, 262 N. Broadway, County Flood Control Engineer.

Complete bids follow:
 (A) Davis & Davis.....\$4119.90
 (B) R. H. Liggett.....4390.24
 (C) Hanavalt Bros.....7085.03
 (D) Gene B. Foscer.....10,708.00

Unit bids follow:

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
|----------|-------|-------|-------|--------|--------|-------|-------|--------|--------|--------|
| (A)..... | \$.40 | \$.76 | \$.53 | \$.633 | \$.479 | \$.59 | \$.55 | \$.257 | \$.49 | \$.42 |
| (B)..... | .60 | .40 | 12.00 | 10.00 | 5.00 | 4.30 | 200 | 70.00 | 87.50 | |
| (C)..... | 1.60 | .60 | 1.00 | 14.50 | 8.00 | 8.50 | .32 | 300 | 225.00 | 105.00 |
| (D)..... | .60 | .84 | .84 | 28.00 | 24.00 | 20.00 | .30 | 150 | 226.00 | 131.50 |

Complete bids follow:
 (A) Davis & Davis.....\$4119.90
 (B) R. H. Liggett.....4390.24
 (C) Hanavalt Bros.....7085.03
 (D) Gene B. Foscer.....10,708.00

Unit bids follow:

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
|----------|-------|-------|-------|--------|--------|-------|-------|--------|--------|--------|
| (A)..... | \$.40 | \$.76 | \$.53 | \$.633 | \$.479 | \$.59 | \$.55 | \$.257 | \$.49 | \$.42 |
| (B)..... | .60 | .40 | 12.00 | 10.00 | 5.00 | 4.30 | 200 | 70.00 | 87.50 | |
| (C)..... | 1.60 | .60 | 1.00 | 14.50 | 8.00 | 8.50 | .32 | 300 | 225.00 | 105.00 |
| (D)..... | .60 | .84 | .84 | 28.00 | 24.00 | 20.00 | .30 | 150 | 226.00 | 131.50 |

SAN GABRIEL DAM NO. 1

for diversion works, which the engineer estimates at \$61,500.

ALTERNATIVE PROPOSAL NO. 5 FURNISHING AND PLACING ALL CONCRETE AND GUNITE

- (15) 19,100 cu. yds. concrete, Class A, main cutoff wall;
 - (16) 725 cu. yds. concrete, Class B, reinforced concrete;
 - (17) 3300 cu. yds. concrete, Class C, trash racks and tunnel outlet;
 - (18) 600 cu. yds. concrete, Class D lining in outlet shaft;
 - (19) 19,300 cu. yds. concrete, Class E, lining in outlet tunnel;
 - (20) 35,500 cu. yds. concrete, Class F, plain concrete;
 - (21) 325 cu. yds. concrete, Class G, tunnel plug;
 - (22) 6600 cu. yds. concrete, Class H, floater slab;
 - (23) 2,167,000 sq. ft. placing 6-in. gunite facing slabs;
 - (23-A) 2,167,000 sq. ft. 6-in. concrete facing slab;
 - (42) 2040 lin. ft. place tile drain.
- Total inc. item 23 and exc. 23-A.
 Total inc. item 23-A and exc. 23.
 No bid.
 For the unit prices of the engineer's estimate, see Proposal No. 1, where all items appear.

ALTERNATIVE PROPOSAL NO. 6 FOR DRILLING ALL GROUT HOLES AND GROUTING THEREOF

- (24) 4500 lin. ft. drilling grout holes, Class A, less than 10 ft.;
- (25) 11,300 lin. ft. drilling grout holes, Class B, greater than 10 ft., less than 50 ft.;
- (26) 34,000 lin. ft. drilling grout holes, Class C, greater than 50 ft., less than 150 ft.;
- (27) 8500 lin. ft. drilling grout holes, Class D, re-drilling thru grout;
- (28) 17,500 lin. ft. drilling grout holes, Class E, less than 20 ft. in shaft and tunnels only;
- (29) 2500 holes placing fittings on grout holes;
- (30) 6650 lin. ft. place grout pipe;
- (31) 620 cu. yds. pressure grouting.

The total bids on No. 6 were:
 (A) Halliburton Grouting Co., \$114,779.

(B) Emco Concrete Cutting Corp., \$131,157.50.

(C) Engineer's estimate, \$125,380.

The unit bids on No. 6 were:

| | (A) | (B) | (C) |
|-----------|-------|-------|-------|
| (24)..... | \$.55 | \$.45 | \$.50 |
| (25)..... | 1.10 | 1.20 | 1.00 |
| (26)..... | 1.65 | 1.95 | 2.25 |
| (27)..... | .55 | .60 | 1.00 |
| (28)..... | .88 | 1.10 | 1.00 |
| (29)..... | .83 | .80 | 1.00 |
| (30)..... | .40 | .65 | .20 |
| (31)..... | 29.70 | 30.00 | 25.00 |

ALTERNATIVE PROPOSAL NO. 7 PLACING OF METAL

- (32) 36,000 lin. ft. placing metal seals;
- (33) 220,000 lbs. place gates and valves
- (34) 154,000 lbs. place steel trash racks
- (35) 3000 lbs. place iron pipe handrailing;
- (36) 5350 lbs. place structural steel;
- (37) 148,000 lbs. install pipe for valve operation;
- (38) 100 lbs. place operating machinery;
- (39) 7,675,000 lbs. place reinf. steel;
- (40) 1500 lbs. place iron pipe conduit;
- (41) 3100 lbs. place misc. metal;
- (42) 1120 lin. ft. place steel dowels.

SAN GABRIEL DAM NO. 1

The total bids on No. 7 were:

(A) C. M. Hill, \$107,733.
 (B) L. A. Contracting Co. and C. G. Wopschall, \$123,019.
 (C) Soule Steel Co., \$141,760.
 (D) Engineer's estimate, \$132,725.

The unit bids on No. 7 were:

| | (A) | (B) | (C) | (D) |
|-----------|--------|------|-------|------|
| (32)..... | \$15 | \$23 | \$26 | \$25 |
| (33)..... | .05 | .021 | .04 | .015 |
| (34)..... | .015 | .017 | .025 | .015 |
| (35)..... | .02 | .15 | .10 | .015 |
| (36)..... | .02 | .02 | .10 | .015 |
| (37)..... | .025 | .04 | .035 | .015 |
| (38)..... | .10 | .20 | .10 | .015 |
| (39)..... | .01095 | .013 | .0146 | .015 |
| (40)..... | .10 | .14 | .10 | .015 |
| (41)..... | .10 | .09 | .10 | .015 |
| (43)..... | .50 | .50 | 1.00 | .50 |

- (2) 125,000 cu. yds. excav., Class B on east abutment above elev. 1190;
 (3) 659,000 cu. yds. excav., Class C, streambed below elev. 1190 in vicinity of cutoff;
 (4) 633,000 cu. yds. excav., Class D, streambed below elev. 1190 downstream from cutoff;
 (5) 15,000 cu. yds. excav. Class E, cutoff trenches;
 (6a) 3000 cu. yds. excav., Class F-1, misc. open cut;
 (10) 55,000 cu. yds. backfill;
 (11) 4,100,000 cu. yds. backfill, Class A in body of dam;
 (12) 642,000 cu. yds. rockfill, Class B, below streambed, downstream from cutoff;
 (13) 470,000 cu. yds. rockfill, Class C, large rock on downstream face;
 (14) 349,000 cu. yds. rockfill, Class D, packed rock on upstream face;
 (44) 900,000 cu. yds. quarry stripping;
 (45) 1,800,000 cu. yds. quarry waste. Construct diversion works, complete, lump sum.
 (46) (47) (48) and (49) extra for overhaul as in Prop. No. 1.
 West Slope Const. Co.—(1) \$4.8 (2) \$8.0 (3) \$.58 (4) \$.24 (5) \$.85 (6a) \$.5 (10) \$.25 (11) \$.77 (12) \$.40 (13) \$1.22 (14) \$2.47 (44) \$.58 (45) \$.40 (46a) \$1.01 (b) \$.90 (c) \$.67 (d) \$.55 (e) \$.52 (47a) \$.63 (48a) \$.29 (b) \$1.01 (d) \$.72 (e) \$1.35 (e) \$1.21 (49a) \$.35 (b) 3.38 (c) \$3.15 (d) \$.27 (e) \$.22.
- Engineer's estimate—See items and prices in Proposal No. 1. Total 57-124,350.

ALTERNATIVE NO. 1

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) |
|------------|-------|-------|-------|-------|-------|-------|-------|-------|
| (1)..... | \$.48 | \$.55 | \$.45 | \$.60 | \$.40 | \$.71 | \$.75 | \$.50 |
| (2)..... | .80 | .55 | 1.00 | .75 | .60 | .70 | .80 | .75 |
| (3)..... | .56 | .45 | .75 | .45 | .50 | .41 | .75 | .50 |
| (4)..... | .24 | .35 | .50 | .35 | .50 | .29 | .32 | .40 |
| (5)..... | 5.00 | 7.00 | 4.50 | 7.00 | 7.00 | 6.00 | 8.25 | 6.00 |
| (6)..... | 1.90 | 1.50 | 1.00 | 2.50 | 2.00 | 1.66 | 1.50 | 1.50 |
| (7)..... | 10.60 | 10.00 | 10.00 | 10.00 | 12.00 | 9.76 | 13.00 | 10.00 |
| (8)..... | 8.00 | 6.25 | 6.00 | 7.50 | 7.00 | 8.00 | 9.40 | 4.50 |
| (9)..... | 12.65 | 12.00 | 10.00 | 7.06 | 15.00 | 10.10 | 13.00 | 10.00 |
| (10)..... | .25 | 1.70 | .30 | .20 | .60 | .34 | .41 | .30 |
| (11)..... | .75 | .75 | .85 | .75 | .90 | .35 | .75 | .70 |
| (12)..... | .40 | .68 | .80 | .60 | .95 | .60 | .52 | .55 |
| (13)..... | 1.20 | 1.18 | 1.20 | 1.15 | 1.40 | 1.32 | 1.38 | .95 |
| (14)..... | 2.45 | 2.66 | 2.00 | 3.00 | 3.05 | 4.05 | 1.38 | 2.25 |
| (15)..... | 4.70 | 5.00 | 5.00 | 4.75 | 6.00 | 5.00 | 10.60 | 5.00 |
| (16)..... | 15.00 | 13.00 | 12.00 | 14.50 | 13.00 | 15.30 | 14.00 | 10.00 |
| (17)..... | 9.40 | 10.00 | 8.00 | 14.50 | 10.00 | 13.85 | 19.00 | 10.00 |
| (18)..... | 11.00 | 12.00 | 12.00 | 14.00 | 15.00 | 17.80 | 18.00 | 15.00 |
| (19)..... | 10.00 | 12.00 | 10.00 | 15.00 | 14.00 | 16.35 | 16.50 | 14.00 |
| (20)..... | 7.30 | 6.00 | 5.00 | 6.75 | 5.50 | 6.90 | 10.50 | 6.00 |
| (21)..... | 7.75 | 7.00 | 5.00 | 14.00 | 7.00 | 9.75 | 11.00 | 10.00 |
| (22)..... | 6.00 | 6.00 | 7.50 | 6.00 | 10.00 | 6.35 | 13.00 | 10.00 |
| (23)..... | 1.55 | 1.15 | 1.14 | 1.55 | 1.17 | 1.54 | .17 | .15 |
| (24)..... | .17 | .15 | .12 | .14 | .14 | .134 | .16 | .15 |
| (25a)..... | .55 | .40 | .50 | .55 | .50 | .45 | .50 | .50 |
| (25b)..... | 1.10 | 1.15 | 1.00 | 1.25 | 1.10 | 1.00 | 1.20 | 1.00 |
| (26)..... | 1.75 | 1.95 | 3.00 | 2.00 | 2.00 | 1.70 | 2.00 | 2.25 |
| (27)..... | .55 | .70 | 1.00 | 1.00 | 1.25 | .50 | 1.00 | 1.25 |
| (28)..... | .88 | .70 | 1.00 | .75 | 1.10 | .70 | .80 | 1.00 |
| (29)..... | .83 | .70 | 1.00 | .80 | 2.00 | .65 | .60 | 1.00 |
| (30)..... | .40 | .24 | .50 | .50 | .24 | .33 | .40 | .20 |
| (31)..... | 29.70 | 29.00 | 20.00 | 42.00 | 20.00 | 27.00 | 25.00 | 25.00 |
| (32)..... | .25 | .25 | .25 | .30 | .25 | .25 | .28 | .25 |
| (33)..... | .025 | .023 | .02 | .03 | .03 | .025 | .02 | .015 |
| (34)..... | .023 | .023 | .02 | .015 | .03 | .02 | .02 | .015 |
| (35)..... | .04 | .15 | .10 | .25 | .18 | .10 | .15 | .015 |
| (36)..... | .03 | .04 | .04 | .10 | .04 | .03 | .05 | .015 |
| (37)..... | .035 | .035 | .03 | .04 | .04 | .04 | .04 | .015 |
| (38)..... | .20 | .14 | .10 | .20 | .10 | .15 | .15 | .015 |
| (39)..... | .013 | .015 | .015 | .012 | .01 | .01 | .018 | .015 |
| (40)..... | .15 | .11 | .05 | .20 | .30 | .10 | .15 | .015 |
| (41)..... | .15 | .09 | .05 | .15 | .15 | .10 | .15 | .015 |
| (42)..... | .80 | .75 | 1.00 | 1.00 | 1.00 | .80 | 1.00 | .25 |
| (43)..... | .60 | .45 | .50 | .80 | .75 | .50 | .60 | .50 |
| (44)..... | .55 | .45 | .40 | .42 | .50 | .41 | .50 | .60 |
| (45)..... | .40 | .53 | .28 | .48 | .40 | .47 | .67 | .60 |
| (46a)..... | 1.01 | .99 | 3.50 | .68 | 1.10 | 1.67 | .97 | .53 |
| (b)..... | .90 | .77 | 3.25 | .67 | .95 | 1.43 | .76 | .48 |
| (c)..... | .67 | .61 | 2.75 | .64 | .80 | .94 | .63 | .43 |
| (d)..... | .55 | .54 | 2.25 | .54 | .75 | .68 | .55 | .38 |
| (e)..... | .52 | .47 | 2.00 | .47 | .75 | .62 | .35 | .29 |
| (47a)..... | 1.87 | 1.16 | 5.00 | .78 | 1.25 | 2.23 | 1.22 | .82 |
| (b)..... | 1.59 | .88 | 4.50 | .73 | 1.10 | 1.88 | 1.18 | .77 |
| (c)..... | 1.01 | .79 | 4.00 | .73 | .95 | 1.20 | .89 | .72 |
| (d)..... | .72 | .63 | 3.50 | .64 | .90 | .84 | .76 | .67 |
| (e)..... | .63 | .59 | 3.00 | .58 | .90 | .74 | .49 | .58 |
| (48a)..... | 2.96 | 1.83 | 5.00 | 1.80 | 1.70 | 3.72 | 2.07 | .95 |
| (b)..... | 2.55 | 1.37 | 5.00 | 1.66 | 1.60 | 3.17 | 1.74 | .75 |
| (c)..... | 1.75 | 1.09 | 4.50 | 1.37 | 1.40 | 2.11 | 1.46 | .65 |
| (d)..... | 1.35 | .99 | 4.00 | 1.24 | 1.30 | 1.56 | 1.25 | .55 |
| (e)..... | 1.21 | .88 | 3.50 | 1.17 | 1.30 | 1.38 | 1.18 | .44 |
| (49a)..... | 3.50 | 1.21 | 2.76 | 2.75 | 3.00 | 2.58 | 3.00 | ..... |
| (b)..... | 3.38 | 1.15 | 2.44 | 2.50 | 3.00 | 2.35 | 2.75 | ..... |
| (c)..... | 3.15 | 1.09 | 2.70 | 2.40 | 3.00 | 2.42 | 2.50 | ..... |
| (d)..... | 2.74 | 1.03 | 1.63 | 1.85 | 3.00 | 2.29 | 2.30 | ..... |
| (e)..... | 2.24 | 1.03 | 1.69 | 1.50 | 3.00 | 1.17 | 2.10 | ..... |

ALTERNATIVE PROPOSAL NO. 9
 PLACING OF ALL CONCRETE AND GUNITE EXCEPT TUNNEL LINING.

(15) 19,100 cu. yds. concrete, Class A, main cutoff wall;
 (16) 725 cu. yds. concrete, Class B, reinf. concrete;
 (17) 3300 cu. yds. concrete, Class C, trash racks and tunnel outlet;
 (20) 35,500 cu. yds. concrete, Class F, plain concrete;
 (21) 325 cu. yds. concrete, Class G, tunnel plug;
 (22) 6000 cu. yds. concrete, Class H, floater slab;
 (23) 2,167,000 sq. ft. placing 6-in. Gunite facing slabs;
 (23-A) alt. to (23) 2,167,000 sq. ft. placing 6-in. conc. facing slabs;
 (42) 100 lin. ft. placing tile drains.
 No bid.
 Engineer's estimate—Gunite, \$786,415; concrete, \$743,075. For unit prices of estimate see Proposal No. 1.

ALTERNATIVE PROPOSAL NO. 10
 FOR ALL OPEN CUT EXCAVATIONS AND FURNISHING AND PLACING OF ALL ROCK FILL

- (1) 400,000 cu. yds. excav., Class A on west abutment above elev. 1190;

Referring to items 46, 47, etc., the chief engineer's estimate for overhaul item "E" were: Bichota Quarry, 29c yd.; Narrows Quarry, 58c yd.; Devil's Canyon, 44c yd.

BUILDING NEWS

BRIDGES

LOS ANGELES, Cal.—Until 2 P. M., Dec. 27, bids will be received by the county supervisors to construct steel and concrete bridge to be built on Central Ave. over the Little Santa Anita Wash in the City of Arcadia. The bridge will consist of one 34-ft. span with 40-ft. roadway. It will have concrete abutments, steel girders, concrete slabs and concrete rail. W. B. Armstrong, 12th floor, Hall of Records, County Bridge Engineer. Mame B. Beatty, 501 Hall of Records, clerk of the board.

KERN COUNTY, Cal.—As previously reported, Carl Ingalls, P. O. Box 1593, Bakersfield, at \$11,767.26 submitted low bid to District Engineer, State Highway Commission, Fresno, to construct a bridge across Walker Creek, about 13 miles east of Bakersfield, consisting of 13 18-ft. timber stringer spans on cressoted pile bents, involving:

- (1) 440 cu. yds. channel excav.
- (2) 110 cu. yds. struc. excav.
- (3) 2,940 lin. ft. furnish creos. Douglas fir piles (inc. test piles);
- (4) 95 drive piles (inc. test piles);
- (5) 92 MFEM redwood timber in place, dense sel. all-heart struc. grade;
- (6) 35 FMBM do, sel. all-heart struc. grade.

Complete bids follow:

- (A) Carl Ingalls, Bakersfield \$11,767.26
- (B) C. A. Graham, Bakersfield 12,070.30
- (C) Stroud Bros. & Seabrook, Bakersfield 12,186.50
- (D) R. R. Bishop, Long Beach 12,258.80
- (E) Lynch Cannon, L. A. 12,731.00
- (F) Lindgren and Swinerton, San Francisco 12,808.50
- (G) P. W. Nighbert, Bakersfield 13,676.10
- (H) M. B. McGowan, S. F. 13,839.30
- (I) Herbert Ertuch Corp. & Robinson-Roberts, L. A. 13,913.50
- (J) Paul Opperman, Bakersfield 14,436.05

Unit bids follow:

| | (1) | (2) | (3) | (4) | (5) | (6) |
|-----|------|------|------|---------|---------|---------|
| (A) | \$25 | \$25 | \$54 | \$16.20 | \$66.18 | \$67.60 |
| (B) | .30 | .70 | .615 | 8.00 | 72.00 | 74.00 |
| (C) | .40 | .75 | .55 | 12.00 | 70.00 | 77.00 |
| (D) | .50 | 2.00 | .52 | 15.00 | 70.00 | 68.00 |
| (E) | .50 | .50 | .50 | 20.00 | 78.00 | 66.00 |
| (F) | .50 | 1.00 | .55 | 12.25 | 78.00 | 71.00 |
| (G) | .40 | .60 | .615 | 10.00 | 83.00 | 86.00 |
| (H) | .60 | .75 | .625 | 12.40 | 79.50 | 85.00 |
| (I) | .25 | .75 | .60 | 22.00 | 78.00 | 75.00 |
| (J) | .25 | .45 | .67 | 21.00 | 81.25 | 79.25 |

ASTORIA, Ore.—Rivers Imp. Corp., Astoria, seeks \$6,000,000 loan from the Reconstruction Finance Corporation to construct bridge across the Columbia river at Astoria.

WASHINGTON STATE.—Shelbe Const. Co., Seattle, at \$32,654 submitted low bid to State Highway Department to construct six span concrete bridge 212-ft. long over the O. W. R. R. & N. Co. tracks and Nine Mile creek at Reese and a 30-ft. concrete T-beam bridge over Vansycle Creek; also 10-ft. widening of existing 225-ft. 6-in. skewed three span concrete arch bridge over the Walla Walla river, all on State Road No. 3, between Touchet and Vansycle Canyon, E. C. H. Proj. No. B-169-E, Walla Walla County, West Coast Construction Co., Seattle, second low at \$33,219; Lawlor-Woodward Co., Seattle, third low at \$35,296.

LOS ANGELES, Cal.—Atlas Construction Co., 39 Congress St., Pasadena, submitted low bid to County Supervisors, Dec. 13, for the construction of a reinforced concrete bridge on Pomona Blvd. over Eaton Wash. The proposed structure will be a concrete slab bridge, of two spans, with pipe railing. It will be 62 ft. in length and 70 ft. in width. W. B. Armstrong, 12th Floor Hall of Records, Bridge Engineer. The bids follow:

- Atlas Construction Co., \$20,545.
- John Strona, \$10,624.
- James Noon, \$10,950.
- Win. F. Loesch & Son, \$10,970.
- Johnson Construction Co., \$11,508.
- Carl Hallin, \$11,559.
- S. & W. Constr. Co., \$12,170.
- Associated Constructors, \$12,330.
- E. S. McKittrick Co., Inc., and J. E. Burrell, \$12,490.
- Alex. D. Chalmers and Max Winter, \$12,600.
- Norman I. Fadel, \$12,650.
- Lynch-Cannon Engr. Co., \$13,530.
- Dimmitt & Taylor, \$13,500.
- W. A. Taylor & Son, \$13,925.
- Oberg Bros., \$13,989.
- Geo. C. Bartlett, \$14,304.11.
- R. R. Bishop, \$14,360.
- R. H. Whitney, \$15,710.

MARIPOSA COUNTY, Cal.—Until Jan. 17, 2 P. M., bids will be received by C. H. Sweetser, District Engineer, U. S. Bureau of Public Roads, 461 Market St., San Francisco, to construct the Bridal Veil Creek Bridge and approach on Section A1 of Route 5, Wawona Road, Glacier Point, Yosemite National Park, involving:

- 1,400 cu. yds. unclass. excav.
- 215 cu. yds. unclass. excav. struc.
- 31 cu. yds. concrete;
- 6000 lbs. reinf. steel;
- 255 cu. yds. masonry;
- 19,000 lbs. struc. steel;
- 48 lin. ft. log stringers;
- 125 lin. ft. log rail.

Specifications obtainable from above office on deposit of \$15, returnable, checks certified and payable to Regional Fiscal Agent, U. S. Forest Service.

HUMBOLDT COUNTY, Cal.—Until Jan. 12, 2 P. M., bids will be received by C. H. Sweetser, District Engineer, U. S. Bureau of Public Roads, 461 Market St., San Francisco, to construct the Mill Creek and Husler Creek bridges, Unit 2-D of California Federal Lands Proj. No. 1, Hoopa Valley Indian Reservation, involving:

- 610 cu. yds. unclass. excav. struc.;
- 500 cu. yds. concrete;

- 74,000 lbs. reinf. steel;
- 315 lbs. bronze bearing plates;
- 3,500 lbs. structural steel;
- 550 cu. yds. wiring riprap.

Specifications obtainable from the above office on deposit of \$10, check certified and payable to Regional Fiscal Agent, U. S. Forest Service.

ORANGE COUNTY, Cal.—Until Jan. 4, 2 P. M., bids will be received by S. V. Cortelyou, District Engineer, State Highway Commission, 808 California State Office Bldg., Los Angeles, to construct fenders to bridges across the north arm of Newport Bay near Newport Beach; and old bridge near the site to be removed. Specifications obtainable from above office. Certified check 10% required with bid.

SAN FRANCISCO.—Piombe Bros. & Co., 1571 Turk St., San Francisco, approved by directors of the Golden Gate Bridge District as sub-contractors for Barrett & Hill for the Marin County anchorage. Excavation work of the Marin side will begin Monday, the contractors said.

DREDGING, HARBOR WORKS & EXCAVATIONS

LOS ANGELES, Cal.—Rivers and Harbor Committee have appropriated \$111,500 for maintenance at Los Angeles and Long Beach Harbors. Half of this sum will be expended in dredging 200,000 cu. yds. of shoals in San Pedro Outer Harbor, and the other half on shoals at Long Beach Harbor yet to be selected.

LOS ANGELES, Cal.—Standard Dredging Co., Central Bldg., Los Angeles, at \$104,901 awarded contract by U. S. Engineer Office for dredging at San Diego harbor. Bids opened Nov. 10.

LOS ANGELES, Cal.—C. G. Willis & Sons, Inc., 2119 E 25th St., submitted low bid to county supervisors Dec. 12 at \$47,490, for the construction of Unit No. 5 of the San Gabriel River Outlet at Alamitos Bay, involving:

- (1) 160,000 cu. yds. excav. complete;
- (2) 42,000 cu. yds. placing fill in levees
- (3) 6200 lin. ft. construct wire re-ment, complete, as specified, Inc. manufacture and place of concrete block anchors.

E. C. Eaton, 202 N Broadway, county flood control engineer. The bids were:

- C. G. Willis & Sons, Inc., (1) \$24 (2) \$15 (3) \$45 (total) \$47,490.
- Oberg Bros., (1) \$244 (2) \$125 (3) \$673 (total) \$48,662.60.
- Dimmitt & Taylor, (1) \$295 (2) \$95 (3) \$50 (total) \$52,400.
- Ray Schweitzer, (1) \$33 (2) \$10 (3) \$50 (total) \$60,100.

VANCOUVER, B. C.—Until January 5, (bids will be received by W. J. Enwright, acting secretary, Harbor Commissioners, Foot of Dunley St., to construct timber cribs faced with concrete and a concrete retaining wall for the extension of Lapointe Pier. Project consists of eight timber cribs, 51x 98 ft., 38.6-ft. high, involving 5,000,000 ft. of timber, 8500 cu. yds. concrete. Specifications obtainable from above office. Proposal guarantee, 5%.

CAPITAL CITY TITLE COMPANY

J. C. PALEN,
Manager

914 Seventh Street
Sacramento :: California

PORTLAND, Ore.—As previously reported, Fred B. Cannon, 610 West Arbutus, Compton, Calif., at \$8,560 submitted low bid to and recommended for award by U. S. Engineer Office, 221 Custom House, Portland, for the exploration drilling of about 24 holes, with aggregate assorted drilling of about 2600 ft. at dam sites in Columbia river at points between 23 and 36 miles above Portland, on the Columbia River Highway, involving:

- (1) 2000 lin. ft. overburden drilling;
 - (2) 500 lin. ft. rock drilling to furnish 15/16 to 1 3/4-in. dia. core;
 - (3) 100 lin. ft. cem. drilling or reaming.
- Complete bids follow:
- | | |
|--|----------|
| F. B. Cannon, Compton..... | \$ 8,660 |
| Pennsylvania Drilling Co., Pittsburgh..... | 10,300 |
| Lynch Bros., Seattle..... | 14,375 |
| Armand Drill Const. Co., Spokane..... | 14,725 |
| Sullivan Mach. Co., Spokane..... | 20,900 |
| Michael Diamond Drill Mfg. Co., Spokane..... | 21,236 |

SAN DIEGO, Cal.—Until 3 P. M., Jan. 2, bids will be received by the U. S. Engineer Office, 751 S. Figueroa St., Los Angeles, for repairing the dike diverting San Diego River from San Diego to False Bay.

LOS ANGELES, Cal.—Harbor Commission has authorized the installation of additional rock riprap protection, Fish Harbor maintenance, and has appropriated \$12,000 for the work. The harbor department will handle the work.

IRRIGATION PROJECTS

IMPERIAL COUNTY, Cal.—The new contract on which the Imperial Irrigation District will vote January 12 provides that the federal government shall build the canal from the Imperial Dam (to be constructed under the contract and located 4.5 miles above the present Laguna Dam on the Colorado River) to Imperial Valley via Pilot Knob through the sand dunes. The proposed contract gives the Coachella Valley land owners the right to enter the project within 30 days after the contract shall have been validated by the courts. If Coachella Valley does not come in, construction is to proceed without that part of the lands which were originally intended to be served by the canal. It is the section of the contract, dealing with the inclusion of the Coachella Valley lands, which has been changed from the terms of the contract approved Feb. 11, 1932. The terms of the new contract do not materially reduce the size of the canal from its proposed dimensions under the old contract, although the elimination of the Coachella Valley would reduce the land to be served by 143,000 acres.

The canal is designed to carry 15,000 second feet from Imperial Dam to Sycophon Drop opposite Yuma, Ariz. At the latter point the capacity will be reduced to 13,000 second feet, to allow the use of 2900 feet on the Yuma project. The canal will have a capacity of 13,000 second feet from Yuma to Pilot Knob, being reduced to 10,000 second feet in the section between Pilot Knob and a point near Gray's Well on the west side of the sand dunes. Here the two branches of the canal, as designed under the previous plan to include the Coachella Valley will separate, one to serve the east side mesa and Coachella Valley, the other to serve the present Imperial Valley Irrigation District lands. If Coachella

is omitted, that branch would probably only extend to a point a few miles north of Niland.

The Boulder Canyon Project Act authorizes the construction of such a canal to these valleys at an estimated cost of \$38,500,000. The U. S. Bureau of Reclamation has recently estimated the cost at \$33,500,000, but this cost may be reduced upon actual construction.

If the contract is approved Jan. 12, the Imperial Valley board will ask congress for an appropriation of \$1,000,000 with which to start work, but the contract also provides that before it may be accepted by the Secretary of the Interior it must be validated by the courts. The length of the time required for validation will, of course, depend upon whether the court proceedings result in a contested action or just a friendly test suit.

Mark Rose, director of the Irrigation District, has announced that he plans to have added to the Interior Department Bill an amendment asking for an appropriation of \$1,000,000. He hopes to have this amendment added in the senate, as it is now too late to introduce this amendment in the house.

The canal, as previously planned, will have a maximum section of 200 ft. wide at the water surface, 134 ft. at the bottom, and 22 ft. in depth. The All-American Canal is 75 miles in length and the Coachella Branch 115 miles. The canal will be built for a distance of ten miles through shifting sands where the deepest cuts are from 100 to 120 ft. The drifting of sand is to be controlled by the growing of vegetation in a zone each side of the canal, spraying of the sand with crude oil and the use of a 30-ft. berm on each side of the canal at the mesa floor. Four miles of the All-American and 33 miles of the Coachella Valley Branch will require concrete lining. Siphons or culverts will be required to carry the canal under numerous washes, ten on the All-American and 79 on the Coachella Branch. The former will have to be carried under the Alamo and New Rivers by siphon. The total estimated excavation is 60,000,000 to 65,000,000 cu. yds. of which about four per cent is rock. At Pilot Knob, about 7 miles west of Yuma, and at four other drops, power amounting to about 60,000 kilowatts can be developed.

If proposed canals are constructed a total of 900,000 acres in the Imperial and Coachella Valleys and adjacent mesas will be made available for irrigation.

ORDWAY, Colo.—Stockholders in the Twin Lakes Reservoir and Canal Co., Ordway, voted to issue bonds for \$1,125,000 for deposit with Reconstruction Finance Corporation to secure a loan for the construction of a tunnel to be sunk under the continental divide in the vicinity of Alma. Tunnel will divert water from the lower Fork River to the lands in the Arkansas Valley.

ONTARIO, Oregon.—T. E. Connolly, 461 Market St., San Francisco, awarded contract by U. S. Bureau of Reclamation, Ontario, Oregon, at \$66,955.80, for furnishing labor and materials and performing all work for the construction of Tunnel No. 1 controlling works, Gwyhco; Project, Oregon-Idaho. The work is located near Nyssa and Adrian, Oregon, on the Oregon Short Line Railroad.

TERRA BELLA, Tulare Co., Cal.—Bonds for \$409,000 voted by the Terra Bella Irrigation District for irrigation purposes.

FIRE EQUIPMENT

SAN FRANCISCO.—Until Dec. 23, 3 P. M., under Bid No. 937, bids will be received by T. A. Brooks, City Purchasing Agent, 270 City Hall, for furnishing 200 fire hydrants. Specifications obtainable from above office.

RESERVOIRS AND DAMS

SANTA MARIA, Santa Barbara Co., Cal.—Advertising for bids for the 1,500,000-gallon reservoir will be delayed another week due to the necessity for the adoption of a wage scale. A call for bids will probably be issued Dec. 27. The estimated cost is \$15,000. Plans were prepared by York Peterson.

PIPE LINES, WELLS, ETC.

VENTURA, Cal.—Until 7:30 P. M., Dec. 27, bids will be received by the city council for drilling a 20-in. water well on property located on Front St. bet. Figueroa and Walnut Sts. The proposed well will require a 22-foot starter with 16-in. casing, and will be drilled to a depth of approx. 300 ft. The well will be designed to accommodate an 18-in. deep well pump. Specifications may be obtained from the city water superintendent, C. F. Zaps, or from the city clerk, Ruth E. Meilandt. Certified check or bond for 10%. The date for bids was previously set for Dec. 20 but was changed by the city council due to a slight technical error in the advertisement.

MODESTO, Stanislaus Co., Cal.—Until Dec. 28, 7:30 P. M., bids will be received by H. E. Gragg, City Clerk, to drill water well, furnish and install casing, sand pumping and developing said well. Specifications obtainable from City Engineer. Check or bid bond 10% required with bid.

SEWERS AND SEWAGE DISPOSAL PLANTS

LOS ANGELES, Cal.—Simonovich & Pritch, 2906 Alessandro St., Los Angeles, submitted low bid to the board of public works Dec. 21 at \$31,400 for the construction of the Wilmington Intercepting Sewer in Fries Ave. and a private right of way in Fries Ave. bet. Water St. and a point 734 ft. southerly therefrom, and in a portion of Water St. and another right of way under cash contract, involving 5165.66 lin. ft. of 24-in. vitrified sewer, including curve, structures, concrete reinforcement and all required appurtenances, and all required resurfacing.

- 4919.66 ft. 24-in. extra strength vit. clay pipe sewer;
- 214 ft. 24-in. do (in tunnel);
- 32 ft. 24-in. C. I. pipe sewer (two 16-ft. lengths);
- 12 structures;
- 12 manhole frame and cover sets.

The other bids were: Artukovich Bros., \$24,448; Martin Const. Co., \$37,390; R. G. Whinery, \$37,634; Mike Radich, \$37,650; Mlagenovich & Glespipe \$43,890; Joe Sutalo, \$44,000; Granich & Granich, \$52,000.25; Bebek and Brkich, \$52,250; R. A. Wattson, \$52,619; Kemper Const. Co., Ltd., \$53,952; M. N. Guho, \$56,300; Chutuk, Kordich & Vukojevich, \$59,662; Leo Miletich \$61,980; J. C. Hickey, \$66,-

659; Gogo & Rados, \$67,000; Engineer's estimate, \$41,225. 33

SAN BRUNO, San Mateo Co., Cal.—United States Pipe & Foundry Co., Monadnock Bldg., San Francisco, at \$5,372.95 (second low bid) awarded contract by city council to furnish east iron pipe and vitrified clay pipe for the San Bruno-Lomita Park Outfall Sewer Project, involving:

- (1) 40 lin. ft. 12-in. c. i. b&s pipe;
- (2) 5750 lin. ft. 8-in. Class B do;
- (3) 3000 lin. ft. 6-in. do;
- (4) 7 8-in. 1-8 bends;
- (5) 1 8-in. 1-16 bend;
- (6) 5 8-in. 1-8 bends;
- (7) 1 6-in. 1-16 bend;
- (8) 1900 lin. ft. 12-in. vit. salt glazed pipe;
- (9) 220 lin. ft. 8-in. do.

Complete bids on c. i. pipe and fittings follow:

- (A) Grinnell Co., \$4,987.30.
- (B) U. S. Pipe & Foundry Company, (awarded contract) \$5,372.95.
- (C) American Cast Iron Pipe Co., \$5-526.30.
- (D) Pacific States C. I. Pipe Co., \$5-689.20.

(E) Rolph Mills Co., \$6,156.97.
Unit bids (cast iron) follow:

| | (A) | (B) | (C) | (D) | (E) |
|----------|--------|--------|--------|--------|--------|
| 1(.....) | \$1.06 | \$1.17 | \$1.21 | \$1.25 | \$1.38 |
| 2(.....) | .61 | .665 | .687 | .70 | .775 |
| 3(.....) | .458 | .475 | .486 | .51 | .519 |
| 4(.....) | 5.30 | 6.00 | 5.80 | 7.00 | 7.91 |
| 5(.....) | 4.80 | 6.00 | 5.50 | 7.00 | 7.91 |
| 6(.....) | 3.65 | 4.20 | 4.00 | 4.70 | 5.54 |
| 7(.....) | 3.25 | 4.20 | 3.55 | 4.70 | 5.54 |

GladdingBros. Mfg. Co., 8rd and Keyes, San Jose, at \$713.44 awarded contract to furnish vitrified salt glazed pipe. Three identical bids submitted by California Pottery Co., N. Clark & Sons and Gladding-McBean Bros., follow:

Gladding Bros., (8) \$528 (9) \$196.
Other three, (8) \$36 (9) \$20.

POMONA, Los Angeles Co., Cal.—Contracting Engineers, Inc., 2310 1/2 W. Vernon Ave., Los Angeles, awarded contract by city council, Dec. 20, at \$11,009, for the construction of Sludge Concentration and Digestion Tanks, Pump and Boiler House at the site of the present Tri-City Disposal Plant, located at Spadra, involving major items as follows:

- 909 cu. yds. earth excav.;
- 40 cu. yds. loose rock excav.;
- 16 cu. yds. solid rock excav.;
- 13,600 lbs. structural steel;
- 22,000 lbs. reinf. steel;
- 318 cu. yds. concrete.;
- Cast iron pipe, fittings, etc.

Black & Veatch (Alva J. Smith, representative), 810 Boylston St., Pasadena, consulting engineers. The engineers estimate was \$11,987.
The bids were opened Dec. 13.

MISCELLANEOUS CONSTRUCTION

LOS ANGELES, Cal.—Construction of the West and the East Coachella tunnels of the Colorado River Aqueduct by force account was ordered by the board of directors of the Metropolitan Water District Dec. 21. This action was taken on the recommendation of the Chief Engineer and General Manager that the work be done by the district rather than by contract. The recommendation was based upon the probable delay in calling for bids and the desirability of furnishing immediate work for the unemployed.

According to the General Manager's letter to the board the work is described as follows:

"The Coachella tunnel section of the aqueduct is located along the base of the Little San Bernardino mountains, north of the Coachella Valley. The eastern end of this section is almost due north of Mecca, and the western end of the section is the Morongo Canyon, north of Palm Springs. The section includes ten separate tunnels totaling 33 miles in length. The eastern part of the section will be one tunnel, the length of which will be 96,238 feet, or approximately 18 miles. Access is given to this tunnel at four intermediate points from level adits, from which tunnel driving will proceed to the east and west of each adit. The western part of the Coachella tunnel section is broken up into nine units. The respective length of these units from east to west is as follows: 15,020 feet, 39,080 feet, 13,807 feet, 720 feet, 16,330 feet, 15,100 feet, 6,970 feet, 15,330 feet and 1720 feet, or a total length of approximately 15 miles.

"Access to these nine tunnels is available from five different points where the tunnels emerge to cross mountain washes. In driving the tunnels, the tunnel tracks will be built to continue across these narrow washes so that equipment can be shuttled back and forth and thus permit drilling operations to proceed on one side, while excavation work is in process on the other side.

"The total estimated cost of construction of the Coachella section, including the 33 miles of tunnels, is \$18,000,000. The time required for completion is estimated at approximately five years and six months."

Approximate quantities for the proposed tunnels as estimated from unofficial sources are as follows:

- West Coachella (W); East Coachella (E), General data:
- Total excavation, cu. yds., (W) 1-059,000; (E) 1,045,000.
- Total concrete, cu. yd., (W) 280-000; (E) 278,000.

Estimated Equipment Required
Mine hoists,; stat. air compressor about 750-cfm, (W) 8; (E) 10.

Portable air compressor, (W) 2; (E) 3.

Steel sharpeners, (W) 4; (E) 5.

Steel sharpener furnaces (W) 4; (E) 2.

Rock drills—drifters to start, (W) 32; (E) 40.

Rock drills, sinkers, (W) 8; (E) 10.

Electric locomotives, (W) 4; (E) 5.

Gas locomotives,

Power mucking equipmen't units, (W) 8; (E) 10.

Dump cars about 5 cu. yds., (W) 48; (E) 60.

Flat cars, (W) 8; (E) 10.

Ventilating fans, (W) 4; (E) 5.

Rail, 40 lb. or over, tons, (W) 600; (E) 500.

Pipe for ventilation, 16- to 20-in., (W) 35,000; (E) 25,000.

Pipe for unwatering, 6 to 10-in.,

Pipe for air lines, (W) 35,000; (E) 25,000.

Miscellaneous tools and machines, drill presses, grinders, lathes, hand tools for pipe fittings, welding, shop and woodwork, automobiles, trucks.

Materials
Drill steel in pounds, (W) 220,000; (E) 200,000.

Timber for tunnel support, MFBM, (W) 600; (E) 200.

Timber for ties, MFBM, (W) 300; (E) 230.

Steel for tunnel support, (W) 80,000; (E) 40,000.

Explosives in pounds, (W) 1,700,000; (E) 1,300,000.

Camp Construction
Lumber, MFBM, (W) 840; (E) 1050.

Cement, barrels, (W) 600; (E) 780.
Building board, sq. ft., (W) 63,000; (E) 79,000.

Plumbing supplies, (W) \$6,300; (E) \$7,900.

Electrical supplies, (W) \$4,500; (E) \$5,700.

Roofing squares, (W) 1,700; (E) 2,100.

Corrugated iron sheeting, sq. ft., (W) 67,000; (E) 84,000.

Kitchen and mess equip., (W) \$13,500; (E) \$16,800.

Fuel for heating and cooking, (W) \$4200; (E) \$5200.

Misc. food products, lbs., (W) 780,000; (E) 1,160,000. 34

WATERWORKS

LOS ANGELES, Cal.—Until 2 P. M., January 3, bids will be received by County Supervisors for supplying miscellaneous materials for San Gabriel River outlet Unit No. 5, involving:

PROPOSAL NO. 1
(1) 60 bbls. cement in cloth sacks l. o. b. site of work.

PROPOSAL NO. 2
(1) 1050 lbs. steel reinf. bars, cut and bent, f. o. b. site of work.

PROPOSAL NO. 3
(1) 415 rolls No. 20 gauge, 2-in. mesh galvanized poultry netting in standard rolls of 150 ft., 60-in. in width;

(2) 150 rolls Type I diamond mesh woven wire fencing in standard rolls of 26 rods, 58-in. in width;

(3) 2300 lbs. galvanized iron tie wire, No. 14 gauge;

(4) 900 lbs. galvanized tie wire, No. 8 gauge.

E. C. Eaton, County Flood Control Engineer.

SAN FRANCISCO.—Kaiser Paving Co., 46 Kearny St., at \$19,470 submitted low bid for granite sand and Pacific Coast Aggregates, 85 2nd St., at \$16,500 submitted low bid for grout sand to City Purchasing Agent for furnishing sand for the Hetch Hetchy Project, involving approximately 15,000 cu. yds. of each. Following is a complete list of bids:

Granite Sand
Kaiser Paving Co., (I) \$120; total \$19,470.

Pacific Coast Aggregated, (I) \$135; total, \$21,630.

(Including hauling.)

Grout Sand
Pacific Coast Aggregates.....\$16,500.00

Kaiser Paving Co..... 16,800.00

A. O. Field 17,169.60

Atlas Olympia Co..... 18,000.00

Antioch Eand Co..... 20,047.50

Oak Point Sand Co..... 23,250.00

STOCKTON, San Joaquin Co., Cal.—Contracts for furnishing new pumps for Reclamation Districts No. 2027, Mandeville Island, and No. 756, San Joaquin, Bouldin Island, awarded as follows:

Battery of four units for Reclamation District No. 2027, Mandeville Island, at \$22,255.70 to Eyrton-Jackson Company.

Battery of five units for Reclamation District No. 756, San Joaquin, for Bouldin Island, at \$30,582.46 to Eyrton-Jackson Co.

BOULDER CANYON, Nev.—Minneapolis-Moline Power Imp. Co., at \$5-625.60 awarded contract by Bureau of Reclamation, Denver, Colo., to furnish, deliver and fabricate all structural steel for the 150-ton cableway hoist house, Hoover Dam, Boulder Canyon Project. Complete bids follow:

Minneapolis-Moline Power Imp. Co., destination, \$3,625.60.
 Virginia Bridge & Iron Co., \$3,800.
 Pittsburgh - Des Moines Steel Co., \$3,955.75; (f.o.b. Des Moines, Ia.) \$3-219.35.
 Wisconsin Bridge & Iron Co., \$4-036.68.
 Denver Steel & Iron Co., \$4,066.00.
 Kansas City Structural Steel Co., \$4,114.80.
 Midwest Steel & Iron Works Co., \$4,675.50.
 Milwaukee Bridge Co., (Milwaukee) \$2,718.00.
 American Bridge Co. (Gary, Ind.) \$2,742.00.
 Lake side Bridge & Steel Co. (Milwaukee), \$2,873.50.
 Stupp Bros. Bridge & Iron Co. (St. Louis) \$3,000.00.
 McClintic-Marshall Corp. (Los Angeles), \$3,187.00.
 Pacific Iron & Steel Co., Ltd. (Los Angeles), \$3,449.00.
 John W. Beam (Peotone, Ill.) \$3-464.00.
 Consolidated Steel Corp., Ltd. (Los Angeles), \$3,497.50.
 Herrick Iron Works (Oakland) \$3-781.00.

STREETS AND HIGHWAYS

LOS ANGELES, Cal.—Wm. C. McDuffie, as receiver of the Richfield Oil Co., was awarded the contract by A. J. Holm, City Purchasing Agent, Dec. 22, at an estimated total of \$29,850, for furnishing 500 tons asphaltic cement per month during the period of Jan. 1 to June 30, 1933. Spec. No. 2972. The estimate per month is \$4,975.

VENTURA, Calif.—The city engineer's estimate of the total bid of M. J. Bevanda of Stockton, for the Meta St. Cutoff, as revised to bring the work within the funds available, is \$125,893. The saving effected by reducing the width of the walks from 6-ft. to 5-ft amounts to \$2042. The contract was awarded Dec. 20.

SAN FRANCISCO.—Until Jan. 4th, 2:30 P. M., bids will be received by S. J. Hester, secretary, Department of Public Works, to improve connecting street between Laidley and 30th, and west half of Laidley between Noe and 30th, involving:

- (1) 450 cu. yds. excavation;
- (2) 3 brick catchbasins;
- (3) 1 brick manhole;
- (4) 45 10-in. V.C.P. culverts;
- (5) 70 ft. 6-in. do;
- (6) 420 sq. ft. armored concrete curb;
- (7) 5350 sq. ft. 6-in. Class E concrete pavement;
- (8) 1160 sq. ft. 1-course conc. sidewalks.

Estimated cost \$2330. Specifications obtainable from John J. Casey, City Engineer, 3rd floor, City Hall.

LOS ANGELES, Cal.—Ordinance of intention No. 72,154 for the improvement of 76th St., between 8th Ave. and 10th Ave., and portions of 77th St., 75th St., 8th Ave., 10th Ave., and the alley west of 8th Ave., was adopted by City Council Dec. 14. A hearing will be held by the city council January 23. The proposed work involves:

- (1) grading (1971 cu. yds. cut);
- (2) 44,288 sq. ft. 6-in. conc. paving;
- (3) 411 sq. ft. 6-in. asph. conc. paving;
- (4) 150 sq. ft. 4-in. asph. conc. wearing surf.;
- (5) 220 sq. ft. 6-in. conc. gutter;
- (6) 47 sq. ft. 4-in. concrete walk (drives);

- (7) 6 ft. integral curb (no reinf. steel);
- (8) 18 ft. light unplas. curb;
- (9) water system complete;
- (10) 22 water service connections;
- (11) light conduit complete, lump sum. Remove 21 ft. curb, 47 sq. ft. driveway

HUMBOLDT COUNTY, Cal.—Until Jan. 12, 2 P. M., bids will be received by C. H. Sweetser, District Engineer, U. S. Bureau of Public Roads, 461 Market St., San Francisco, for 7,507 miles grading Unit 2-C, California Federal Lands Proj. No. 1, Hoopa Valley Indian Reservation, involving: 19 acres clearing; 148,500 cu. yds. unclass. excav.; 1,300 cu. yds. unclass. excav. & struc.; 100,000 cu. yds. hydraulic excav.; 12,000 sta. yds. overhaul; 7,300 cu. yds. subgrade reinf.; 7,492 miles finish earth graded road; 13 cu. yds. crushed gravel or rock, backfill; 9 M. ft. b.m. timber cribbing; 1 M ft. b.m. untreated timber; 399 cu. yds. concrete; 37,860 lbs. reinf. steel; 2,860 lin. ft. corr. metal pipe; 60 lin. ft. place Govt. furnished corr. metal pipe; 150 lin. ft. remove and relay corr. metal pipe; 70 lin. ft. galv. metal flume; 33 cu. yds. hand laid rock embank.; 55 lin. ft. wood guard rail; raise bridge approach trestle; 29,700 lin. ft. new fence; 9,700 lin. ft. move and reset fence; 80 timber gates.

Specifications obtainable from above office on deposit of \$10, check certified and payable to Regional Fiscal Agent, U. S. Forest Service.

LOS ANGELES COUNTY, Cal.—Until Jan. 17, 2 P. M., bids will be received by C. H. Sweetser, District Engineer, U. S. Bureau of Public Roads, 461 Market St., San Francisco, for grading Section C of Route 62, San Gabriel National Forest Highway, Angeles National Forest, involving: 26 acres clearing; 358,000 cu. yds. unclass. excav.; 1,150 cu. yds. unclass. excav. & struc.; 1,760,000 sta. yds. overhaul; 2.213 miles finish earth graded road; 252 cu. yds. concrete; 14,000 lbs. reinf. steel; 2,016 lin. ft. corr. metal pipe; 18 right-of-way monuments; 3 spillway inlets; 10,300 lin. ft. wood guard rail.

Specifications obtainable from above office on deposit of \$10, returnable, checks certified and payable to Regional Fiscal Agent, U. S. Forest Service.

LOS ANGELES, Cal.—EmSCO Concrete Cutting Corp., 1517 Santa Fe Ave., submitted only bid to County Supervisors Dec. 19 at \$62,500 for the construction of about 100 miles of trails in the San Gabriel Watershed. E. C. Eaton, 202 N Broadway, County Flood Control Engineer, Mame B. Beatty, 501 Hall of Records, Clerk of the Board.

VENTURA COUNTY, Cal.—Until Jan. 21, 2 P. M., bids will be received by State Highway Commission, Sacramento, to apply 5.6 ml. bituminous surface treatment between Santa Paula and Wells Road, involving:

- (1) 4360 tons screenings;
- (2) 320 tons emulsified asphalt road oil.

ARIZONA STATE.—Until 10 A. M. Dec. 23, bids will be received by the State Highway Commission, Phoenix, for highway construction on the Ben-

son-Vail Highway, E-18-B A. F. E. No. 8054. The work, which begins at the north end of the Cienega Creek Bridge and extends easterly approximately 6½ miles, consists of grading, draining and placing of subgrade stabilizer, involving: 104,000 cu. yds. rdwy. excav.; 6,900 cu. yds. drainage excav.; 5,000 lin. ft. 4" ditches; 1,300 cu. yds. struc. excav.; 2,000 cu. yds. slides and overbreakage; 8,600 cu. yds. borrow excav.; 74,000 sta. yds. earthwork overhaul; 11,300 cu. yds. subgrade stabilizer; 27,200 c. y. mi. subgrade stab., haul; 1,040 cu. yds. concrete; 86,000 lbs. reinforcing steel; 1,766 lin. ft. C.M.P. (various sizes); 550 lin. ft. rail bank protection; 21,000 lin. ft. cable road guard; 66,400 lin. ft. f. line road; and other miscellaneous items.
 Cash or certified check, 5%, T. S. O'Connell, State Highway Engineer.

COCONINO COUNTY, Ariz.—O. F. Fisher, 516 S. 7th St., Phoenix, at \$121,928.36 (exclusive of masonry alternate items) awarded contract by U. S. Bureau of Public Roads for grading Sections B and C of the Cameron-Desert View Approach to Grand Canyon National Park, 10 mi.

SHASTA COUNTY, Cal.—E. C. Coast, Sacramento, at \$56,760 awarded contract under corrugated metal pipe alternate, by U. S. Bureau of Public Roads for 4,501 mile grading Section A of Route 75, the Manzanita Lake National Forest Highway.

SEATTLE, Wash.—Until January 11, bids will be received by Board of Public Works to improve Railroad Ave. from Madison to Bay Sts., including construction of a concrete seawall, involving: 57,500 cu. yds. concrete paving; 5800 lin. ft. curbing; 8720 sq. yds. concrete sidewalks; 4990 lbs. reinf. steel; 6780 lin. ft. 20-in. c. i. pipe; 256,900 cu. yds. clamment (seawall); 9000 cu. yds. riprap (seawall). Estimated cost, \$1,500,000.

SAN DIEGO, Cal.—Shanahan Bros., Inc., 6181 Eastern Ave., Los Angeles, awarded contract by the Bureau of Yards and Docks, Navy Department, at \$52,590, for the work, complete, for the reconstruction of quay wall and crane track at the Eleventh Naval District San Diego, Calif. (Naval Operating Base—(Destroyer Base)) Specifications No. 7090. The work consists of about 395 linear feet of timber quay wall deck and about 1155 linear feet of concrete crane track and includes excavation; wood piles; concrete girders, beams and conduit; steel beams and miscellaneous steel; and iron work; timber framing and deck plank; air and water piping; and electrical work.
 The bids were opened at San Diego November 23.

MERCED COUNTY, Cal.—C. W. Wood, P. O. Box 1435, Stockton, at \$28,409.50 awarded contract by State Highway Commission, Sacramento, to grade and pave with Portland cement concrete 0.6 mi. between Merced and Merced Airport.

SAN JOAQUIN COUNTY, Cal.—Frederickson & Watson, 873 81st Ave., Oakland, at \$123,882.80 awarded contract by State Highway Commission to grade and pave with Portland cement concrete 4.3 mi. between Manteca and Mossdale.

ARIZONA STATE.—Ralph Pleasant Co., Phoenix, awarded contract by State Highway Commission, Phoenix, Nov. 28, at \$30,726.91 (using plant mix) for highway construction on the Florence-Tucson Highway, E-94-B (A. F. E. No. 2870). The work, which begins at the town of Florence and extends westerly approximately 8 1/2 mi. to the highway junction near the Casa Grande ruins, consists of the placing of cable road guard and the oil processing with cutback asphalt cement by either road mix or plant mix method (2-in. compacted oil cake), involving:

- Roadway—Road Mix**
 (1) 2102 lin. ft. cable road guard;
 (2) 290 M. gals. water applied to roadway;
 (3) 3576 cu. yds. stabilizer;
 (4) 5601 cu. yds. subgrade stabilizer, haul;
 (5) 9631 cu. yds. mineral aggregate;
 (6) 24,747 cu. yd. ml. mineral aggregate, haul;
 (7) 701.5 tons cutback asphalt cement, including seal coat oil;
 (8) 8,820 miles mix, lay down and finish;
 (9) 681 cu. yds. screening for seal coat;
 (10) 2720 cu. yds. construct shoulders;
 (11) 10 oil surfaced approaches;

- Alternate—Plant Mix**
 (In lieu of Items 5, 6, 7, and 8)
 (12) 10,563 tons plant mix oil-treated surfacing;
 (13) 30,292 ton miles plant mix oil surfacing haul;
 (14) 422.5 tons cutback asphalt cement for plant mix;
 (15) 54 tons cutback asphalt cement for seal coat;
 (16) 8,820 miles spread, compact and finish;

- Structures Over 20-ft. Clear Span**
 (17) 1 M. gals. water applied to roadway;
 (18) 25 cu. yds. mineral aggregate;
 (19) 65 cu. yd. mile mineral aggregate, haul;
 (20) 2 tons cutback asphalt cement, including seal oil;
 (21) 0.023 mile mix, lay down and finish;
 (22) 2 cu. yds. screening for seal coat;
 (23) 3 cu. yds. construct shoulders;

- Alternate—Plnt Mix**
 (In lieu of Items 18, 19, 20 and 21)
 (24) 31 tons plant mix oil treated surfacing;
 (25) 80 ton miles plant mix oil treated surfacing, haul;
 (26) 1.2 tons cutback asphalt cement for plant mix;
 (27) 0.2 ton cutback asphalt cement for seal coat;
 (28) 0.023 mile spread, compact and finish;

- Non-Federal Aid—Road Mix**
 (29) 98 lin. ft. cable road guard;
 (30) 7 M. gals. water applied to roadway;
 (31) 196 cu. yds. mineral aggregate;
 (32) 1,053 cu. yd. ml. mineral aggregate, haul;
 (33) 15.8 tons cutback asphalt cement, including seal coat oil;
 (34) 0.20 mile mix, lay down and finish;
 (35) 15 cu. yds. screenings for seal coat;
 (36) 63 cu. yds. construct shoulders;
 (37) 170 cu. yds. special mineral aggregate for stockpile;
 (38) 164 cu. yd. ml. haul do;

- Alternate—Plant Mix**
 (In lieu of Items 31, 32, 33 and 34)
 (39) 239 tons plant mixed oil treated surfacing;
 (40) 1289 ton mile plant mixed oil treated surfacing haul;
 (41) 9.6 tons cutback asphalt cement for plant mix;

- (42) 1.2 tons cutback asphalt cement for seal coat;
 (43) 0.20 mile spread, compact and finish.

The total bids were:
 (A) Ralph Pleasant Const. Co., Phoenix, plant mix, \$30,726.91.
 (B) Skeels & Graham Co., Tucson—Road mix, \$35,115.90; plant mix, \$34,783.98.
 (C) Phoenix-Tempe Stone Co., Phoenix—Road mix, \$35,517.7.; plant mix, \$35,684.05.
 (D) Arizona Sand & Rock Co., Phoenix—Plant mix, \$37,573.20.
 (E) Henfey-Moore Co. and J. A. Casson, Phoenix—Plant mix, \$41,937.80. The bids were opened Nov. 22.

The unit bids were:

| | (A) | (B) | (C) | (D) | (E) |
|-----------|--------|--------|--------|--------|--------|
| (1)..... | \$.60 | \$.75 | \$.60 | \$.83 | \$.70 |
| (2)..... | 1.50 | 2.50 | 2.00 | 3.66 | 3.00 |
| (3)..... | .52 | .35 | .46 | .79 | .50 |
| (4)..... | .09 | .10 | .09 | .096 | .10 |
| (5)..... | .55 | .553 | ..... | ..... | ..... |
| (6)..... | .10 | .09 | ..... | ..... | ..... |
| (7)..... | 22.00 | 22.00 | ..... | ..... | ..... |
| (8)..... | 400.00 | 550.00 | ..... | ..... | ..... |
| (9)..... | 1.80 | 2.50 | 2.00 | 1.92 | 2.00 |
| (10)..... | .52 | .65 | .50 | .84 | .70 |
| (11)..... | 10.00 | 10.00 | 25.00 | 21.60 | 25.00 |
| (12)..... | .86 | 1.03 | 1.33 | 1.12 | 1.60 |
| (13)..... | .07 | .065 | .06 | .066 | .10 |
| (14)..... | 20.75 | 22.00 | 20.00 | 21.50 | 23.00 |
| (15)..... | 23.00 | 24.00 | 22.00 | 27.12 | 23.00 |
| (16)..... | 200.00 | 275.00 | 250.00 | 240.00 | 100.00 |
| (17)..... | 1.50 | 2.50 | 2.00 | 3.66 | 3.00 |
| (18)..... | .55 | .553 | ..... | ..... | ..... |
| (19)..... | .10 | .09 | ..... | ..... | ..... |
| (20)..... | 22.00 | 22.00 | ..... | ..... | ..... |
| (21)..... | 400.00 | 550.00 | ..... | ..... | ..... |
| (22)..... | 1.80 | 2.50 | 2.00 | 1.92 | 2.00 |
| (23)..... | .52 | .65 | .50 | .84 | 1.00 |
| (24)..... | .86 | 1.03 | 1.33 | 1.12 | 1.60 |
| (25)..... | .07 | .065 | .06 | .066 | .10 |
| (26)..... | 20.75 | 22.00 | 20.00 | 21.50 | 23.00 |
| (27)..... | 23.00 | 24.00 | 22.00 | 27.12 | 23.00 |
| (28)..... | 200.00 | 275.00 | 250.00 | 240.00 | 100.00 |
| (29)..... | .60 | .75 | .60 | .83 | .70 |
| (30)..... | 1.50 | 2.50 | 2.00 | 3.66 | 3.00 |
| (31)..... | .55 | .553 | ..... | ..... | ..... |
| (32)..... | .10 | .09 | ..... | ..... | ..... |
| (33)..... | 22.00 | 22.00 | ..... | ..... | ..... |
| (34)..... | 400.00 | 550.00 | ..... | ..... | ..... |
| (35)..... | 1.80 | 2.50 | 2.00 | 1.92 | 2.00 |
| (36)..... | .52 | .65 | .50 | .84 | 1.00 |
| (37)..... | 1.00 | 2.00 | 1.60 | 3.65 | 1.00 |
| (38)..... | .09 | .10 | .10 | .15 | .10 |
| (39)..... | .86 | 1.03 | 1.33 | 1.12 | 1.60 |
| (40)..... | .07 | .065 | .06 | .066 | .10 |
| (41)..... | 20.75 | 22.00 | 20.00 | 21.50 | 23.00 |
| (42)..... | 23.00 | 24.00 | 22.00 | 27.12 | 23.00 |
| (43)..... | 200.00 | 275.00 | 250.00 | 240.00 | 100.00 |

ELDORADO COUNTY, Cal.—MacDonald and Kahn, Financial Contract Bldg., San Francisco, at \$98,995.28 (corrugated metal pipe alternate) submitted low bid to and recommended for award by U. S. Bureau of Public Roads, San Francisco, for 3.229 miles grading Section F of Route 32, Placerville-Lake Tahoe National Forest Highway, El Dorado National Forest; complete bids being taken under alternates as follows: (a) corrugated metal pipe; (b) reinforced concrete pipe. Complete bids follow:
 (A) MacDonald & Kahn, San Francisco, (a) \$98,995.28; (b) \$100,205.65.
 (B) Fredrickson & Watson, Oakland, (a) \$99,708.90.
 (C) M. J. Bevanda, Stockton (a) \$115,690; (b) \$118, 286.00.
 (D) Hemstreet & Bell, Marysville, (a) \$149,445.20; (b) \$144,963.28.
 (E) Engineer's estimate, (a) \$90,515.20; (b) \$90,515.20.
 Project involves:
 (1) 23 acres clearing;
 (2) 127,000 cu. yds. unclass. excav.;
 (3) 1,700 cu. yds. unclass. excavation struc.;
 (4) 291,000 sta. yds. overhaul;
 (5) 3.43 miles finish earth graded rd.

- (6) 2,600 M. gals. watering;
 (7) 360 cu. yds. concrete;
 (8) 36,800 lbs. reinf. steel;
 (9) 40 cu. yds. cem. rubble masonry;
 (10) 2012 lin. ft. 18-in. reinf. concrete pipe;
 (11) 292 lin. ft. 24-in. do;
 (12) 400 lin. ft. 8-in. perf. corrugated metal pipe;
 (13) 2012 lin. ft. 18-in. do;
 (14) 292 lin. ft. 24-in. do;
 (15) 136 lin. ft. relay 12-in. salvaged corru. metal pipe;
 (16) 200 cu. yds. crushed gravel or rock, backfill;
 (17) 200 cu. yds. hand-laid rip-rap;
 (18) 600 lin. ft. remove and salvage corrugated metal pipe;
 (19) 1,700 lin. ft. remove and reset fence;
 (20) 655 lin. ft. galv. iron water pipe;
 (21) 25,000 gals. apply Govt. furnished fuel oil;
 (22) 6 right of way monuments;
 (23) spring protection, etc. (fixed by contractor);
 (24) move and reset milestones, do;
 (25) maintain existing road, do.

SISKIYOU COUNTY, Cal.—Ishell Construction Co., Carson City, Nev., at \$58,429 awarded contract by U. S. Bureau of Public Roads for placing 12.45 mi. crushed gravel base course on Section C of Route 77, Mt. Shasta-Mt. Lassen National Forest Highway, Shasta National Forest.

ALAMEDA, Alameda Co., Calif.—J. Catecel, 1212 18th Ave., Oakland, at \$9,436.50 awarded contract by the Constructing Quartermaster, Benton Field Alameda, to replace rock underfill for roads and paved area at Benton Field, involving approximately 13,500 cubic yards.

SHASTA COUNTY, Cal.—Hemstreet & Bell, Marysville, awarded contract by the U. S. Bureau of Public Roads, at \$33,317 for 17.106 mi. placing a crushed rock base course on Sections A and B of Route 77, the Mt. Shasta-Mt. Lassen National Forest Highway, Lassen National Forest.

WASHINGTON STATE.—Until Jan. 10, 10 A. M., bids will be received by Samuel J. Humes, Director of Highways, Olympia, for highway construction as follows:

Walla Walla County—Surface and stockpile about 43,700 cu. yds. crushed stone 9.1 miles State Road No. 3, Touchet to Vancely Canyon, E. C. H. Proj. No. E-169-E.

Okanogan County—Grade and surface three miles of State Road No. 4, Section 1 of Tonasket easterly E. C. H. Proj. Nos. E-65 and E-103, involving 29 acres clearing, 164,750 cu. yds. excav., 6,480 cu. yds. crushed stone, 467 cu. yds. concrete and 923 lin. ft. pipe culverts.

Klickitat County—Grade 4.2 miles of State Road No. 8, Lyle to Skadat, E. C. H. Proj. No. E-174-C, involving 647,930 cu. yds. excav., 239 cu. yds. concrete, 18,094 lin. ft. headers and stretchers for reinf. concrete cribbing, 1,161 lin. ft. pipe culverts.

Okanogan County—Grade and surface 3.9 miles State Road No. 10, Paterson to Brewster Flats, E. C. H. Proj. No. E-145-1, involving 191,170 cu. yds. excav., 12,740 cu. yds. crushed stone, 10,500 lin. ft. cable guard rail, 3,400 lin. ft. pipe culverts, one 40-ft. reinforced concrete T-beam bridge. Specifications obtainable from above office on deposit of \$2. Certified check 5% payable to the State Treasurer required with bid.

ARIZONA STATE.—Phoenix-Tempe Stone Co., Phoenix, awarded contract by State Highway Commission, Phoenix, Nov. 28, at 10,185.98, for highway construction on the Benson-Douglas highway, under E-79-E, A.F.E. 8028. The work, which begins about one mile east of St. David and extends southeasterly approximately 7.4 miles towards Tombstone, consists of minor grading and draining work, the placing of subgrade stabilizer and the oil processing with asphaltic road oil by the road mix method, involving:

- Roadway**
- (1) 355 cu. yds. drainage excavation (unclass.);
 - (2) 100 cu. yds. borrow excav.;
 - (3) 2000 sta. yds. earthwork overhaul
 - (4) 17 cu. yds. Class A concrete (inc. cement);
 - (5) 215 lbs. reinf. steel;
 - (6) 20 lin. ft. 24-in. C.M.P.;
 - (7) 10 cu. yds. plain riprap;
 - (8) 530 lin. ft. rail bank protection;
 - (9) 1200 lin. ft. cable road guard;
 - (10) 170 M. gals. water applied to roadway;
 - (11) 2116 cu. yds. subgrade stabilizer;
 - (12) 12,041 yd. mi. subgrade stabilizer haul;
 - (13) 10,643 cu. yds. mineral aggregate;
 - (14) 38,348 yd. mi. mineral aggregate haul;
 - (15) 111,009 gals. oil applied to rdwy.;
 - (16) 7,202 miles mixing, laying down and finishing;
 - (17) 4019 cu. yds. shoulder material;
 - (18) 11,707 yd. mi. shoulder material haul;
 - (19) 556 cu. yds. screenings for seal coat;
 - (20) 5 oil surfaced approached;
- Structures Over 20-ft. Clear Span**
- (21) 4 M. gals. water applied to rdwy.;
 - (22) 247 cu. yds. mineral aggregate;
 - (23) 1108 yd. mi. do haul;
 - (24) 4205 gals. oil applied to rdwy.;
 - (25) 0.134 mi. mixing, laying down and finishing;
 - (26) 13 cu. yds. screenings for seal coat;

Non-Federal Aid

- (27) 147 cu. yds. special mineral aggregate for stockpile.
- The total bids were:
- (A) Phoenix-Tempe Stone Co., Box 1645, Phoenix, \$30,185.98.
 - (B) Ralph Pleasant Const. Co., Phoenix, \$32,513.62.
 - (C) Skeels & Graham Co., Tucson, \$33,255.83.
 - (D) O. F. Fisher, Phoenix, \$34,279.13.
 - (E) R. H. Martin, Tucson, \$34,675.87.

The unit bids were:

| | (A) | (B) | (C) | (D) | (E) |
|------|--------|--------|--------|--------|--------|
| (1) | \$.30 | .40 | .25 | .45 | .30 |
| (2) | .30 | .40 | .25 | .45 | .30 |
| (3) | .03 | .02 | .05 | .02 | .015 |
| (4) | 25.00 | 22.00 | 25.00 | 25.00 | 30.00 |
| (5) | .06 | .06 | .06 | .07 | .07 |
| (6) | 2.50 | 2.50 | 3.00 | 2.00 | 2.80 |
| (7) | 3.00 | 5.00 | 3.50 | 2.50 | 5.00 |
| (8) | 2.00 | 2.50 | 2.00 | 2.50 | 2.75 |
| (9) | .60 | .60 | .65 | .75 | .80 |
| (10) | 2.00 | 2.00 | 2.50 | 2.00 | 2.50 |
| (11) | .25 | .31 | .35 | .35 | .35 |
| (12) | .09 | .09 | .10 | .085 | .10 |
| (13) | .49 | .53 | .55 | .60 | .45 |
| (14) | .09 | .09 | .10 | .085 | .10 |
| (15) | .054 | .058 | .055 | .055 | .065 |
| (16) | 400.00 | 500.00 | 500.00 | 600.00 | 500.00 |
| (17) | .25 | .31 | .35 | .35 | .45 |
| (18) | .09 | .09 | .10 | .10 | .10 |
| (19) | 1.75 | 1.75 | 2.00 | 2.50 | 1.60 |
| (20) | 25.00 | 10.00 | 10.00 | 20.00 | 10.00 |
| (21) | 2.00 | 2.00 | 2.50 | 2.00 | 2.50 |
| (22) | .49 | .53 | .55 | .60 | .45 |
| (23) | .09 | .09 | .10 | .085 | .10 |
| (24) | .055 | .058 | .055 | .055 | .065 |
| (25) | 400.00 | 500.00 | 500.00 | 600.00 | 500.00 |
| (26) | 1.00 | 1.00 | 1.50 | .75 | .60 |
| (27) | 1.75 | 1.75 | 2.00 | 2.50 | 1.60 |

NEW MEXICO STATE.—Lockhead and Levers, Hagerman, N. M., submitted low bid to W. R. Eccles, State Highway Engineer, Santa Fe, N. M. Dec. 14, at \$93,437.77, for highway construction in Chaves and Lincoln counties, 10,521 miles; F. A. H. Proj. E-164-B, U. S. Highway No. 70 between Roswell and Hondo, approx. 15 miles from Roswell. The length of project is approximately 10,521 miles. The proposed work consists of grading and construction of minor and major drainage structures.

WASHINGTON STATE.—Wren and Greenough, Portland, Ore., at \$66,233 (Schedule A) awarded contract by State Highway Department to grade and surface two miles of State Road No. 8, Lyle to Snowden Road, E. C. H. Proj. No. E-174-D, Klickitat county. Their bid under schedule B was \$66,104. Kesterson Contracting Co., Inc., Seattle, second low at \$67,853 under A. and \$67,853 under B; Lawlor-Woodward Co., Seattle, third low at \$69,376 for A and E.

Lyon & Munro, Spokane, at \$90,813 (Schedule A) awarded contract to grade 11.6 miles State Road No. 22, Williams to Onion Creek, Stevens Co. General Const. Co., Seattle, second low at \$94,326 for A and \$93,679 for B. Siems-Spokane Co., Spokane, at \$95,586 for A. and \$94,426 for B, third low. Lyon & Munro bid \$89,864 for B.

ARIZONA STATE.—Until 10:30 A. M., Dec. 23, bids will be received by State Highway Commission, Phoenix, for highway construction on the Benson-Vail Highway, E-18-C (A.F.E. No. 8055). The work, which begins at a point about 5 1/2 miles west of the Pima-Cochise county line and extends easterly to the county line, consists of grading, draining and placing subgrade stabilizer, involving:

- 33,400 cu. yds. rdwy. excav.;
- 5,800 cu. yds. drainage excav.;
- 800 cu. yds. slides and overbreakage;
- 13,300 lin. ft. "V" ditches;
- 950 cu. yds. struc. excav.;
- 20,700 cu. yds. borrow excav.;
- 4,300 cu. yds. earthwork overhaul;
- 10,200 cu. yds. subgrade stabilizer;
- 33,500 c. y. mi. subgrade stab., haul;
- 630 cu. yds. concrete;
- 46,900 lbs. reinf. steel;
- 32,300 lbs. struc. steel;
- 1,366 lin. ft. C.M.P. (various sizes);
- 10,900 lin. ft. cable road guard;
- 67,100 lin. ft. line fence;
- 600 lin. ft. bank protection;
- and other incidental items.

Cash or certified check, 5% is required. T. S. O'Connell, State Highway Engineer.

ARIZONA STATE.—Until 2 P. M., Dec. 23, bids will be received by the State Highway Commission, Phoenix, for highway construction on the Benson-Vail Highway, E-18-D (A.F.E. No. 8052) E-18-E (A.F.E. No. 8019). The work, which begins at the Pima-Cochise county line and extends easterly approx. 9.33 miles to the west city limits of Benson, consists of grading, draining and placing of subgrade stabilizer in part and oil processing the entire length by the plant mix method involving:

- 23,500 cu. yds. rdwy. excav.;
- 5,200 cu. yds. drainage excav.;
- 9,500 lin. ft. "V" ditches;
- 1,400 cu. yds. struc. excav.;
- 6,100 cu. yds. borow excav.;
- 23,900 sta. yds. earthwork overhaul;
- 23,800 cu. yds. subgrade stabilizer;
- 40,200 c. y. mi. subgrade stab., haul;
- 777 cu. yds. concrete;
- 62,000 lbs. reinforcing steel;
- 330 lin. ft. C.M.P. (various sizes);

- 7,200 lin. ft. cable road guard;
- 700 lin. ft. bank protection;
- 9,200 lin. ft. line fence;
- 290 M. gals. water applied to rdwy.;
- 220 hours rolling fills;
- 81,400 sq. yds. prepare subgrade or road surface;
- 695 tons outback asph. cem. (complete in place);
- 16,000 tons plant mix;
- 118,000 ton. mi. plant mix haul;
- 8.9 miles spread, compact and finish;
- 700 cu. yds. screenings for seal coat (complete in place);
- 3,800 cu. yds. shoulder material;
- 5,000 cu. yd. mi. shoulder material, haul;
- and other miscellaneous items.

Cash or certified check 5% of bid required. T. S. O'Connell, State Highway Engineer.

STANISLAUS COUNTY, Calif.—C. W. Wood, P. O. Box 1435, Stockton, at \$59,938.90 awarded contract by the State Highway Commission to grade and pave with Portland cement concrete 1.4 miles between Hatch Crossing and Modesto.

MOUNTAIN VIEW, Santa Clara Co. Calif.—Temporary injunction against hearing of protests to extension of Moffett Blvd, continued until Dec. 23, and residents seek to permanently enjoin the city council from holding protest meeting.

GLENDALE, Los Angeles Co., Cal.—Southwest Paving Co., 710 Lankershim Blvd., submitted low bid to city engineer, Dec. 22, at \$291.63 for resurfacing Chevy Chase Drive, between Walnut and Sinclair Sts., under Cash Contract, involving:

- (1) 102,300 sq. ft. 1 1/2-in. asphalt concrete wearing surface, including bringing sewer manholes to grade;
- (2) 11750 sq. ft. asphalt concrete wearing surface, variable thickness, including bringing sewer manholes to grade;
- (3) 200 tons asphalt concrete base material laid.

I. C. Albers, city engineer. The bids were:

- (A) Southwest Paving Co.
- (B) Oswald Bros.
- (C) Griffith Co.

| | (1) | (2) | (3) | Tot'l |
|-----|-------|---------|--------|----------|
| (A) | \$.02 | \$.0175 | \$.212 | \$291.63 |
| (B) | .022 | .017 | 2.16 | 2857.93 |
| (C) | .024 | .017 | 2.58 | 3090.13 |

LOS ANGELES, Cal.—Until 9 A. M., Dec. 30, bids will be received by the Metropolitan Water District of Southern California, 306 W. Third St., for furnishing 900,000 gallons of 65-70 road oil in accordance with specifications. Bids will be considered on the basis of the full quantity delivered f.o.b. insulated tank cars or trucks at the bidder's plant and as an alternative, on the basis of 470,000 gallons f.o.b. Indio, Calif., and 430,000 gallons f.o.b. Garnet, Calif. Delivery is required to commence at any time within 100 days after receipt of order and is to be made at the rate of from 12,000 to 50,000 gallons per day as required by the District. Bids are to be enclosed in a sealed envelope addressed to the General Manager and Chief Engineer, Metropolitan Water District, 306 W. Third St., Los Angeles. Bidding schedules and specifications are on file in the said office of the District and further information may be obtained upon application at Room 504 of said office building. F. E. Veymouth, General Manager and Chief Engineer.

ENGINEERING NEWS

CHURCHES

Contract Awarded.
CHURCH Cost, \$15,000
OAKLAND, Alameda Co., Calif. 6018-6023 Brann Street.
 Two-story church and parsonage.
 Owner—Evangeline Lutheran Church of Our Redeemer, 6018 Brann St., Oakland.
 Plans by Mr. Hagedahm.
 Contractor—W. R. Hagedahm, 3923 W 6th St., Oakland.

FACTORIES AND WAREHOUSES

Contract Awarded.
WAREHOUSE Cost, \$15,000
SAN FRANCISCO. Army Street and San Bruno Avenue.
 Two-story frame warehouse.
 Owner—General Paint Co., 160 Fremont Street.
 Plans by Eng. Dept. of Owner.
 Contractor—Geo. Wagner, 181 South Park Street.

Plans Being Completed.
MARKET, ETC. Cost, \$30,000
SAN JOSE, Santa Clara Co., Cal. Notre Dame and San Salvador Avenues.

Group of one-story structural steel market buildings (warehouse, display stands, etc.)
 Owner—Corporation headed by Tony Minardi et al.
 Architect—W. H. Weeks, 525 Market St., San Francisco.
 Bids will be asked in about ten days.

Planned.
WAREHOUSE Cost, \$15,000
SAN LUIS OBISPO, Calif. Moorpark Tract.
 One-story almond warehouse.
 Owner—Assoc. Almond Growers, N. A. Reinert, Mgr., 945 Spring St., San Luis Obispo.
 Architect—Not Given.
 It is expected to start construction after January 1, 1933.

Plans Completed.
CANNERY Cost, \$—
CHICO, Butte Co., Cal.
 Wood frame and corrugated iron canery.
 Owner—Western Canning Co.
 Architect—Willis Lowe, 1056 Hubert Road, Oakland.
 Bids will be asked shortly.

Preparing Working Drawings.
SHED Cost, \$—
SAN FRANCISCO, Pier No. 35.
 Shed for extension to Pier No. 35 (80 feet in length).
 Owner—State of California (Harbor Commission).
 Engineer—Frank G. White, Ferry Building.
 Bids will be asked in two or three weeks.

Plans Being Completed.
DISTRIBUTING PLANT Cost, \$5000
OAKLAND, Alameda Co., Cal. Vicinity of 46th and Clement Sts.
 One-story wood frame and corrugated iron distributing plant.
 Owner—Richfield Oil Co., 248 Battery St., San Francisco.
 Plans by Engineering Dept. of Owner, P. L. Mott, Engineer.

Contract Awarded.
WAREHOUSE Cost, \$10,000
SAN FRANCISCO. Sixth and Bryant Streets.
 One-story reinforced concrete warehouse (35x135-ft.)
 Owner—Martin Stelling, 155 Montgomery Street.
 Architect—Bertz, Winter & Maury, 210 Post Street.
 Contractor—Barrett & Hilp, 918 Harrison Street.

Contract Awarded.
ADDITION, ETC. Cont. Price, \$7,899
EMERYVILLE, Alameda Co., Cal.
 One-story addition to linoleum manufacturing plant and general alterations; new machinery and equipment (steel, brick, concrete and tile construction).
 Owner—Paraffine Companies, Inc., 475 Brannan St., San Francisco.
 Engineer—Leland Rosener, 233 Sansome St., San Francisco.
 Contractor—Lindgren and Swinerton, Inc., 1723 Webster St., Oakland.
 Following is a complete list of bids:
 W. Vernon Bernard.....\$7,171
 Lindgren & Swinerton, Inc. Oakland..... 7,899
 G. Petersen, San Leandro..... 7,960
 Wm. Spivock, San Francisco..... 7,986
 DeLuca & Son, San Francisco..... 7,989
 Moore & Roberts, San Francisco 8,048
 Clinton Stephenson Const. Co., San Francisco..... 8,242
 Monson Bros., San Francisco..... 8,250
 David Paganini, San Francisco 8,413
 H. J. Christiansen, Oakland..... 8,459
 Young & Horstmeyer, S. F..... 8,473
 N. H. Sjoberg, San Francisco..... 8,634
 Schuler & McDonald, Oakland..... 8,731
 Leibert & Trobeck, S. F..... 8,737
 Clinton Const. Co., S. F..... 8,750
 Cahill Bros., San Francisco..... 8,884
 H. L. Peterson, San Francisco..... 8,888
 Barrett & Hilp, San Francisco..... 8,888
 F. R. Siegrist, San Francisco..... 9,000
 H. H. Larsen, San Francisco..... 9,233
 Jacks & Irvine, San Francisco..... 9,570
 W. W. Williamson, S. F..... 9,757
 S. White, San Francisco..... 9,999
 Mills Const. Co., S. F..... 10,891
 R. W. Littlefield, Oakland..... 11,632

FLATS

Preparing Working Drawings.
FLATS Cost, \$10,000
SAN FRANCISCO. Octavia Street.
 Two-story and basement frame and stucco (2) flats (6 rooms each); part tile and composition roof, colored tile baths and kitchens; gas hot air heating system, wood sash, etc.
 Owner—Withheld.
 Architect—Chas. Strothoff, 2274 15th St., San Francisco.
 Contractor—Jos. Bottencourt, San Bruno.

Contract Awarded.
FLATS Cost, \$10,000
SAN FRANCISCO. E Larkin Street N Green.
 Two-story and basement frame and stucco flats (two 5-room flats) tile and composition roof, gas heating system, hardwood floors, tiled baths, etc.
 Owner—P. Dito, 2201 Larkin Street.
 Plans by Owner.
 Contractor—H. E. Hanson, % owner.

Plans Completed.
FLATS Cost, \$15,000
SAN FRANCISCO. E Retiro Way 125 N Beach Street.
 Two duplex dwellings (four five-room flats) frame and stucco construction, cast stone trim, asphalt and tile roofing, warm air, furnaces, oak flooring, electric refrigeration, colored plumbing fixtures, mahogany trim, etc.
 Owner and Builder—Gust L. Peterson 12 Montezuma Street.
 Plans by L. O. Berg, 675 Corbett Ave. Sub-bids will be taken shortly.

GARAGES AND SERVICE STATIONS

Contract Awarded.
SERVICE STATION Cost, \$4000
SAN FRANCISCO. SE Duboce Ave. and Sanchez Street.
 Two one-story steel service station buildings.
 Owner—Standard Oil Co., 225 Bush St., San Francisco.
 Plans by Engineering Dept. of Owner.
 Contractor—Barrett & Hilp, 918 Harrison St., San Francisco.

Plans Being Figured.
SERVICE STATION Cost, \$5000
REDWOOD CITY, San Mateo Co., Cal. Steel frame and concrete service station.
 Owner—Associated Oil Co., 79 New Montgomery St., San Francisco.
 Architect—Masten & Hurd, 233 Post St., San Francisco.

Contract Awarded.
SERVICE STATION Cost, \$5000
SAN MATEO, San Mateo Co., Cal. SV Jones St. and El Camino Real.
 Brick gasoline service station.
 Owner—W. W. Stone, 231 London St., San Francisco.
 Contractor—C. Norman Petersen, 1241 E-34th St., Oakland.

Contract Awarded.
GARAGE Cost, \$6000
BERKELEY, Alameda Co., Calif. No. 1659 Shattuck Avenue.
 One-story Class C concrete public garage.
 Owner—H. E. Gede Jr., 516 Valley Vista Ave., Oakland.
 Plans by Owner.
 Contractor—Independent Iron Works, 1820 Chase St., Oakland.

Sub-Bids Being Taken.
FLATS Cost, \$12,000
SAN FRANCISCO. S North Point W Webster St.
 Two-story and basement brick veneer flats (two 8-room flats).
 Owner—L. Handelsman.
 Architect—Fred Reimers, 223 Post St., San Francisco.
 Contractor—G. F. W. Jensen, 320 Market St., San Francisco.

GOVERNMENT WORK AND SUPPLIES

Bids Wanted—To Close January 25.
BUILDINGS Cost, \$—
FORT LEWIS, Washington.
 Concurrent training camp (three enlisted men's lavatories, two enlisted men's mess and kitchen).
 Owner—United States Government.
 Plans by Constructive Quartermaster, Fort Lewis, Washington.

WASHINGTON, D. C.—Until Jan. 27, 11 A. M. bids will be received by Bureau of Yards and Docks, Navy Department, Washington, D. C., for earth filled steel sheet pile pier and service piping and the removal of existing timber pier at the Naval Submarine Base, Coco Solo, Canal Zone. Specification No. 7141. Plans and specifications available from above office or from Commandant, Fifteenth Naval District, Balboa, Canal Zone, upon deposit of \$10.

Contract Awarded.
SANTARIUM Cont. Price, \$239,900
ALBUQUERQUE, New Mexico.
Four-story, T-shaped sanitarium (141 by 200 feet) two physicians' cottages, garage and quarters building (concrete, hollow tile & brick construction with terra cotta and stucco exteriors).

Owner—United States Government.
Plans by Department of Interior, Washington, D. C.
Contractor—Robt. E. McKee, El Paso, Texas, and Central Bldg., Los Angeles.

WASHINGTON, D. C.—As previously reported, Theo. Johanns, 2020 15th St., San Francisco, at \$17,000 awarded contract by Bureau of Yards and Docks, Navy Department, Washington, D. C., to construct three one-story reinforced concrete building; and a 70-foot steel line pole at the Naval Air Station, Sunnyvale, Calif., for the United States Government. Specification No. 7630. Following is a complete list of the bids:

- Theodore Johanns, 2020 15th St., San Francisco, \$17,000.
G. W. Williams, Burlingame, \$17,290.
Frank J. Reilly, 4250 Fulton St., San Francisco, \$17,481.
E. T. Lesure, 87 Ross Circle, Oakland, \$17,574.
Leo Epp, 4745 Geary St., San Francisco, \$18,490.
Alfred H. Vogt Co., 250 11th St., San Francisco, \$19,400.
L. Sartorio, 2627 Lombard St., San Francisco, \$20,648.
Roy Lind, 34 Stanton St., San Francisco, \$20,937.
Thos. M. Jones, 643 29th Ave., San Francisco, \$22,946.
F. I. Strand, 471 Colon Ave., San Francisco, \$23,948.

WASHINGTON, D. C.—H. A. Framberg, Chicago, Ill., at \$490 submitted low bid to Treasury Department, Washington, for fixtures for the Post Office Building at Monterey. W. C. Raquel, Hotel Del Monte, Monterey, architect. Complete list of bids will be published shortly.

Complete Bid Listing.
QUARTERS Cost, \$—
ROCKWELL FIELD, Coronado, Calif.
Ten quarters.
Owner—United States Government.
Plans by Supervising Architect, Treasury Dept., Washington, D. C.
Low Bidder—Bannister Field Co., Ltd., 4101 Goodwin St., Los Angeles, at \$101,800.

- Following is a complete list of bids:
Bannister-Field Co., L. A. \$101,800
J. A. Hunt 106,920
George Mitty 107,420
W. F. Warrenberger 109,230
Mitty Bros. Const. Co. 109,230
E. O. Larsen 109,425
Herbert M. Baruch Corp. 111,698
Gunnar Johnson 112,000
Olmstead Bldg. Co. 113,755
H. Mayson 119,836
K. E. Kier Const. Co. 121,500

To Ask Bids Shortly.
POST OFFICE Cost, \$300,000
SAN JOSE, Santa Clara Co., Cal.
First and St. John Streets.
Two-story and basement Class A Post Office (buff terra cotta exterior); Spanish type.

Owner—United States Government.
Architect—Ralph Wyckoff, San Jose National Bank Bldg., San Jose.
Structural Engineer—L. H. Nishkalin, 525 Market St., San Francisco, and Earl Cope, 111 Sutter Street, San Francisco.
Mechanical Engineer—Leland & Haley 58 Sutter St., San Francisco.

Contract Awarded.
OFFICERS QUARTERS Cost, \$176,000
ROCKWELL FIELD, San Diego Co.
Thirty sets of one-story and basement non-commissioned officers' quarters (5 rooms and bath each) concrete foundations, hollow tile walls, stucco exterior tile roof, brick mantels, wrought iron railing, insulation, plaster partitions, radio wiring, gravity hot air heating system, etc.

Owner—United States Government.
Plans by Constructing Quartermaster, Rockwell Field, San Diego.
Contractor—L. A. Geisler, 6212 South Middleton St., Huntington Park.

Complete Bid Listing.
POST OFFICE Cost, \$—
OREGON CITY, Oregon.
One-story and basement reinforced concrete post office (52x112 feet) with brick wing (18x25 feet) brick and terra cotta exterior.

Owner—United States Government.
Architect—Knighton & Howell, U. S. National Bank Bldg., Portland.
Low Bidder—Oliver S. Almie, 60 Sussex St., San Francisco, \$73,400.

- Following is a complete list of bids:
Oliver S. Almie \$73,400
Duffan-Hammond Const. Co. 73,452
L. H. Hoffman Co. 73,921
Wm. Willis 75,475
A. M. Lundberg 75,935
Johnson Bros. 76,993
A. F. Mowatt 77,425
Western Const. Co. 78,187
Hedeen Const. Co. 79,886
Schuler & McDonald 80,752
Bids held under advisement.

WASHINGTON, D. C.—As previously reported, Murch Bros. Construction Company, Railway Exchange Bldg., St. Louis, Mo., at \$106,000 submitted low bid to Treasury Department for the construction of a Class A Post Office at Porterville, Calif. H. Rappahall Lake, Pacific Southwest Bldg., Fresno, architect. Following is a complete list of bids:

- Murch Bros. Constr. Co., St. Louis, Mo., \$106,000.
Bannister-Field Co., Ltd., Los Angeles, \$105,400.
K. E. Parker Co., San Francisco, \$112,300.
Oliver S. Almie, Merced, \$112,600.
Wm. MacDonald Construction Co., St. Louis, Mo., \$115,374.
North-Moller Co., Jackson, Mich., \$117,969.
MacDonald & Kahn Co., Ltd., San Francisco, \$123,993.
A. M. Lundberg, St. Louis, Mo., \$127,900.
M. B. McGowan, Inc., San Francisco, \$129,800.
The MacDonald Spencer Engr. Co., Inc., Chicago, \$130,000.
G. A. Graham, Bakersfield, \$132,553.

Bids Wanted—To Close Jan. 17th, 11 A. M.
ADDITION Cost, \$50,000
SAN FRANCISCO. Presidio.

Three-story reinforced concrete addition to headquarters building (85 ft.) flat roof, passenger elevator, plumbing, hot water heating system, to contain the present plant, etc.

Owner—United States Government.
Plans by Constructing Quartermaster, Fort Mason.

Bids are being taken on a general contract with separate bids for plumbing, heating and electrical work. Plans and specifications available from above office upon deposit of \$15.00.

Low Bidders.
QUARTERS Cost, \$—
ROCKWELL FIELD, Coronado, Cal.
Ten quarters.

Owner—United States Government.
Plans by Supervising Architect, Treasury Dept., Washington, D. C.
Low Bidder—Bannister Field Co., Ltd., 4101 Goodwin St., Los Angeles, at \$101,800.

Second low bids was submitted by J. A. Hunt, San Diego, at \$106,920.
Complete list of bids will be published shortly.

PORTLAND, Oregon—B. T. Allyn, 7 E 40th St., Portland, at \$681 for item 1, \$175 for item 2 and \$407 for item 3, submitted low bid to Superintendent of Lighthouses, Custom House, to construct a reinforced concrete fog signal building at the Warrior Rock Light Station, north end of Seaview Island near St. Helens, Ore. R. M. Johnson, second low at \$698, \$185 and \$254; Gilpin Construction Co. third low at \$747, \$250 and \$361.

WASHINGTON, D. C.—Tucker McClure, 1204 Spring Arcade, Los Angeles, at \$165,900 awarded contract for general construction and Wm. MacDonald, 1 La Salle St., Chicago, at \$16,760 awarded contract for outside services by the Bureau of Yards and Docks, to construct five three-story apartment buildings on wood piles with reinforced concrete frames and floors; hollow tile walls and partitions; one reinforced concrete transformer enclosure and concrete roads, walks and gutters at the Naval Submarine Base, Coco Solo, Canal Zone. Spec. No. 7043.

Preparing Plans.
FEDERAL BLDG. Cost, \$5,850,000
LOS ANGELES, Calif. Main, Temple and Spring Streets.
Ten- to twelve-story Class A Federal building (525x300).

Owner—United States Government.
Architect—John and Donald B. Parkinson, Title Insurance Bldg., and John C. Austin and Frederic M. Ashley, Chamber of Commerce Bldg., Los Angeles.

Bids have been taken for wrecking the building now on the site, excluding the present post office.

To Ask Bids About January 2.
FEDERAL BLDG. Total cost \$5,500,000
SAN FRANCISCO. Civic Center.
Six-story and basement reinforced concrete Federal Office Building (granite exterior, terra cotta court lining, lead covered copper roofing, terrazzo and pumehacite the flooring, mastic tile floors in offices, steam heat).

Owner—United States Government.
Architect—Arthur Brown Jr., 251 Kearny St., San Francisco.
Mechanical Engineer—Leland & Haley 251 Kearny St., San Francisco.
58 Sutter St., San Francisco.
Structural Engineer—C. H. Snyder.

WASHINGTON, D. C.—Murch Bros., Railway Exchange Bldg., St. Louis, Mo., at \$229,900 submitted low bid to Treasury Department, Washington, D. C., for the construction of the Federal building, to house the U. S. Forest Service office at Ogden, Utah. Hodgson & McClellan, Ogden, Utah, architects. Second low bid was submitted by Rosen & Fischel, Chicago, Ill., at \$232,500. Complete list of bids will be published shortly.

WASHINGTON, D. C.—Otis Elevator Co., 310 W. 18th St. N. W., Washington, D. C., at \$10,987 submitted low bid to Treasury Department, Washington, D. C., for construction of an elevator plant for the Forest Service Building at Ogden, Utah. Complete list of bids will be published shortly.

WASHINGTON, D. C.—Until Jan. 1, bids will be received by the Treasury Department, Washington, D. C., for interior lighting fixtures for the Post Office building at Palo Alto. Birge M. Clark, 310 University Ave., Palo Alto, architect.

WASHINGTON, D. C.—Sibley Grading & Teaming Co., 165 Landers St., San Francisco, at \$15,900 awarded contract by Treasury Department, Washington, for rough excavation for the six-story and basement reinforced concrete Federal office building to be erected in the Civic Center, San Francisco, for the United States Government.

WASHINGTON, D. C.—D. Zelinsky & Sons, 165 Grove St., San Francisco, at \$3319 awarded contract by Bureau of Yards and Docks, Navy Department, Washington, D. C., for painting interior of buildings at the Naval Ammunition Depot, Oahu, T. H., under Specification No. 7947.

Bids Wanted—To Close January 17, 1933, 3 P. M.
POST OFFICE Cost, \$150,000
CIEHALIS, Washington.
Class A Post Office.
Owner—United States Government.
Plans by Supervising Architect, Treasury Dept., Washington, D. C.

WASHINGTON, D. C.—J. L. Young Engineering Co., Honolulu, at \$11,900 submitted low bid to Bureau of Yards and Docks, Navy Department, Pearl Harbor, for tile and wire mesh partitions to be installed at the Fleet Air Base, Pearl Harbor. Only other bid was submitted by Hawaiian Welding & Machinery Co., Honolulu, at \$12,580. Specification No. 6813. Bids held under advisement.

SAN FRANCISCO, CAL.—Until 3 P. M., January 10, bids will be received by the Treasury Department, Office of the Supervising Architect, Washington, D. C., for furnishing and installing a complete elevator plant in the United States Post Office and Court House, extension and remodeling, at San Francisco. Plans and specifications may be obtained from the architect in Washington. James A. Wetmore, acting supervising architect.

SPECIAL TO DAILY PACIFIC BUILDER
WASHINGTON, D. C.—Interstate Bronze Mfg. Co., P. O. Box No. 565 Culver City, at \$4,120 submitted low bid to Treasury Department, Washington, D. C., for furnishing and installing fixtures in the post office building at Sacramento, Cal. Starks and Flanders, Forum Bldg., Sacramento, architects. Walter G. Warren

Co., Chicago, second low at \$4,919; alternate, \$4,550. Schweitzer Bros., Los Angeles, third low at \$4,740.

Complete list of bids will be published shortly.

PEARL HARBOR, T. H.—As previously reported, Ralph E. Woolley, Castle & Cooke Bldg., Honolulu, at \$5,729 submitted low bid to Bureau of Yards and Docks, Pearl Harbor, for a service system and shop building at Pearl Harbor. Spec. No. 7133.

Following is a complete list of bids:
R. E. Woolley, Honolulu..... 5,729
A. Nekomoto, Honolulu..... 6,385
E. E. Black, Honolulu..... 6,695
Hawaiian Cont. Co., Honolulu..... 6,724
R. S. Chas, Honolulu..... 6,875
J. L. Young Eng. Co., Honolulu..... 6,900
Bids held under advisement.

PEARL HARBOR, T. H.—Until Jan. 25, bids will be received by Bureau of Yards and Docks, Navy Department, Pearl Harbor (Fleet Air Base) for dredging Middle Lock Shoal. Specifications obtainable from the Bureau at Washington, D. C., or from Honolulu.

MARE ISLAND, CAL.—Until Jan. 4, 11 A. M. (postponed from Dec. 21) bids will be received by the Bureau of Yards and Docks, Navy Department, Washington, D. C., under Spec. No. 7119, to furnish four 1000-hp. water tube boilers with air cooled settings, superheaters, oil burners, automatic control equipment, with master control, soot blowers, boiler purtenances, valves, and piping in connection with the central power plant at the Mare Island Navy Yard. Plans and specifications obtainable from the Bureau of Yards and Docks, Washington, upon deposit of \$10.

Plans Completed.
POST OFFICE Cost, \$530,000
SAN DIEGO, San Diego Co., Cal. E. St. bet. 8th and 9th.
Two-story and basement steel frame and masonry post office (190x150) granite and terra cotta exterior, metal windows, doors and skylights, bronze entrance doors, marble and tile work, steam heat, leading platform, etc.
Owner—United States Government.
Architect—Wm. T. Johnson, San Diego Trust & Savings Bank Bldg., San Diego.

POINT REYES, MARIN CO., CAL.—Until January 11, 11 A. M., bids will be received by Public Works Officers, U. S. Navy Yard, Mare Island, for fences and walks at the U. S. Naval Direction Finder Station, Point Reyes. Specification No. 7097, obtainable from Commandant, Navy Yard, Mare Island, upon deposit of \$5.00.

MARCH FIELD, RIVERSIDE, CALIF.—H. M. Baruch Corp., 625 S. Olive St., Los Angeles, awarded contract by the Constructing Quartermaster, March Field, at \$25,156, for erection of the auditor building at March Field. Building will cover an area of 102x50 feet and contain an auditorium with seating capacity of 356 people, stage, projection room, toilet rooms, store and office. Will have concrete foundations, concrete exterior walls, hollow tile interior, acoustical treatment, steel roof trusses, flat tile roofing, cement, wood and asphalt tile floors, artificial marble wallscoting, forced air system of heating and ventilating with gas-fired heating units and gas-steam radiators, cement walks, etc.

Contract Awarded.
WARDS Cont. Price, \$54,895
SAN FRANCISCO, Letterman General Hospital, Presidio.

Three - story reinforced concrete receiving wards (Nos. 19 and 61) tile roof, elevator, plumbing, nurses' call system, terrazzo floors, steam heating system from main plant.
Owner—United States Government.
Plans by Constructing Quartermaster, Fort Mason.

Contractor—Meyer Bros., 727 Portola Drive.

Plumbing—O'Mara and Stewart, 218 Clara St., \$11,298.

Heating—George Rehn, 1919 Mission Street, \$2,371.50.

Electric—W. J. Jennings, San Rafael, \$3,283.

Elevators—Westhenge Elec. Elevator Co., 166 7th St., \$4,133.

SAN RAFAEL, MARIN CO., CAL.—Until January 4, 11 A. M., bids will be received by Captain H. B. Nurse, Constructing Quartermaster, Hamilton Field (Marin Meadows) Bombing Base, for extension to electrical distribution system and street lighting system at Hamilton Field.

To Ask Bids Shortly.
QUARTERS Cost, Approx. \$167,500
SAN RAFAEL, MARIN CO., CAL. Hamilton Field.

Six double sets of Commissioned Officers' quarters (two-story and basement hollow tile and stucco structures, tile roof, etc.)

Owner—United States Government.
Plans by Constructing Quartermaster, Hamilton Field (Marin Meadows) Bombing Base, San Rafael.
Bids will be asked about Jan. 20.

Bids Wanted—To Close Jan. 21, 11 A. M.

QUARTERS Cost, Approx. \$167,500
SAN RAFAEL, MARIN CO. (Hamilton Field).

Six double sets of Non-Commissioned Officers' quarters (two-story and basement hollow tile and stucco structures, tile roof, etc.)

Owner—United States Government.
Plans by Constructing Quartermaster, Hamilton Field (Marin Meadows) Bombing Base, San Rafael.

Bids Wanted—To Close Jan. 25.

SHOP EXTENSION Cost, \$—

COCO SOLO, Canal Zone.

Shop extension (100x126 ft.); work includes wood piles, concrete footings, structural steel framing, siding, insulated steel roof decks, built-up roofing, etc. (Spec. No. 7111).

Owner—United States Government.
Plans by Bureau of Yards and Docks, Navy Dept., Washington, D. C.

Plans obtainable from the Bureau or from the Commandant, Fifteenth Naval District, Balboa, Canal Zone, upon deposit of \$10, made payable to Chief of the Bureau of Yards and Docks.

Bids Wanted—To Close January 25,

3 P. M.

FEDERAL BLDG. Cost, \$165,000

YUMA, Arizona.

Two-story masonry and steel Federal

Building (terra cotta exterior, tile roof) to house post office, immigration and customs departments.

Owner—United States Government.

Architect—Rcy Place, 76 N. Stone

Ave., Tucson, Arizona.

Plans and specifications available

from office of Supervising Architect,

Treasury Department, Washington, D.

C., upon deposit of \$25.

ALBUQUERQUE, N. M.—Kane Mfg. Co., Kane, Pa., submitted low bid to Treasury Department at \$3000 for furnishing and installing metal insect screens in the U. S. post office at Albuquerque.

To Ask Supplemental Bids Shortly.
POST OFFICE Cost, \$150,000
MARSFIELD, Oregon.
 Two-story and basement Class A Post Office (112x65 feet) (red brick exterior).

Owner—United States Government.
 Architect—Johnson & Wallwork, U. S. Bank Bldg., Portland.

On previous bid opening lowest bid was submitted by McCarthy Bros. Construction Co., Roosevelt Bldg., St. Louis, at \$120,720.

SANTA FE, New Mexico.—California Lawn Sprinkler Co., 9019 Santa Monica Blvd., Los Angeles, submitted the low bid to the Treasury Department on Dec. 20 for furnishing and installing a lawn sprinkler system at the U. S. court house, Santa Fe. Bids follow:
 California Lawn Sprinkler Co., \$9,713.
 Hunz Sprawlawn Corp., \$9791.
 National Sprinkler Co., \$10,847.
 D. L. Rathbone & Sons, \$10,827.
 Brooks of California, \$11,995.
 Butler & Foley Heating & Plumbing Const. Co., \$12,885.
 C. R. Elbin, \$12,988.
 Wood-Davis Hardware Co., \$13,545.
 W. Pearce, \$14,250.
 George Griffiths Const. Co., \$24,466.

SUNNYVALE, Santa Clara Co., Cal.—Until Jan. 1, A. M., bids will be received by Public Works Officer, 12th Naval District, 100 Harrison St., San Francisco, for the construction of an airplane runway and taxiway composed of gravel and a warming-up platform composed of cement concrete on a gravel base course, together with tile drains along center line and sides with a connection to an existing sewerage system. Specification No. 7156. Plans and specifications available from above office upon deposit of \$5.00.

Bids Wanted—To Close Jan. 19, 10:30 A. M.

BAKERY & LAUNDRY Cost, \$67,000
MARCH FIELD, Riverside, Calif.
 One-story and basement laundry (128x36) and one-story bakery (66x30).
 Owner—United States Government.
 Plans by Constructing Quartermaster, March Field, Calif.

Date for opening bids was previously set for January 10. Laundry will be a one-story and basement structure, 128x36 feet, with laundry equipment on the main floor and boiler room, electrical room and store room in the basement. It will have concrete foundations, steel columns and roof trusses, hollow tile walls, stucco exterior, built-up roofing, concrete floors, steel windows, dampproofing, brick smoke stack, oil-fired high pressure steam system. The bakery will be a one-story structure, 66x30 feet, with concrete foundations, hollow tile walls and partitions, stucco exterior, built-up roofing, steel windows, concrete floor, waterproofing, insect screens, slate work, insulation, gas-fired low pressure gravity steam system and gas-fired air heating units.

HALLS AND SOCIETY BUILDINGS

Bids Wanted—To Close January 3, 10:30 A. M.
FURNITURE, ETC. Cost, \$—
MESANTON, Alameda Co., Cal.

Furniture and kitchen equipment for Veterans' Memorial Building.
 Owner—County of Alameda.
 Architect—Henry H. Meyers, Kohl Bldg., San Francisco.

Bids Opened.
LODGE BLDG., Etc. Cost, \$20,000
WINDSOR, Sonoma Co., Cal.
 Two-story reinforced concrete lodge, store and bank bldg. (56x110-ft.) composition roofing, reinf. conc. walls and floors, unit gas heating system.

Owner—Independent Order of Odd Fellows.
 Architect—John Easterly, Healdsburg
 Following is a complete list of bids:
General Work

| | |
|-------------------------------------|-------------|
| E. A. Anlof, Healdsburg | \$14,825.00 |
| J. M. Gehrhard | 15,955.00 |
| Heitz & Witter, Healdsburg | 16,203.80 |
| Leo Larsen, Santa Rosa | 16,300.00 |
| Fetaluma Const. Co. | 17,600.00 |
| Dibble Construction Co., Santa Rosa | 17,741.00 |
| W. L. Proctor, Santa Rosa | 18,492.00 |
| A. Pordon, Healdsburg | 21,000.00 |

Electric

| | |
|---|----------|
| Jas. Miller, 328A West Street, Healdsburg | \$422.00 |
| Anderson & Tucker | 424.42 |
| K. F. Stotling, Santa Rosa | 472.00 |

Plastering

| | |
|--|-----------|
| Burgett Bros., 739 Fitch St., Healdsburg | \$ 895.00 |
| Robert Bedman | 955.00 |
| P. J. Linden | 1,075.00 |
| Richard Keehn | 1,179.00 |

Painting

| | |
|---|----------|
| C. W. Sullberg, 734 Brown St., Healdsburg | \$616.00 |
| C. Roberts, Santa Rosa | 665.00 |
| Hemmersly & Stevens | 694.50 |

Tile

| | |
|---|----------|
| H. C. Gladrow, 538 Mendocino Ave., Santa Rosa | \$581.00 |
| W. H. Moody, Santa Rosa | 589.00 |

Bids held under advisement.

HOSPITALS

Contract Awarded.
DISTRIBUTION SYSTEM

Cont. Price, \$16,990
YOUNTVILLE, Napa Co., Cal.
 Outside steam distribution system at Yountville Veterans' Home.
 Owner—State of California.
 Architect—Geo. B. McDougall, State Architect, Public Works Building, Sacramento.
 Contractor—F. W. Snook, 596 Clay St., San Francisco.

December 20, 1932

Contract Awarded.
INFIRMARY Cont. Price, \$17,500
SAN RAFAEL, Marin Co., Cal. County Farm.
 Two-story Class C infirmary (wards, etc.) to connect to main building by arcade; tile roof, steam heating system.

Owner—County of Marin.
 Architect—S. Heiman, 605 Market St., San Francisco.
 Contractor—De Luca & Son, 666 Mission St., San Francisco.

HOTELS

LCS ANGELES, Cal.—Construction of the Coachella tunnels by force account is under consideration by the board of directors of the Metropolitan Water District. At the board's meeting, December 16 Samuel G. McClure, member from Glendale, offered a motion to the effect that the general manager and chief engineer be authorized to proceed without delay with the construction of the Coachella unit of the aqueduct by force account. He also offered a written

statement of his views supporting such a move. They deal chiefly with the unemployment situation. The motion was seconded by John R. Richards, by the unanimous consent of the members present the vote was deferred until Wednesday, Dec. 21. The proposed Coachella unit involves two sections, viz., the east section, about 18 miles of concrete-lined tunnel, approximately 16 feet inside diameter, involving about 1,450,000 cu. yds. and estimated to cost \$12,066,000, and the west section, about 16 miles of similar type tunnel, but divided into nine separate tunnels, involving about 1,550,000 cu. yds. excavation and costing approximately \$10,825,000.

Low Bidder.
MAUSOLEUM Cost, \$15,000
PALO ALTO, Santa Clara Co., Cal.
 Alta Mesa Memorial Park.

One-story reinforced concrete mausoleum, columbarium and chapel torium, columbarium and chapel (iron grilled doors, decorative tile, provision for 30 crypts.)

Owner—Alta Mesa Improvement Co., Palo Alto (Professor W. H. Sloan, Pres.), Stanford University, Palo Alto.

Architect—Birge M. Clark, 310 University Ave., Palo Alto.
 Low Bidder—Carl Lindholm, Mt. View, at approximately \$8000.

Contract will be awarded within a few days.

Preparing Preliminary Plans.
ALTERATIONS Cost, \$9000
SAN ANSELMO, Marin Co., Cal.
 San Francisco Drake Blvd. and Redhill Avenue.

Convert automobile salesroom and service shop into auditorium.
 Owner—C. Durham, Premises.
 Architect—S. Heiman, 605 Market St., San Francisco.

SANTA CLARA, Cal.—The following bids received by city council to furnish two sets of traffic signals and control units, each set to be complete for one intersection:

| | |
|----------------------------|--|
| General Electric Co. | \$1104.15 (three light signals) |
| Ashley Products Signal Co. | \$2,039.50 (semaphore signals); \$1061.50 (three light signals). |
| Eagle Signal Corp. | \$868.52 (three light). |
| Krause-Hines Co. | \$854.05 (3 light). |

Bids held under advisement until January 3.

Bids Wanted—To Close January 17, 2 P. M.

DAIRY BLDGS. Cost, \$40,000
TALMADGE, Mendocino Co., Cal.
 Group of dairy buildings (7 one-story reinforced concrete structures, asbestos shingle roof) creamery, milk barns, bull pen, dairy buildings.

Owner—State of California.
 Architect—Geo. B. McDougall, State Architect, Public Works Building, Sacramento.

POWER PLANTS

BOULDER CITY, Nev.—Until 10 A. M., Feb. 3, bids will be received by the U. S. Bureau of Reclamation, Denver, Colo., to furnish and deliver 10-b. cars at the factory shipping point, three, four or five 115,000-hp., vertical shaft, hydraulic turbines with or without butterfly type shutoff valves; one or two 55,000-hp., vertical shaft, hydraulic turbines, with or without butterfly type shutoff valves; three, four or five governors for the 115,000-hp. turbines; and one or two governors

for the 55,000-hp. turbines; for installation in the Hoover power plant, Boulder Canyon project, Arizona-California-Nevada. All apparatus will be installed by the Government. Spec. No. 540, obtainable from Bureau of Reclamation, Denver, Colo.; Boulder City, Nev., or Washington, D. C. No charge to prospective bidders, \$2, not returnable, to others.

LOS ANGELES, Cal.—Until 2 P. M., Jan. 12, bids will be received by the Metropolitan Water District, 306 West 3rd St., Los Angeles, for constructing electric power transmission lines and substations in the Cabazon-to-Hayfield Section and in the vicinity of Valverde.

The work to be contracted for consists of approximately 79 miles of 66,000-volt transmission lines, 58 miles of 33,000-volt transmission lines with 15 miles of telephone circuit built jointly, with 6000-kva. substation, twelve 1000-kva. substations and two 750-kva. substations. The lines and substations are located between Cabazon and Hayfield, with the exception of two 1000-kva. substations and 10 miles of 33-kv. lines near Valverde. Copper or aluminum cable, cedar poles, pin type and suspension insulators for the line specified and for future extensions of said lines also are to be purchased under these specifications.

Plans and schedules, showing the character of the work, may be seen at Room 1004, The Metropolitan Water Dist. of Southern California Bldg., 206 W Third St., Los Angeles, and complete sets of sand contract documents may be obtained upon payment of the sum of \$5 per set, including drawings, or \$2 without drawings, which sum will not be refunded. Plans will be ready for contractors Saturday, December 24.

Each proposal must be accompanied by a certified check in the amount of not less than 10% of the maximum, payable under the bid, said check to be made payable to The Metropolitan Water District of Southern California as a guarantee that the bidder will, within 15 days after being awarded any item or items in accordance with the terms of his proposal, promptly secure the payment of workmen's compensation, execute a contract in the required form, and furnish bonds with a responsible corporate surety or corporate sureties satisfactory to the District for the faithful performance of the contract, and for the payment of materialmen and laborers thereunder. The bond for materialmen and laborers shall be in the sum required by Chapter 303, California Statutes of 1919 (page 487) and the amendments thereto. The faithful performance bond shall be not less than 50% of the estimated payments to be made under the contract.

F. E. Weymouth, 11th floor, Metropolitan Water District Bldg., is the general manager and chief engineer.

PUBLIC BUILDINGS, FIRE HOUSES AND JAILS

Plans Completed.

JAIL. Cost, \$800,000
SNEATH RANCH, San Mateo Co.
Seven-story men's jail building and two-story women's jail building (Class B reinforced concrete construction, tar and gravel roof, concrete floors, mastic finish in cell block, steel cells, steel sash, steam heat, ventilating system, laundry, kitchen, sewage disposal plant fan group).

Owner—City and County of San Francisco.

Architect—Albert F. Roller, Crocker First National Bank Bldg., San Francisco.

Associate Architect—Dodge A. Riedy, Pacific Bldg., San Francisco.
Structural Engineer—H. J. Burnnier, Sharon Bldg., San Francisco.

Plans are to be approved immediately and bids asked.

Planned.

JAIL. Cost, \$40,000
MODESTO, Stanislaus Co., Cal. Tenth Street,
Municipal jail (jury room, police court, locker room, etc.)
Owner—City of Modesto.

Engineer—Frank J. Rossi, City Engineer, Modesto.

Proposed project is in a very preliminary stage.

Private Plans.

SAN FRANCISCO—Cal.—Until Jan. 3, 2 P. M., bids will be received by Trustees of the War Memorial of San Francisco, Veterans' Bldg., Civic Center, for bronze stair railing for the foyer of the Opera House. Plans and specifications available from above office upon deposit of \$10.

RESIDENCES

Contract Awarded.

RESIDENCE. Cost, \$15,000
BERKELEY, Alameda Co., Calif. NE Greenwood Terrace and Buena Vista Ave.

Two-story and basement frame and stucco residence (10 rooms and 3 baths) tile roof, electric refrigeration, electric and hot air heating system, ornamental iron, etc.

Owner—H. E. Bolton.

Architect—E. L. Snyder, 2101 Shattuck Ave., Berkeley.

Contractor—Geo. Windsor, 928 Kings-ton Ave., Piedmont.

Sub-Bids Being Taken.

RESIDENCE. Cost, \$12,500
SAN MATEO, San Mateo Co., Cal. Fairfax Ave., Baywood Park.

Two-story and basement frame and stucco residence (8 rooms and 3 baths); tile roof, gas furnace, steel sash, oak plank floors, kitchen tile wainscot, electric refrigeration, soft wood interior finish, two-car separate garage.

Owner & Builder—Freston Dietz, 1110 Grove St., Burlingame.

Architect—Chester Treichel, 679 Hadden Road, Oakland.

SCHOOLS

Contract Awarded

HEATING PLANT. Cont. Price, \$3590
GRASS VALLEY, Nevada Co., Cal.
Heating plant for high school.

Owner—Grass Valley School Dist. (J. F. Hennessy, Supt. of Schools).

Plans by Carl Henderlong, % State Division of Architecture, Public Works Bldg., Sacramento.

Contractor—Scott Co., 113 10th St., Oakland.

Bids Wanted—To Close January 1, 8 P. M.

ADDITION. Cost, \$5500
BERKELEY, Alameda Co., Cal. No. 854 Regal Road.

Remodel building for classrooms and cafeteria and small addition to the rear of building (frame construction).

Owner—Berkeley City School District. Architect—Hardman & Russ, Berkeley Bank Bldg., Berkeley.

Plans and specifications available from architects.

BANKS, STORES & OFFICES

Plans Completed.

MARKET. Cost, \$20,000
BERKELEY, Alameda Co., Cal. Haste St. and Telegraph Ave.

One-story glass C Market; steel sash, wire class in sash and skylights, concrete floor, steel roof trusses, stainless steel light reflectors, modernistic polished metal sash bars, metal glass sliding door front, refrigeration machinery, cork lining for approximately 3500 cu. ft. of storage, electric wiring, light fixtures, etc.

Owner—Henslee Corp., % Bells-Gilberg, Ltd., 266 17th St., Oakland.

Architect—A. W. Smith, American Bank Bldg., Oakland.

Bids will be asked about January 2. It was previously reported that bids were now being taken which was in error.

THEATRES

Preliminary Plans Approved.

THEATRE. Cost, \$20,000
SONOMA, Sonoma Co., Cal. First St. East.

One-story steel and concrete theatre (to seat 500; 85x165-ft.)

Owner—Sam Sebastiani, Sonoma.

Architect—Reid Bros., 105 Montgomery St., San Francisco.

Preparing Working Drawings.

THEATRE. Cost, \$20,000
SONOMA, Sonoma Co., Cal. First Street, East.

One-story steel and concrete theatre (to seat 500); (85x165 ft.), large room above and stores below.

Owner—Sam Sebastiani, Sonoma.

Architect—Reid Bros., 105 Montgomery St., San Francisco.

Bids will be asked in about thirty days.

WHARVES AND DOCKS

Contract Awarded.

EXTENSION. Cont. Price, \$91,972
SAN FRANCISCO, Pier No. 35.

Reinforced concrete extension to Pier No. 35 (30 ft.) reinforced concrete piles on conc. deck, cargo aprons, concrete supports for machinery.

Owner—State of California (Harbor Commission).

Engineer—Frank G. White, Ferry Bldg., San Francisco.

Contractor—Healy Tibbitts Constr. Co., 64 Pine Street.

Following is a complete list of bids:
Healy Tibbitts Constr. Co. \$4,272
M. E. McGowan 99,900
Duncanson Harelson Co. 98,316
A. W. Kitchen 99,449
Clinton Constr. Co. 99,790
MacDonald & Kahn 101,800

Contract Awarded.

GARBAGE WHARF. Contract Price, \$28,970
OAKLAND, Alameda Co., Calif. Foot of Kirham Street.

Reinforced concrete garbage wharf (crossed piling, 110x185-ft., five dolphins with 16 crossed piles each).

Owner—City of Oakland (Port Commission, G. E. Hegardt, Secretary, Grove St. Pier, Oakland).

Plans by Eng. Dept. of City Port Commission.

Contractor—A. W. Kitchen, 110 Market St., San Francisco.

Waco



